

TECHNICAL&SERVICE MANUAL V7.5

—MULTI-SPLIT TYPE AIR CONDITIONERS

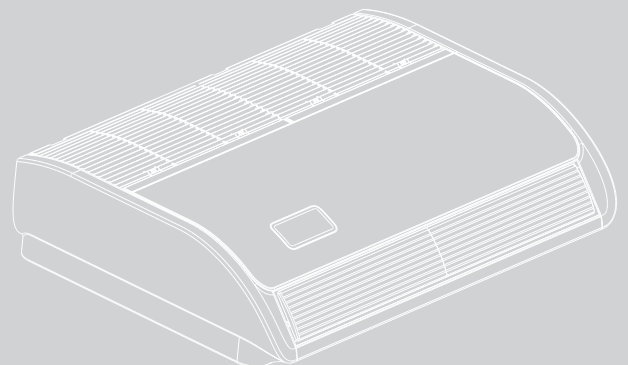
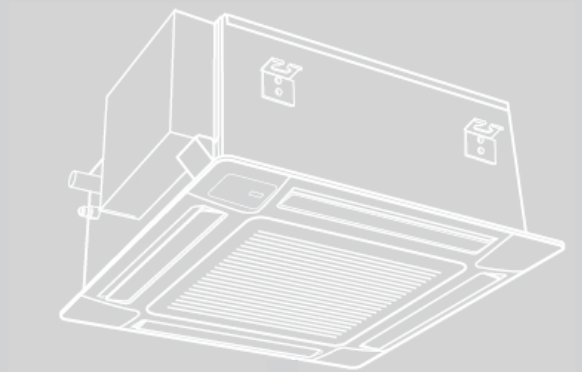
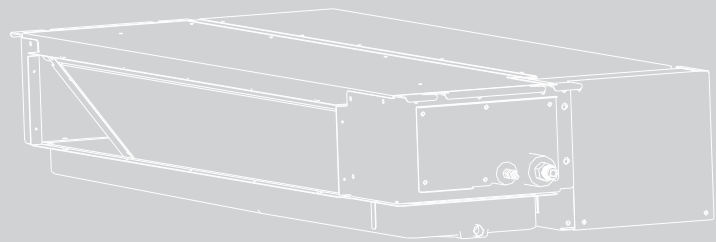
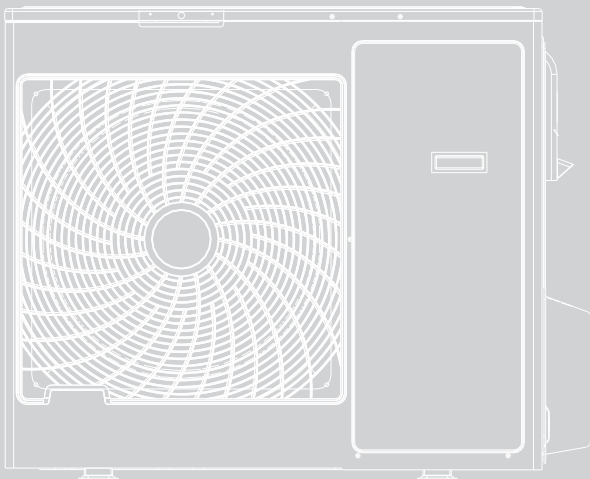


Table of Contents

	Page
1. GENERAL	1
1-1 Features	1
1-2 Product Lineup	3
1-3 Model Identification	4
1-4 Product Picture	6
2. SPECIFICATION	10
3. OUTLINES AND DIMENSIONS	26
3-1 Indoor Unit	26
3-2 Outdoor Unit	33
4. DIAGRAM&DATA	39
4-1 Refrigerant Flow Diagram	39
4-2 Evacuation Procedures	42
4-3MAX. Refrigerant Pipe Length and Height Difference	43
4-4 Electric Diagrams	46
4-5 Air Flow and ESP Chart(Duct type)	49
4-6 Performance Curve	52
5. ELECTRICAL DATA	53
5-1 Electric Wiring Diagrams	49
5-2 Electric Control	74
5-3 Dip Switch Setting of Outdoor	85
5-4. Digital Display Switch of Outdoor	86
5-5 Internal Control Parameter Adaptation	91
5-6Sensor Parameter	94
6. CONTROL MODE	102
6-1 Indoor Control Mode	102
6-2 Outdoor Control Mode	106
7. TROUBLE SHOOTING	109

7-1 Error Codes	-----	103
7.2 Limited Codes	-----	138
8. CHECKING COMPONENTS	-----	140
8-1 Check Refrigerant System	-----	140
8-2 Check Parts Unit	-----	142
9. Appendix(General Indoor Units)	-----	149

1-1 Features

Features

➤ Twin Rotary DC Inverter Compressor

The twin rotary inverter compressor design reduces friction during operation for smoother rotation with less vibration, while also preventing leakage of refrigerant gas during compression. The result is a far quieter and more efficient air conditioner.



➤ 3-DC Inverter Technology

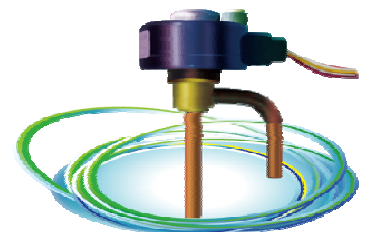
3-DC Inverter technology allows for extremely accurate control of compressor rotation speed, saving roughly 50% more energy than traditional air conditioners. Moreover, it guarantees and fan motor greatly reduce the loss owed to the typical owing dispersion of AC motors and more efficiently reaches the set temperature.

➤ Electronic Expansion Valve

Inside the outdoor unit is the electronic expansion valve, which regulates and optimizes the refrigerant quantity to all running indoor units.

➤ Self Recovery of Power Break

When the power supply is recovered after break, all preset are still effective and the air-conditioner can run according to the original setting.



➤ Comfortable temperature control

DC inverter power control uses its full capacity at startup to cool/warm quickly. As soon as

1. GENERAL

the set temperature is reached, it carefully adjusts current frequency to prevent temperature fluctuation and energy loss.



➤ Long piping lengths for installation flexibility

The ample maximum piping length of 60 m permits more freedom in the placement of air conditioner units and enables you to optimise interior space.

➤ Variety Indoor & Outdoor Unit Type

The new line-up expands the range of layout options both indoors and outdoors.

More methods, more conveniently.

➤ Option Remote Controller

A variety of convenient controller systems permit individual control of settings such as temperature, airflow volume, and operation duration.

1. GENERAL

1-2 Product Lineup

Indoor Unit

<i>Type</i>	<i>Model</i>	<i>9</i>	<i>12</i>	<i>18</i>	<i>24</i>
<i>Wall Mounted Type</i>	<i>AMS-</i>	●	●	●	
<i>Cassette Type</i>	<i>AMC-</i>		●	●	
<i>Duct Type</i>	<i>AMD-</i>	●	●	●	●
<i>Ceiling&Floor Type</i>	<i>AMV-</i>		●	●	

Outdoor Unit

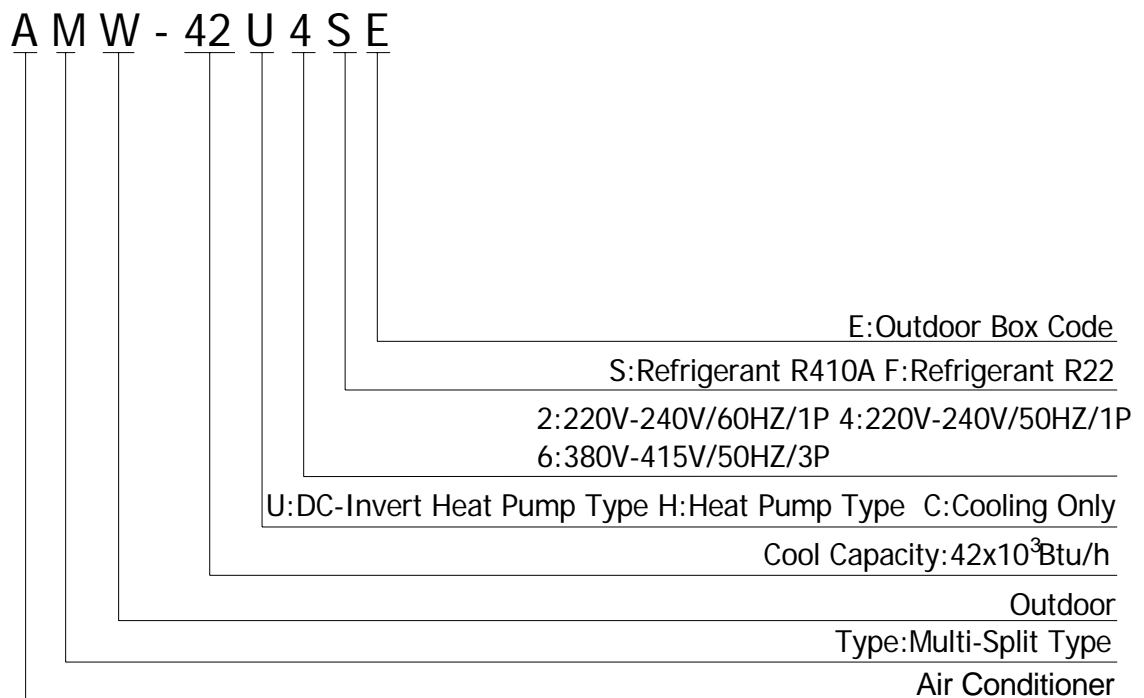
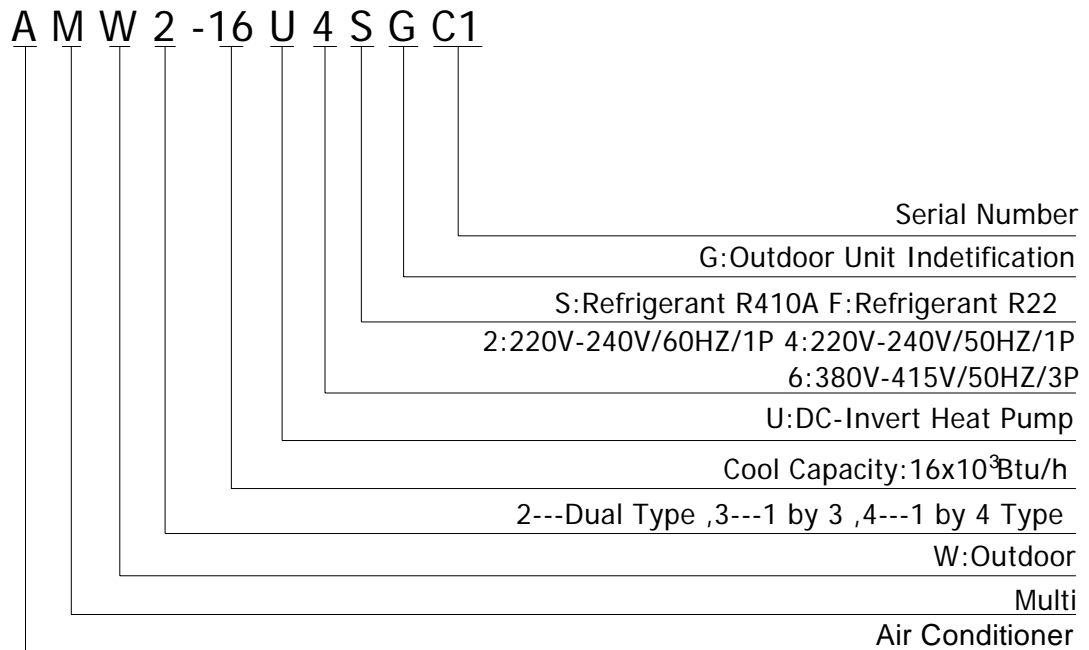
<i>Type</i>	<i>Model</i>	<i>16</i>	<i>20</i>	<i>24</i>	<i>28</i>	<i>36</i>
<i>Dual</i>	<i>AMW2-</i>	●	●			
<i>1 by3</i>	<i>AMW3-</i>		●	●		
<i>1by4</i>	<i>AMW4-</i>				●	●

Branch Box & Supporting Outdoor Unit

	<i>Model</i>	<i>42</i>
<i>1 by5</i>	<i>AMW-</i>	●

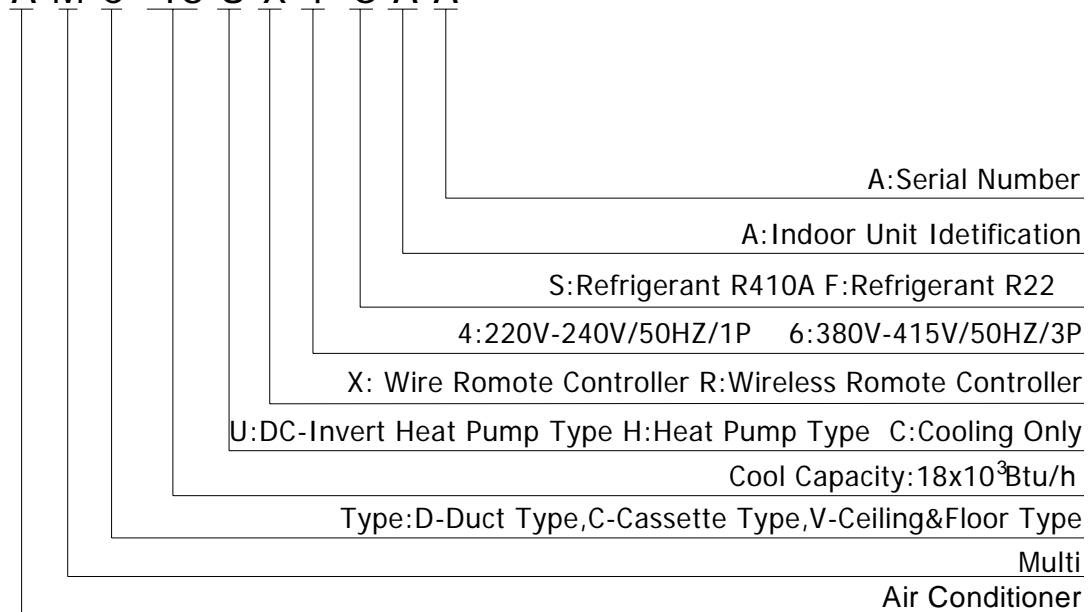
1. GENERAL

1-3 Model Identification

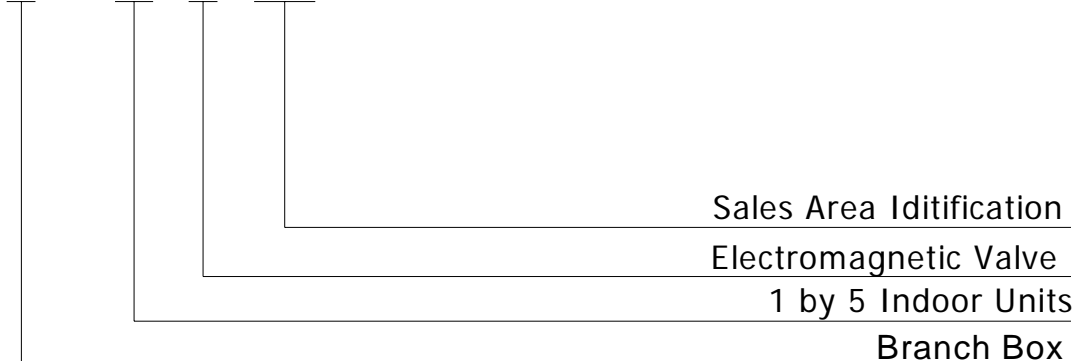


1. GENERAL

A M C -18 U X 4 S A A







F - 15 E (E)





1. GENERAL

1-4 Product Picture

Outdoor Unit

Type	Capacity(KBtu/h)	View
Dual	16	
	20	
1 by 3	20	
	24	

1. GENERAL

Type	Capacity(KBtu/h)	View
1by4	28 36	
Branch Box Supporting Outdoor	42	

1. GENERAL

Indoor Unit

Type	View
Duct (12K,18K)	
Duct (24K)	
Cassette	
Ceiling&Floor	

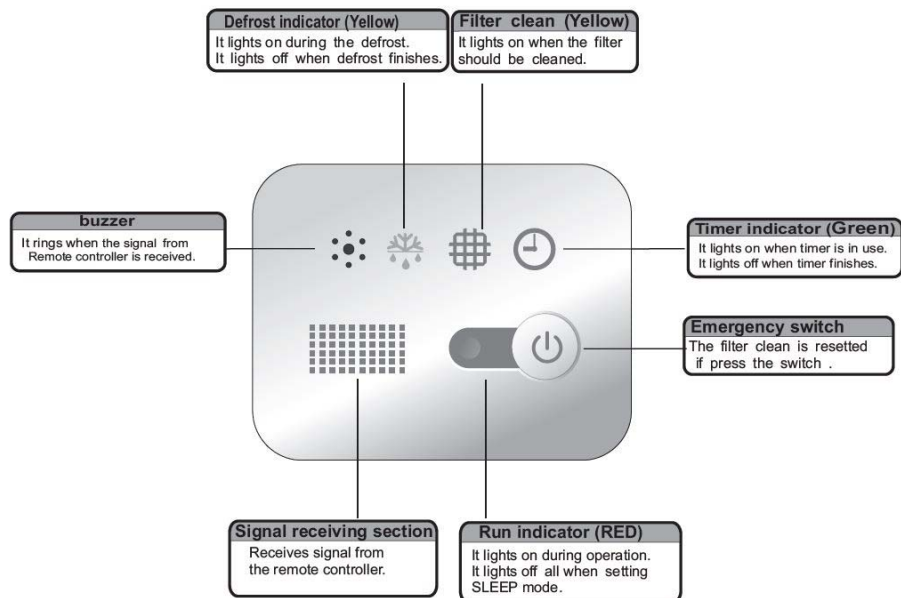
Branch Box



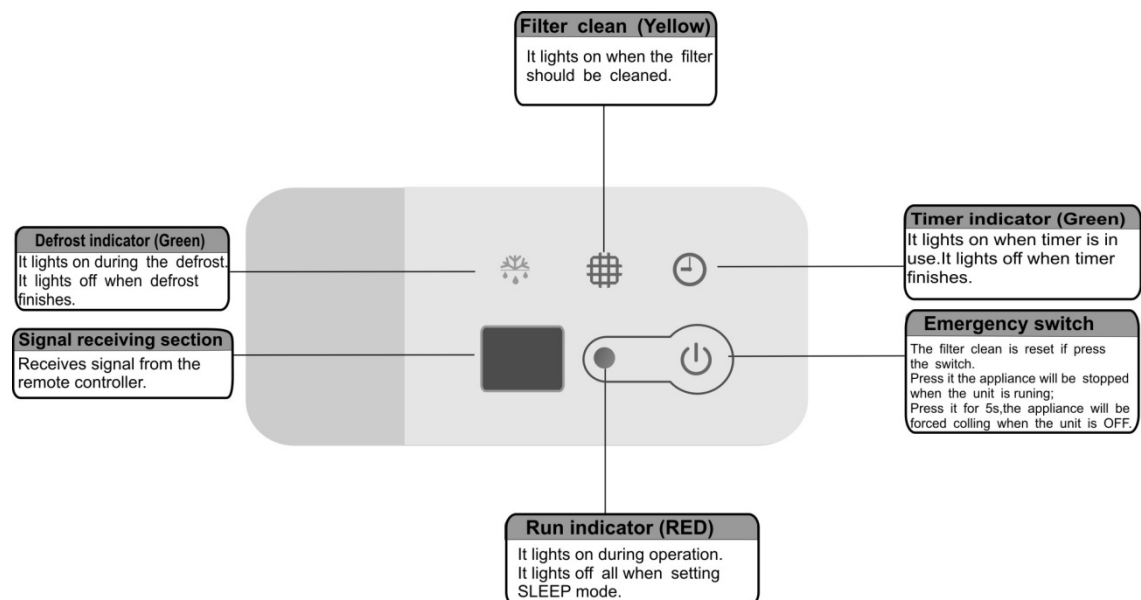
1. GENERAL

DISPLAY PANEL

Cassette Type



Ceiling&Floor type



2. SPECIFICATIONS

2. Specifications

OUTDOOR

DC FAN MOTER TYPES

Type(Free Match)			up to 2 indoor units	up to 2 indoor units	up to 3 indoor units	up to 3 indoor units	up to 4 indoor units	up to 4 indoor units
Model Name			AMW2-16U4SGD1	AMW2-20U4SZD1	AMW3-20U4SZD1	AMW3-24U4SAD1	AMW4-28U4SAD1	AMW4-36U4SAD1
Gas			R410A	R410A	R410A	R410A	R410A	R410A
Performance								
Pdesign Cooling		kW	4.6	5.8	6	7	8.2	10
Pdesign Heating Average		kW	4.4	5.1	6.1	7.5	8.3	9
Capacity	Cooling	kW	4.6 (1.4 ~ 5.2)	5.8 (1.6~6.4)	6.0 (2.0 ~ 7.5)	7.0(2.4~8.0)	8.2 (2.9~9.0)	10.0 (3.0~11)
		Btu/h	15695(4777~17742)	19790(5459~21837)	20472(6824~25590)	23880(8180~27296)	27978(9894~30708)	34120 (10236~37532)
	Heating	kW	5.3 (1.35~ 6.4)	6.4(1.5~7.0)	7.0 (1.5 ~ 8.5)	8.4(2.1~9.2)	9.0(2.5~10.0)	11 (3.0~12)
		Btu/h	18083(4606~21837)	21837(5118~23884)	23884(5118~29002)	28660(7165~31390)	30708(8530~34120)	37532 (10236~40944)
Air flow		m3/h	2400	3000	3000	4500	4500	4800
SEER			6.8	6.81	6.8	7.1	7.2	7.2
SCOP			4.08	4.05	4.05	4.1	4.1	4.01
EER		W/W	3.29	3.41	3.35	3.89	3.73	3.35
COP		W/W	4.08	3.66	3.70	3.82	4.09	3.65

2. SPECIFICATIONS

Type(Free Match)			up to 2 indoor units	up to 2 indoor units	up to 3 indoor units	up to 3 indoor units	up to 4 indoor units	up to 4 indoor units
Model Name			AMW2-16U4SGD1	AMW2-20U4SZD1	AMW3-20U4SZD1	AMW3-24U4SAD1	AMW4-28U4SAD1	AMW4-36U4SAD1
EEL Rank	Cooling		A++	A++	A++	A++	A++	A++
	Heating		A+	A+	A+	A+	A+	A+
Noise Level (Sound Power)		dB(A) (Max)	64	64	68	68	68	68
Noise Level (Sound Pressure)		dB(A) (Max)	56	56	57	59	59	59
Guaranteed Operating Range	Cooling	℃	-15~43	-15~43	-15~43	-15~43	-15~43	-15~43
	Heating	℃	-10~24	-10~24	-10~24	-10~24	-10~24	-10~24
Compressor model	Model		DA130S1C-20FZ1	DA130S1C-20FZ1	ATL165SD-C9AU	DA200S2C-10MT	DA230S2C-31MT	DA250S2C-30MT
	Brand		GMCC	GMCC	Highly	GMCC	GMCC	GMCC
Electrical Data								
Power		V/Hz/f	220~240/50/1	220~240/50/1	220~240/50/1	220~240/50/1	220~240/50/1	220~240/50/1
Power input	Cooling	kW	1.4 (0.4 ~ 2.0)	1.7 (0.39~2.25)	1.8 (0.55~2.65)	1.8 (0.66~2.9)	2.2 (0.76~3.0)	2.98 (1.0~3.8)
	Heating	kW	1.3 (0.35 ~ 1.9)	1.75(0.37~2.1)	1.9(0.5~2.6)	2.2(0.6~2.9)	2.2(0.7~3.3)	2.8(1.0~4.0)
Rated current	Cooling	A	6.1	7.7	8	8	9.6	13.2
	Heating	A	5.7	8.0	8.5	9.6	9.6	12.4
Anti electric shock			Class I	Class I	Class I	Class I	Class I	Class I
Degrees of protection			IPX4	IPX4	IPX4	IPX4	IPX4	IPX4
Dimension & Weight								
Net Dimension (WxHxD)	mm		800×560×260	980×640×350	980×640×350	950×840×340	950×840×340	950×840×340
Net Weight	kg		36.5	46.5	53	66	67	67
Package Dimension (WxHxD)	mm		950×650×370	1050×700×400	1050×700×400	1110×980×460	1110×980×460	1110×980×460

2. SPECIFICATIONS

Type(Free Match)		up to 2 indoor units	up to 2 indoor units	up to 3 indoor units	up to 3 indoor units	up to 4 indoor units	up to 4 indoor units
Model Name		AMW2-16U4SGD1	AMW2-20U4SZD1	AMW3-20U4SZD1	AMW3-24U4SAD1	AMW4-28U4SAD1	AMW4-36U4SAD1
Gross Weight	kg	40	52.5	57	76	77	77
Technical Information							
Piping	Diameter(Liquid)	mm	6.35×2	6.35×2	6.35×3	6.35×3	6.35×4
	Diameter(Gas)	mm	9.52×2	9.52×2	9.52×3	9.52×3	9.52×4
	Max Length(Each)	m	20	20	25	25	25
	Max Length(Total)	m	40	40	70	70	70
	Max Height	m	15	15	15	15	15
Upload refrigerant		g	1270	1400	1750	2200	2600
Upload additional refrigerant		g/m	15g/m over 15m	15g/m over 15m	15g/m over 20m	15g/m over 20m	15g/m over 20m

Test conditions:

Cooling : Indoor: DB27℃/ WB19℃ Outdoor: DB35℃/ WB24℃

Heating: Indoor: DB20℃/ WB15℃ Outdoor: DB7℃/ WB 6℃

Remarks:

1. The above design and specifications are subject to change without prior notice for product improvement.
2. The values given in the table for noise level reflect the levels in anechoic chamber.

Storage condition: Temperature -20~65℃

Humidity 30%~80%

2. SPECIFICATIONS

AC FAN MOTER TYPES

Type(Free Match)			up to 2 indoor units	up to 2 indoor units	up to 3 indoor units	up to 3 indoor units	up to 4 indoor units	up to 4 indoor units
Model Name			AMW2-16U4SGC1	AMW2-20U4SNC1	AMW3-20U4SZD	AMW3-24U4SZD (AMW3-24U2SZD)	AMW4-28U4SAC (AMW4-28U2SAC)	AMW4-36U4SAC(A MW4-36U2SAC)
Gas			R410A	R410A	R410A	R410A	R410A	R410A
Performance								
Capacity	Cooling	kW	4.6(1.4~5.2)	5.8(1.6~6.4)	6 (1.7~7)	7.0(1.9~7.8)	8.2(2.9~10.7)	10.0(2.9~10.7)
		Btu/h	15700(4780~17740)	19800(5459~21840)	20472 (5800~23884)	24000(6483~26614)	28000(9800~36500)	36000(9800~36500)
	Heating	kW	5.3(1.35~6.4)	6.4(1.5~7.0)	7 (1.7~8.5)	7.8(1.7~9.4)	9.0(2.5~12.0)	11.0(2.5~12.0)
		Btu/h	18080(4600~21840)	21840(5118~23880)	23884 (5800~29002)	26614(5800~32073)	30700(6480~34100)	37500(8500~40900)
Air flow		m3/h	2400	3000	3000	3000	4200	4200
EER		W/W	3.29	3.41	3.21	3.21	3.42	3.22
COP		W/W	4.08	3.66	3.68	3.71	3.62	3.62
EEL Rank		Cooling	A	A	A	A	A	A
		Heating	A	A	A	A	A	A
Noise Level		dB(A) (Max)	56	57	57	57	60	60
Guaranteed Operating Range	Cooling	℃	7~43	7~43	7~43	7~43	7~43	7~43
	Heating	℃	-10~24	-10~24	-10~24	-10~24	-10~24	-10~24
Compressor model	Model		DA130S1C-20FZ	DA130S1C-20FZ	ATL165SD-C9AU	ATL165SD-C9AU	ATL232JN-C9AUA	ATL232JN-C9AUA
	Brand		GMCC	GMCC	HIGHLY	HIGHLY	HIGHLY	HIGHLY
Electrical Data								

2. SPECIFICATIONS

Type(Free Match)			up to 2 indoor units	up to 2 indoor units	up to 3 indoor units	up to 3 indoor units	up to 4 indoor units	up to 4 indoor units
Model Name			AMW2-16U4SGC 1	AMW2-20U4SNC1	AMW3-20U4SZD	AMW3-24U4SZD (AMW3-24U2SZD)	AMW4-28U4SAC (AMW4-28U2SAC)	AMW4-36U4SAC(A MW4-36U2SAC)
Power		V/Hz/f	220~240/50/1	220~240/50/1	220~240/50/1	220~240/50/1	220~240/50/1	220~240/50/1
Power input	Cooling	W	1400 (400~2000)	1700 (390~2250)	1870 (580~2600)	2180 (580~3100)	2400 (780~4100)	3100 (780~4100)
	Heating	W	1300 (350~1900)	1750 (370~2100)	1900 (500~2600)	2100 (530~3000)	2490 (700~ 3700)	3040 (700~ 3700)
Rated current	Cooling	A	6.1	7.7	8.55	10	10.7	14.5
	Heating	A	5.7	8.0	8.6	9.5	11.1	14
Anti electric shock			Class I	Class I	Class I	Class I	Class I	Class I
Degrees of protection			IPX4	IPX4	IPX4	IPX4	IPX4	IPX4
Dimension & Weight								
Net Dimension (WxHxD)	mm		800×560×260	980×640×350	980×640×350	980×640×350	950×840×340	950×840×340
Net Weight	kg		36.5	46.5	52	53	67	67
Package Dimension (WxHxD)	mm		950×650×370	1080×720×420	1080×720×420	1080×720×420	1120×980×460	1120×980×460
Gross Weight	kg		40	52.5	56	57	77	77
Technical Information								
Piping	Diameter(Liquid)	mm	6.35	6.35	6.35	6.35	6.35	6.35
	Diameter(Gas)	mm	9.52	9.52	9.52	9.52	9.52	9.52
	Max Length(Each)	m	20	20	20	20	25	25
	Max Length(Total)	m	40	40	60	60	70	70
	Max Height	m	15	15	15	15	15	15
Upload refrigerant		g	1270	1400	1600	1750	2600	2600
Upload additional refrigerant		g/m	15g/m over 20m	15g/m over 20m	15g/m over 20m	15g/m over 20m	15g/m over 20m	15g/m over 20m

2. SPECIFICATIONS

Test conditions:

Cooling : Indoor: DB27°C/ WB19°C Outdoor: DB35°C/ WB24°C

Heating: Indoor: DB20°C/ WB15°C Outdoor: DB7°C/ WB 6°C

Remarks:

1The above design and specifications are subject to change without prior notice for product improvement.

2.The values given in the table for noise level reflect the levels in anechoic chamber.

Storage condition: Temperature -20~65°C

Humidity 30%~80%

2. SPECIFICATIONS

BRANCH BOX OUTDOOR

Type(Free Match)			2 to 5 indoor units
Model Name			AMW-42U4SE
Gas			R410A
Performance			
Capacity	Cooling	kW	12.5 (3.8~13.5)
		Btu/h	42650 (12966~46062)
	Heating	kW	14.5 (3.8~15.0)
		Btu/h	49474 (12966~51180)
Air flow		m3/h	5500
EER		W/W	3.21
COP		W/W	3.62
EEL Rank		Cooling	A
		Heating	A
Noise Level (Sound Pressure)		dB(A) (Max)	60
Guaranteed Operating Range	Cooling	℃	7~43
	Heating	℃	-10~24
Compressor model	Model		TNB306FPGMC
	Brand		Mitsubishi
Electrical Data			
Power		V/Hz/f	220~240/50/1
Power input	Cooling	kW	3.9 (1.0~5.1)
	Heating	kW	4.0 (0.95~5.0)
Rated current	Cooling	A	18.0
	Heating	A	18.0
Anti electric shock			Class I
Degrees of protection			IPX4
Dimension & Weight			
Net Dimension (WxHxD)		mm	950×1050×340
Net Weight		kg	82
Package Dimension (WxHxD)		mm	1110×1200×460
Gross Weight		kg	96
Technical Information			Before connect with outdoor and indoor/ branch box, DO confirm the maximum allowed length of pipeline as below picture.

Test conditions:

Cooling : Indoor: DB27℃/ WB19℃ Outdoor: DB35℃/ WB24℃

Heating: Indoor: DB20℃/ WB15℃ Outdoor: DB7℃/ WB 6℃

Remarks:

1The above design and specifications are subject to change without prior notice for product improvement.

2.The values given in the table for noise level reflect the levels in anechoic chamber.

Storage condition: Temperature -20~65℃ Humidity 30%~80%

2. SPECIFICATIONS

INDOOR

WALL MOUNTED TYPE



Model Name		AMS-07UR4SGNM4	AMS-09UR4SGNM4	AMS-12UR4SGNM4	AMS-18UR4SVNM4
Performance					
Cooling capacity	kW	2	2.6	3.5	5
Heating capacity	kW	2.3	3.0	4.0	5.5
Power	V/Hz/f	220~240/50/1	220~240/50/1	220~240/50/1	220~240/50/1
Power input	W	15	15	20	85
Rated current	A	0.2	0.2	0.2	0.2
Anti electric shock		Class I	Class I	Class I	Class I
Degrees of protection		IPX0	IPX0	IPX0	IPX0
Air flow	m3/h	550	550	600	900
Noise Level (Sound Power)	dB(A)	53	53	54	58
Net Dimension (WxHxD)	mm	818X270X214	818X270X214	818X270X214	920x313x226
Net Weight	kg	8.5	8.5	8.5	11.5
Package Dimension (WxHxD)	mm	910X380X285	910X380X285	910X380X285	1007X380X297
Gross Weight	kg	10	10	10	14

2. SPECIFICATIONS



Model Name		AMS-07UR4SNNM4	AMS-09UR4SNNM4	AMS-12UR4SNNM4
Performance				
Cooling capacity	kW	2.1	2.6	3.2
Heating capacity	kW	2.5	3.0	3.7
Power	V/Hz/f	220~240/50/1	220~240/50/1	220~240/50/1
Power input	W	40	40	40
Rated current	A	0.2	0.2	0.2
Anti electric shock		Class I	Class I	Class I
Degrees of protection		IPX0	IPX0	IPX0
Air flow	m3/h	520	520	560
Noise Level (Sound Power)	dB(A)	53	53	54
Net Dimension (WxHxD)	mm	750×250×190	750×250×190	750×250×190
Net Weight	kg	7.5	7.5	7.5
Package Dimension (WxHxD)	mm	800×330×250	800×330×250	800×330×250
Gross Weight	kg	9	9	9

2. SPECIFICATIONS



Factory Model Name		AMS-07UR4SNVG4	AMS-09UR4SNVG4	AMS-12UR4SNVG4
Performance				
Cooling capacity	kW	2.1	2.6	3.2
Heating capacity	kW	2.5	3.0	3.7
Power	V/Hz/f	220~240/50/1	220~240/50/1	220~240/50/1
Power input	W	40	40	40
Rated current	A	0.2	0.2	0.2
Anti electric shock		Class I	Class I	Class I
Degrees of protection		IPX0	IPX0	IPX0
Air flow	m3/h	520	520	560
Noise Level (Sound Power)	dB(A)	53	53	54
Net Dimension (WxHxD)	mm	750x250x190	750x250x190	750x250x190
Net Weight	kg	7.5	7.5	7.5
Package Dimension (WxHxD)	mm	800x330x250	800x330x250	800x330x250
Gross Weight	kg	9	9	9

2. SPECIFICATIONS



Factory Model Name		AMS-07UR4SNVQ4	AMS-09UR4SNVQ4	AMS-12UR4SNVQ4
Performance				
Cooling capacity	kW	2	2.6	3.2
Heating capacity	kW	2.3	3.0	3.7
Power	V/Hz/f	220~240/50/1	220~240/50/1	220~240/50/1
Power input	W	40	40	40
Rated current	A	0.2	0.2	0.2
Anti electric shock		Class I	Class I	Class I
Degrees of protection		IPX0	IPX0	IPX0
Air flow	m3/h	520	520	560
Noise Level (Sound Power)	dB(A)	53	53	54
Net Dimension (WxHxD)	mm	810x270x190	810x270x190	810x270x190
Net Weight	kg	7.5	7.5	7.5
Package Dimension (WxHxD)	mm	880x330x260	880x330x260	880x330x260
Gross Weight	kg	9	9	9

2. SPECIFICATIONS

Apple Pie-Free Match Split Indoor

Model Name		AMS-09UR4SPSC4	AMS-12UR4SPSC4
Performance			
Cooling capacity	kW	2.6	3.5
Heating capacity	kW	3.1	4.1
Power	V/Hz/f	220~240/50/1	220~240/50/1
Power input	W	30	35
Rated current	A	0.13	0.15
Anti electric shock		Class I	Class I
Degrees of protection		IPX0	IPX0
Air flow	m ³ /h	540	580
Noise Level (Sound Power)	dB(A) (Max)	52	53
Noise Level (Sound Pressure)	dB(A) (Hi\Mid\Low)	37\32\28	39\33\29
Net Dimension (WxHxD)	mm	1015x320x158	1015x320x158
Net Weight	kg	12	12
Package Dimension (WxHxD)	mm	1110x410x260	1110x410x260
Gross Weight	kg	15	15
Diameter(Liquid)	mm	6.35	6.35
Diameter(Gas)	mm	9.52	9.52

2. SPECIFICATIONS

DUCT TYPE

Model Name		AMD-09UX4SJD	AMD-12UX4SJD	AMD-18UX4SJD	AMD-24UX4SKD
Performance					
Cooling capacity	kW	2.6	3.2	5	7.1
Heating capacity	kW	3	3.7	5.5	8
Power	V/Hz/f	220~240/50/1	220~240/50/1	220~240/50/1	220~240/50/1
Power input	W	44	44	66	152
Rated current	A	0.2	0.2	0.3	0.8
Anti electric shock		Class I	Class I	Class I	Class I
Degrees of protection		IPX0	IPX0	IPX0	IPX0
Air flow	m3/h	520	520	700	1000
Noise Level (Sound Pressure)	dB(A) (Max/Min)	35/25	35/25	39/27	44/30
External static pressure	Pa	30/10	30/10	30/10	30/10
Net Dimension (WxHxD)	mm	(700+70) x190x600	(700+70) x190x600	(700+70) x190x600	(1100+70) x190x447
Net Weight	kg	20	20	21	24
Package Dimension (WxHxD)	mm	946x236x692	946x236x692	946x236x692	1340x236x580
Gross Weight	kg	24	24	25	28
Diameter(Liquid)	mm	6.35	6.35	6.35	6.35
Diameter(Gas)	mm	9.52	9.52	12.7	12.7

2. SPECIFICATIONS

CASSETTE TYPE

Model Name		AMC-12UX4SAA	AMC-18UX4SAA
Power	V/Hz/f	220~240/50/1	220~240/50/1
Performance			
Cooling capacity	kW	3.5	5
Heating capacity	kW	4	5.5
Power	V/Hz/f	220~240/50/1	220~240/50/1
Power input	W	70	70
Rated current	A	0.32	0.32
Anti electric shock		Class I	Class I
Degrees of protection		IPX0	IPX0
Air flow	m3/h	800	800
Noise Level (Sound Pressure)	dB(A) (Max/Min)	47/40	47/40
Net Dimension - Indoor Unit (WxHxD)	mm	650x270x570	650x270x570
Net Dimension - Panel (WxHxD)	mm	650x30x650	650x30x650
Net Weight - Indoor Unit	kg	21	21
Package Dimension - Indoor Unit (WxHxD)	mm	770x310x750	770x310x750
Package Dimension - Panel (WxHxD)	mm	730x130x730	730x130x730
Gross Weight - Indoor Unit	kg	25.5	25.5
Diameter(Liquid)	mm	6.35	6.35
Diameter(Gas)	mm	9.52	12.7

2. SPECIFICATIONS

CEILING& FLOOR TYPE

Model Name		AMV-12UX4SA	AMV-18UX4SA
Power	V/Hz/f	220~240/50/1	220~240/50/1
Performance			
Cooling capacity	kW	3.5	5.2
Heating capacity	kW	4	5.5
Power	V/Hz/f	220~240/50/1	220~240/50/1
Power input	W	85	85
Rated current	A	0.38	0.38
Anti electric shock		Class I	Class I
Degrees of protection		IPX0	IPX0
Air flow	m3/h	800	800
Noise Level (Sound Power)	dB(A) (Max)	53	53
Noise Level (Sound Pressure)	dB(A) (Max/Min)	41	41
Net Dimension - Indoor Unit (WxHxD)	mm	990×230×680	990×230×680
Net Weight - Indoor Unit	kg	27	27
Package Dimension - Indoor Unit (WxHxD)	mm	1100×350×820	1100×350×820
Gross Weight - Indoor Unit	kg	33	33
Diameter(Liquid)	mm	6.35	6.35
Diameter(Gas)	mm	9.52	12.7

2. SPECIFICATIONS

BRANCH BOX

Model Name		F15E(E)
Gas		R410A
Electrical Data		
Power Supply		220V-240V~/50Hz/1P
Power Input	kW	0.003
Current	A	0.05
Anti electric shock		Class I
Degrees of protection		IPX4
Pressure(Max.)	MPa	4.15
Dimension & Weight		
Net Dimension (WxHxD)	mm	400×265×160
Net Weight	Kg	7.4
Package Dimension (WxHxD)	mm	615×430×230
Gross Weight	Kg	10
Connecting Pipe Information		
BRANCH BOX	Outer Diameter of Pipe	
	Gas(mm)	Liquid(mm)
To Outdoor Unit	15.88	9.52
To Indoor Unit A	9.52	6.35
To Indoor Unit B	9.52	6.35
To Indoor Unit C	9.52	6.35
To Indoor Unit D	9.52	6.35
To Indoor Unit E	12.7	6.35

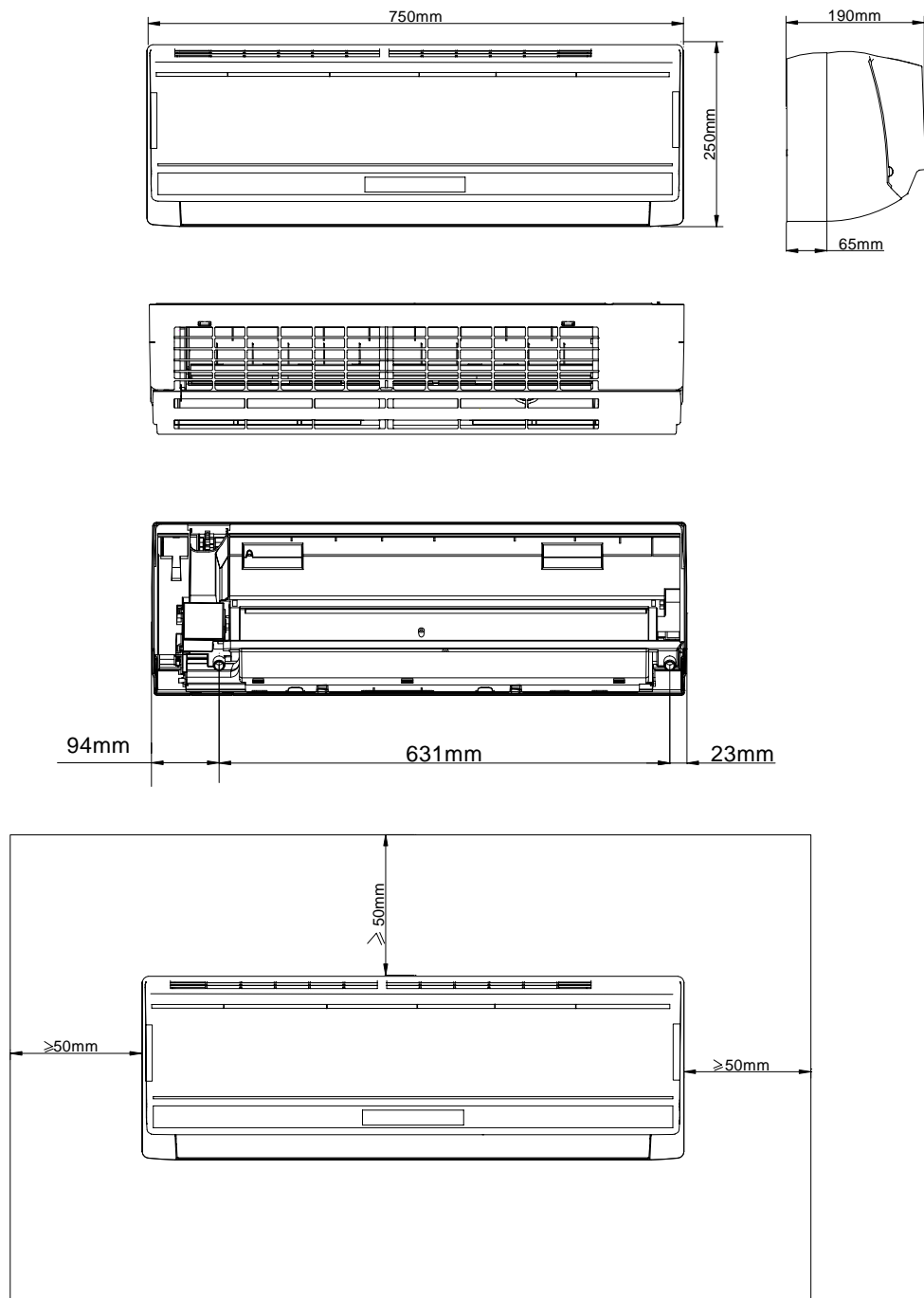
3. OUTLINES AND DIMENSIONS

3. OUTLINES AND DIMENSIONS

3-1 INDOOR

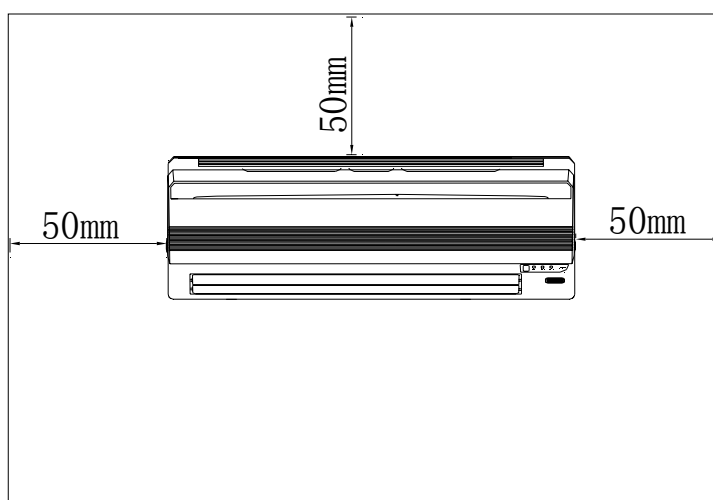
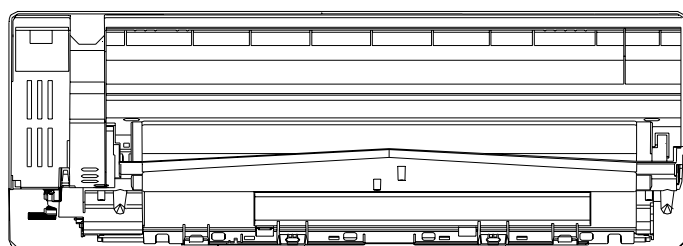
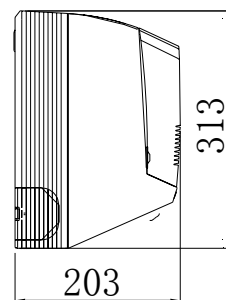
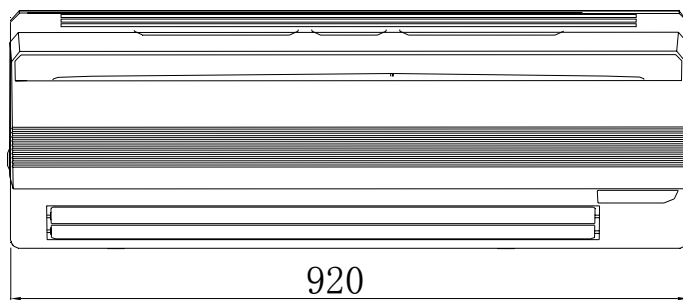
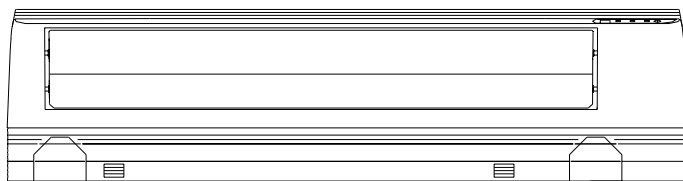
(UNIT : mm)

(MODEL: AMS-07UR4SNVG4 AMS-09UR4SNVG AMS-12UR4SNVG4 (VT4、VL4、VQ4、UP4、UL4、UQ4、NS4、ZC4、ZA4、NT4、NK4、NM4、VM4))



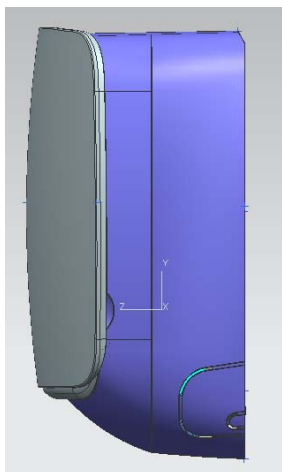
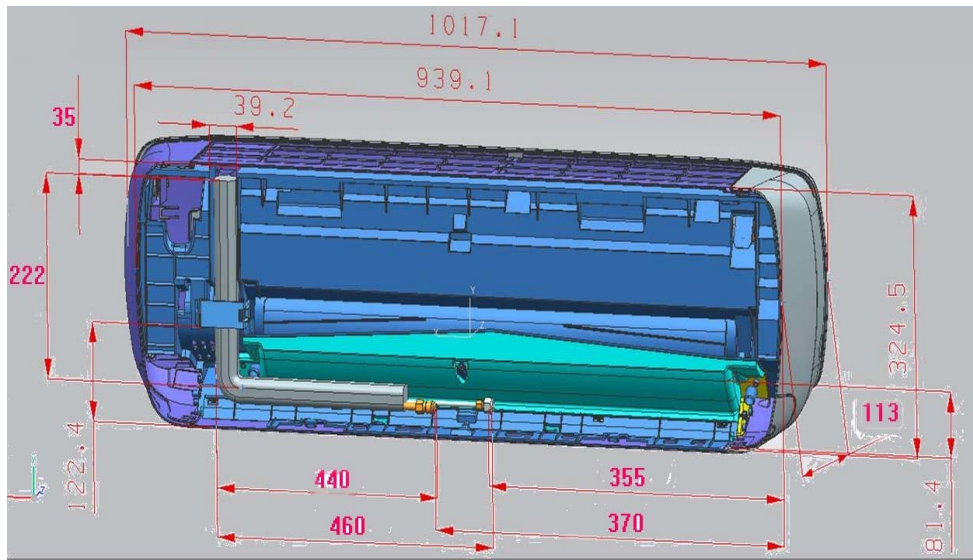
3. OUTLINES AND DIMENSIONS

MODEL: AMS-18UR4SV(VG4/VL4/VT4/UP4/UL4/UQ4/VQ4/NT4/NK4/NM4)



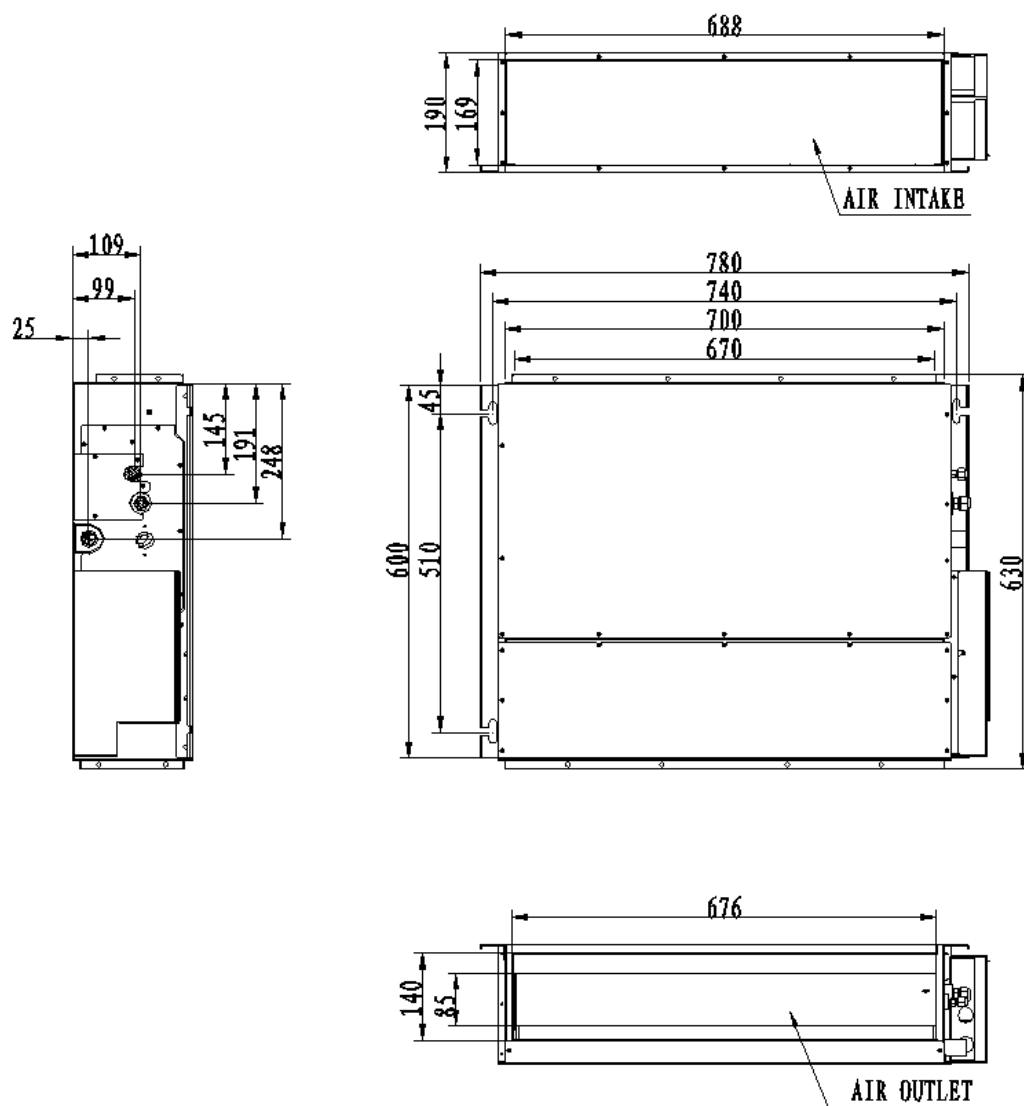
3. OUTLINES AND DIMENSIONS

AMS-09/12UR4SPSC4



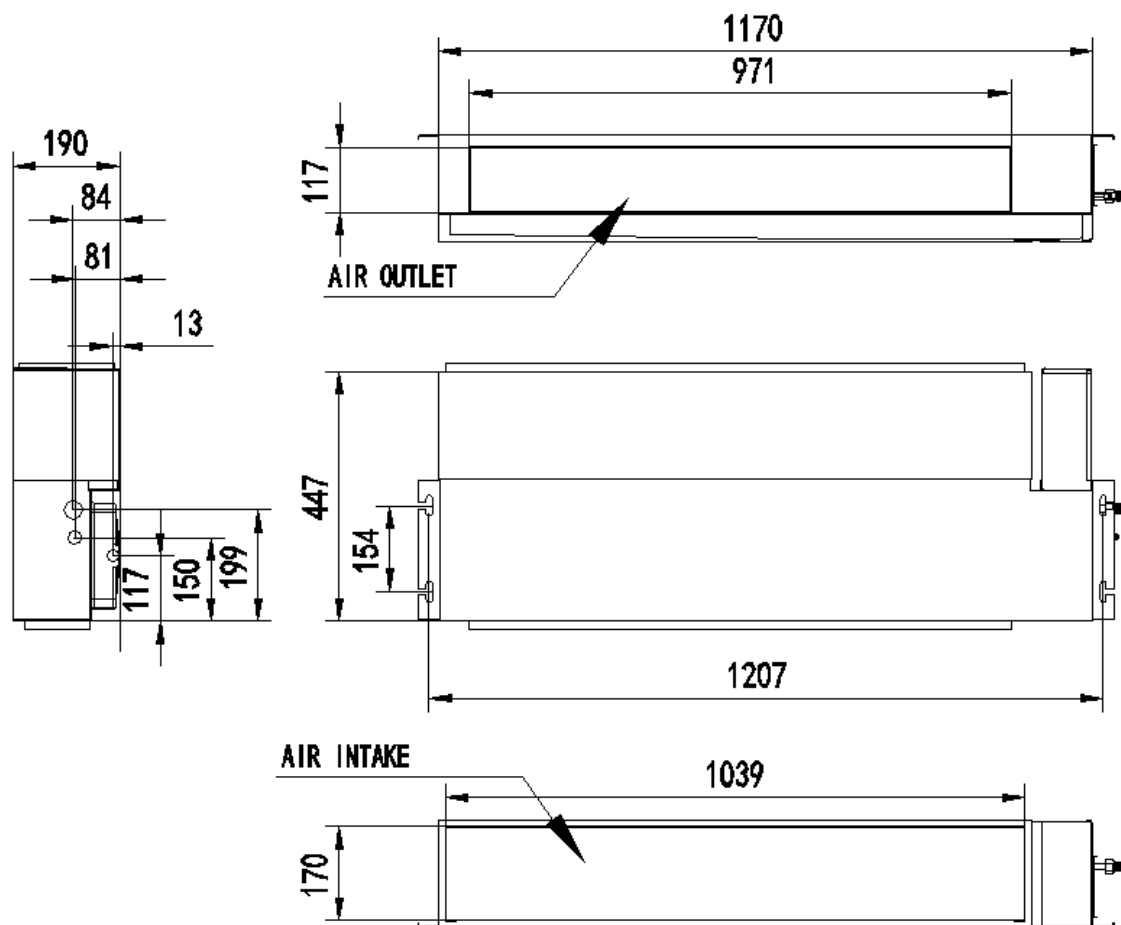
3. OUTLINES AND DIMENSIONS

DUCT TYPE
9K,12K



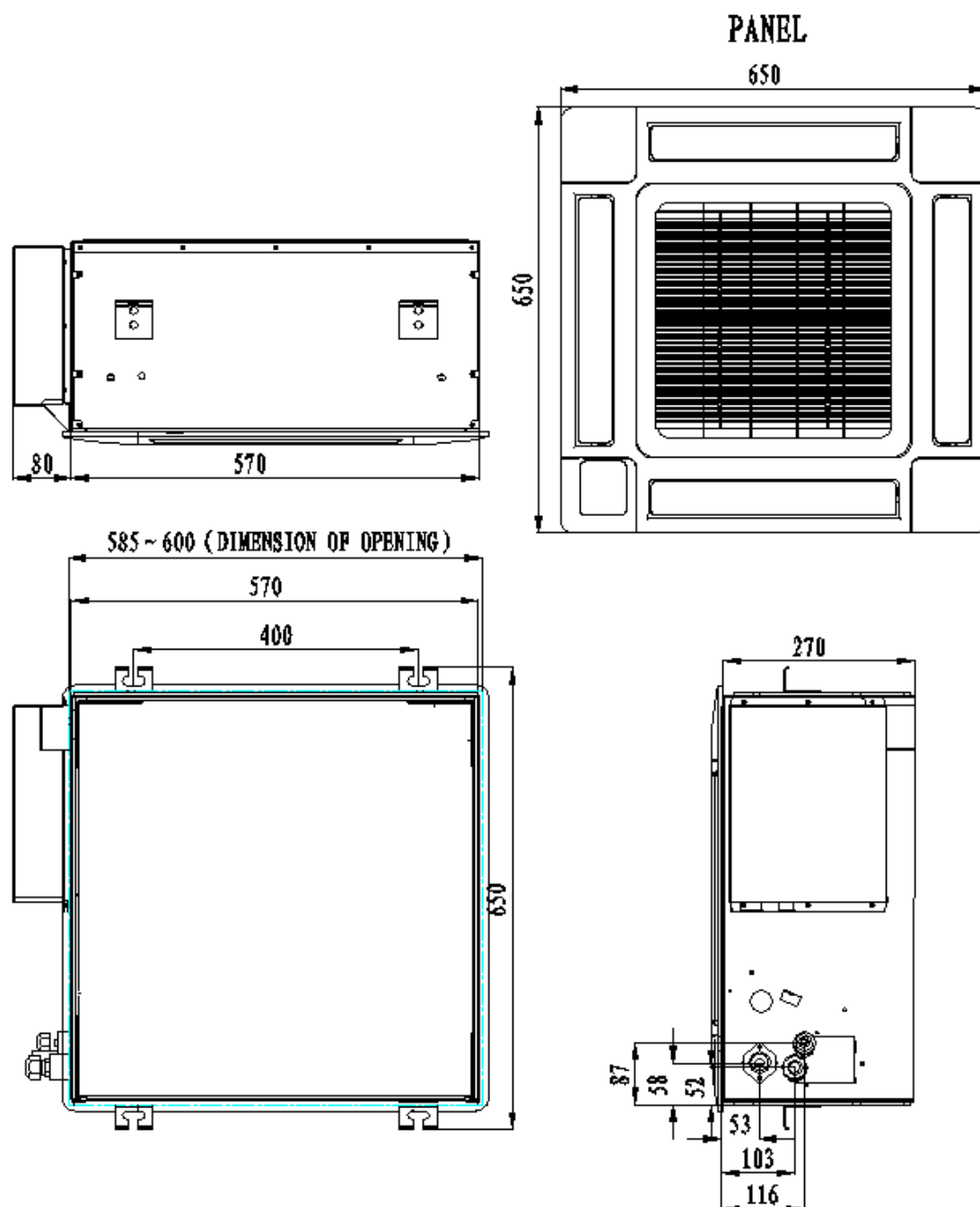
3. OUTLINES AND DIMENSIONS

24K



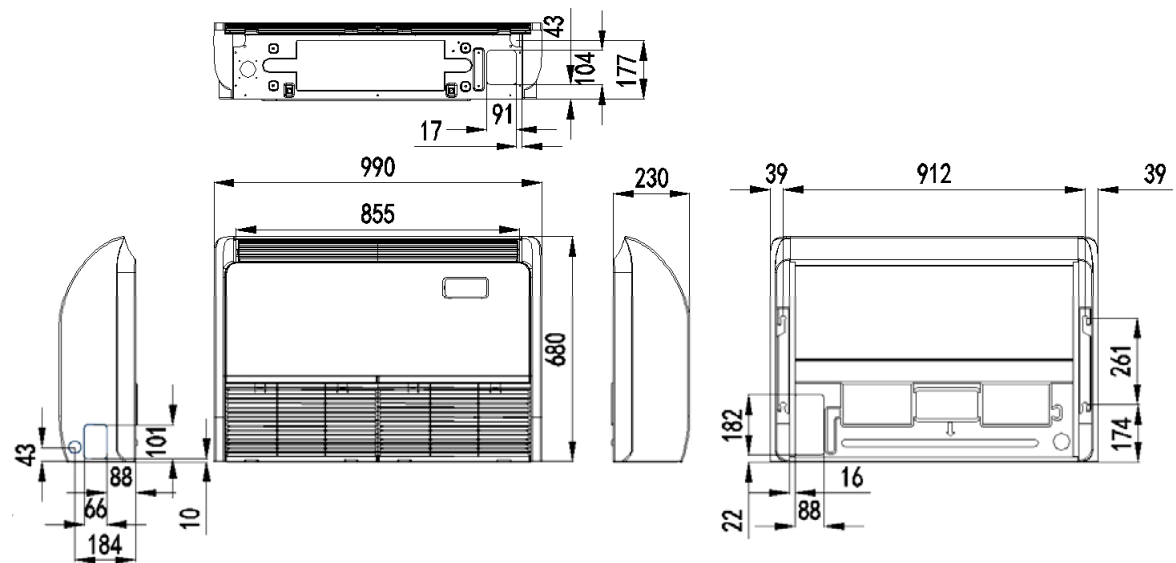
3. OUTLINES AND DIMENSIONS

CASSETTE TYPE

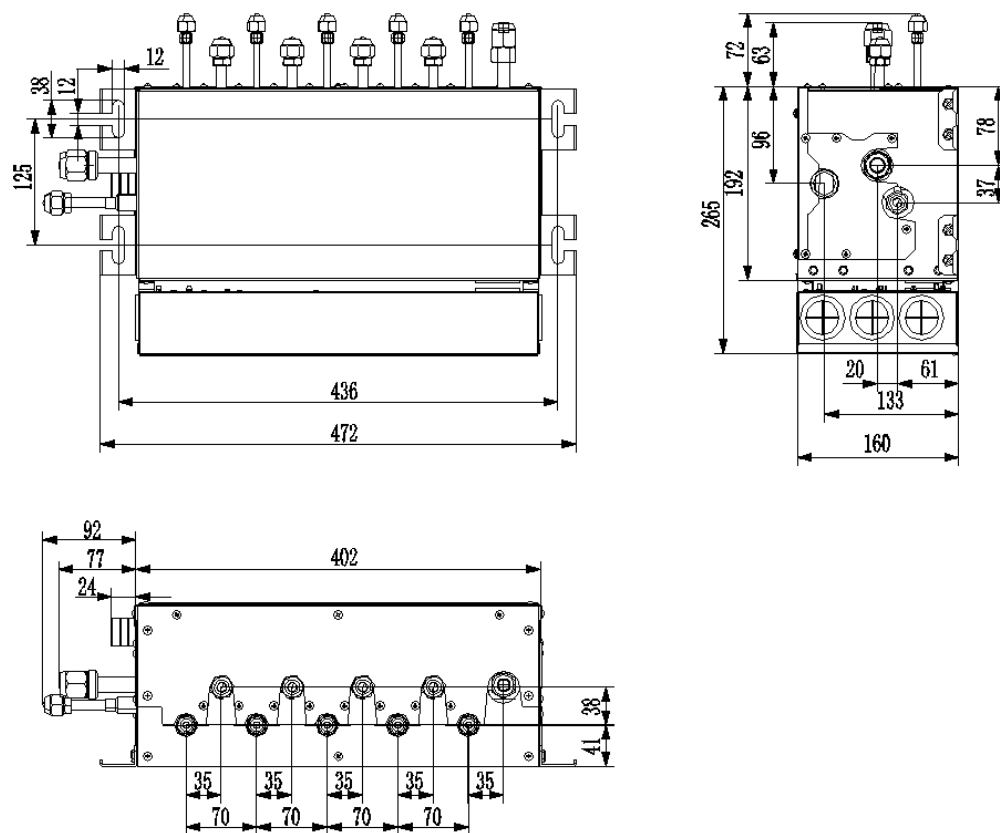


3. OUTLINES AND DIMENSIONS

CEILING & FLOOR TYPE



BRANCH BOX

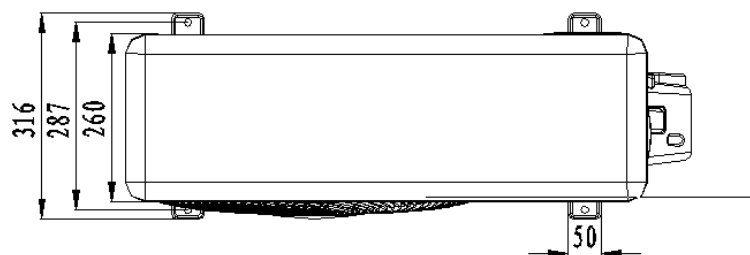
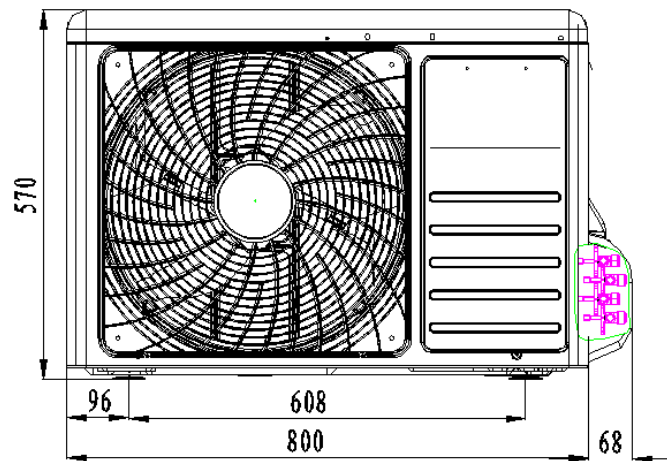
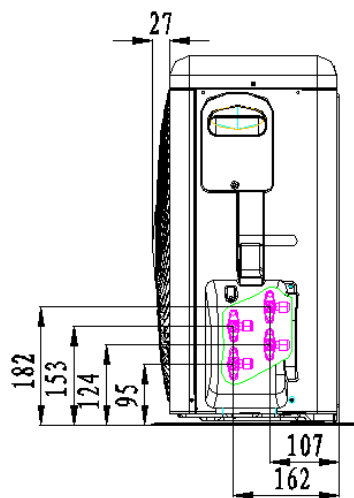


3. OUTLINES AND DIMENSIONS

3-2.OUTDOOR

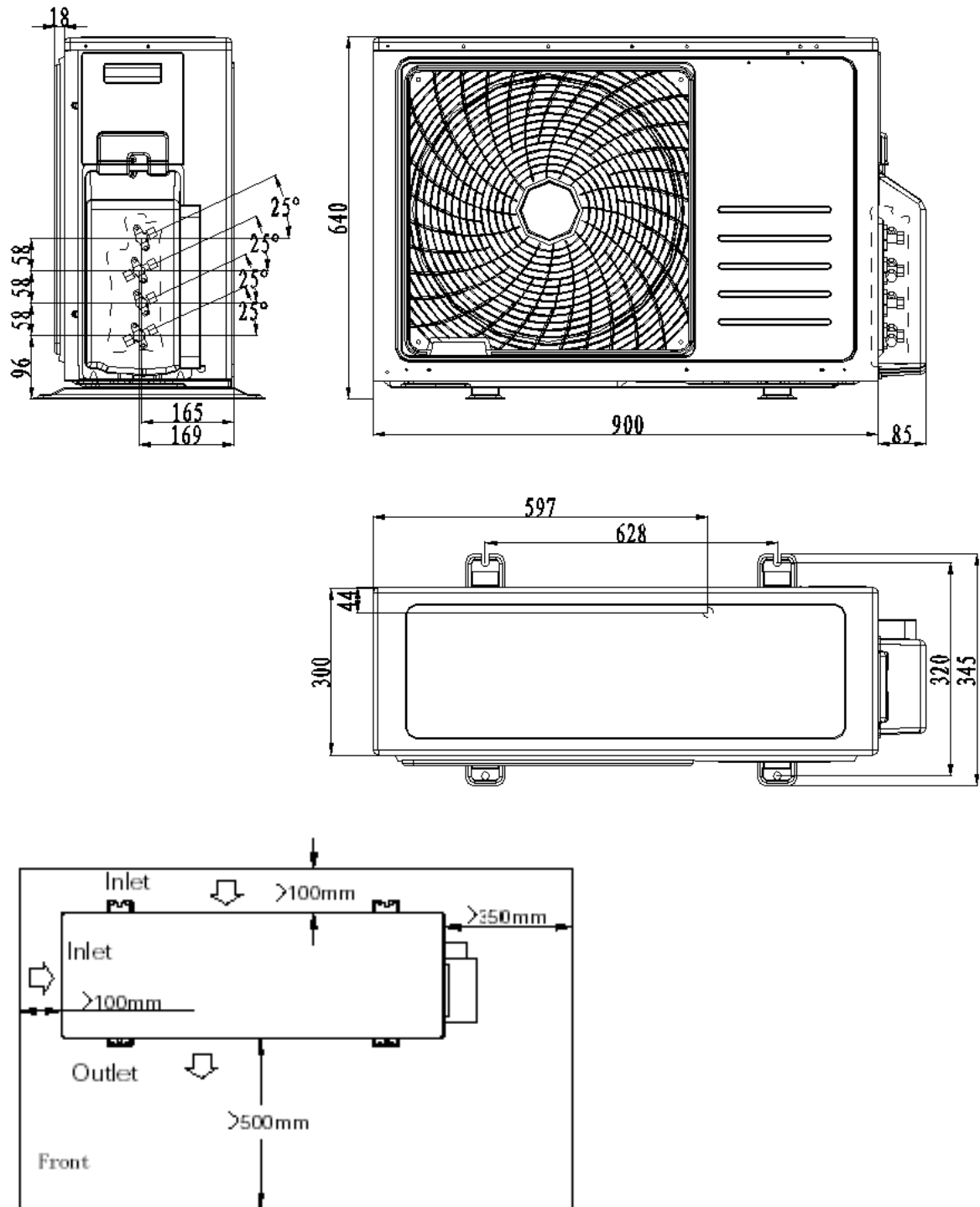
(UNIT:mm)

(MODEL: AMW2-16U4SGC1、AMW2-16U4SGD1)



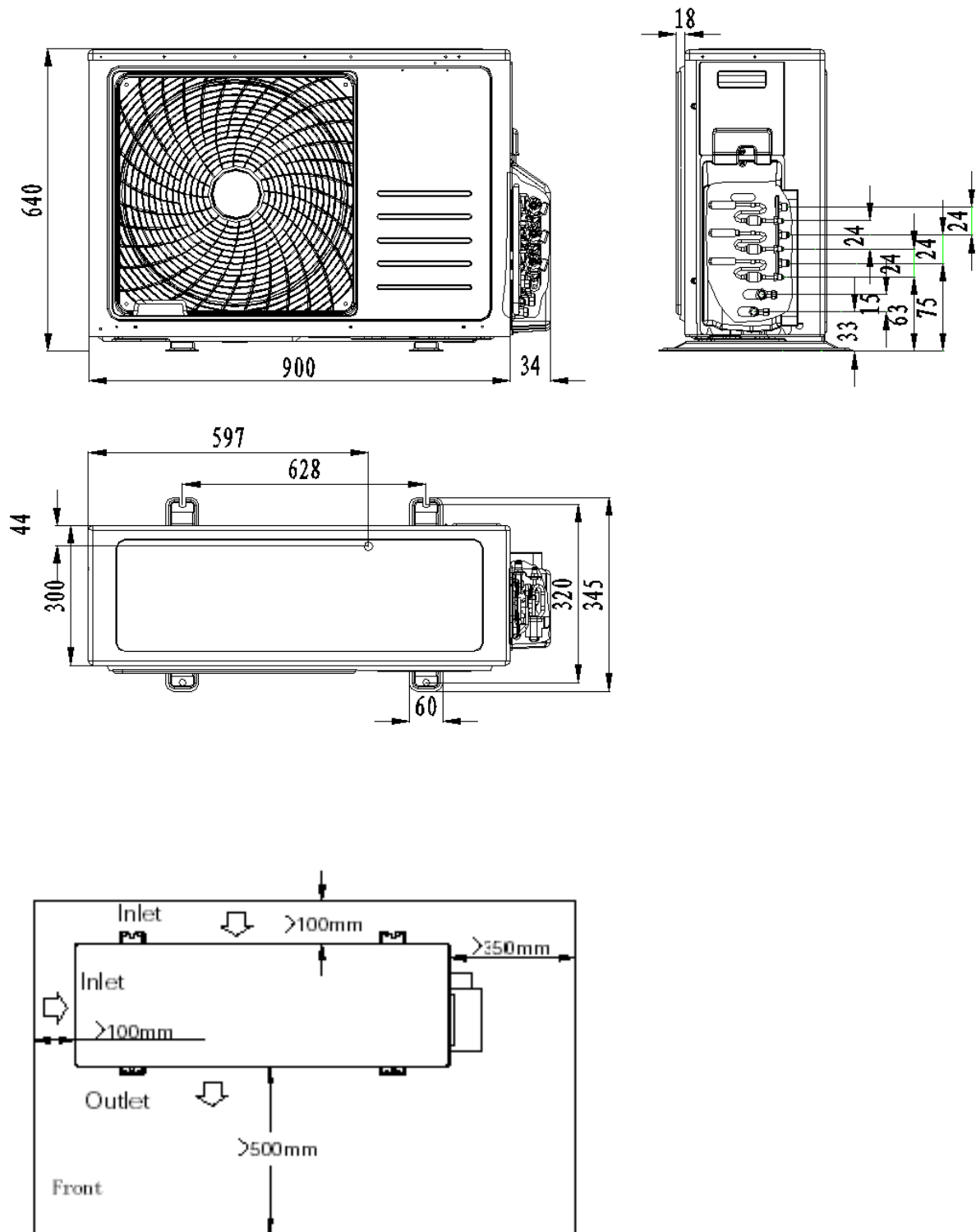
3. OUTLINES AND DIMENSIONS

MODEL: AMW2-20U4SNC1、AMW2-20U4SZD1,



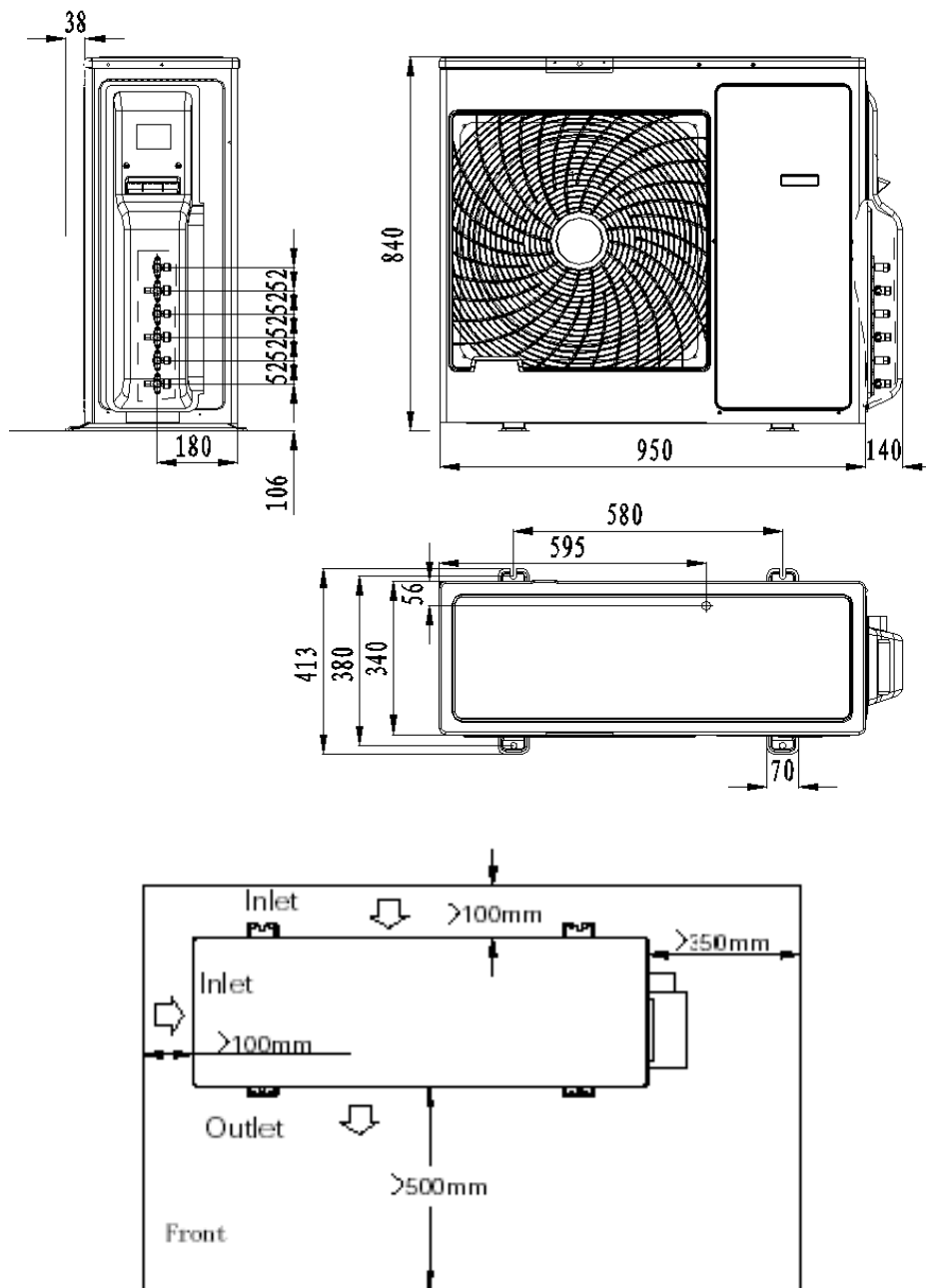
3. OUTLINES AND DIMENSIONS

AMW3-20U4SZD 、AMW3-24U4SZD、AMW3-20U4SZD1



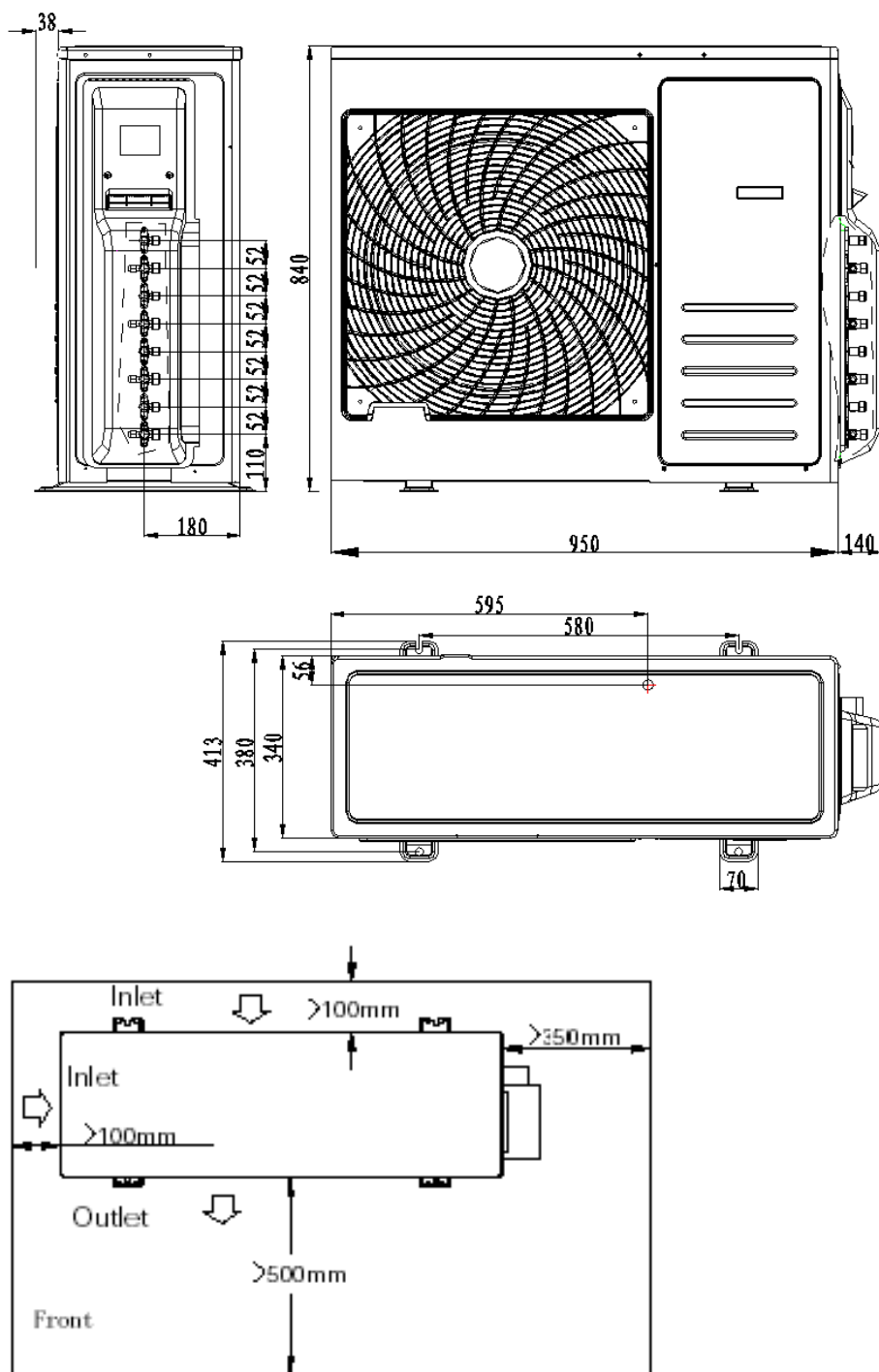
3. OUTLINES AND DIMENSIONS

MODEL:AMW3-24U4SAD1



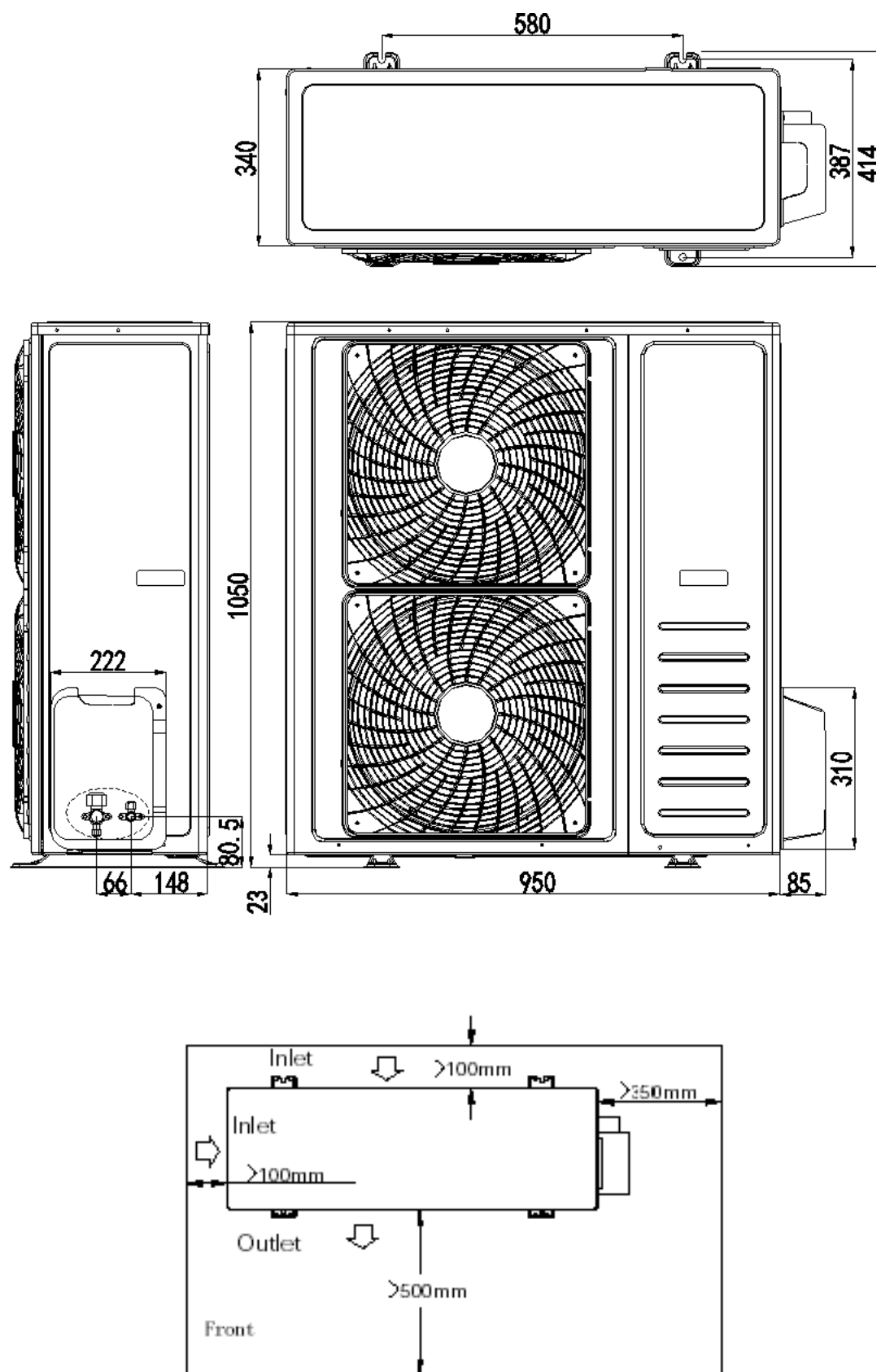
3. OUTLINES AND DIMENSIONS

AMW4-36U4SAC、AMW4-28U4SAD1、AMW4-36U4SAD1



3. OUTLINES AND DIMENSIONS

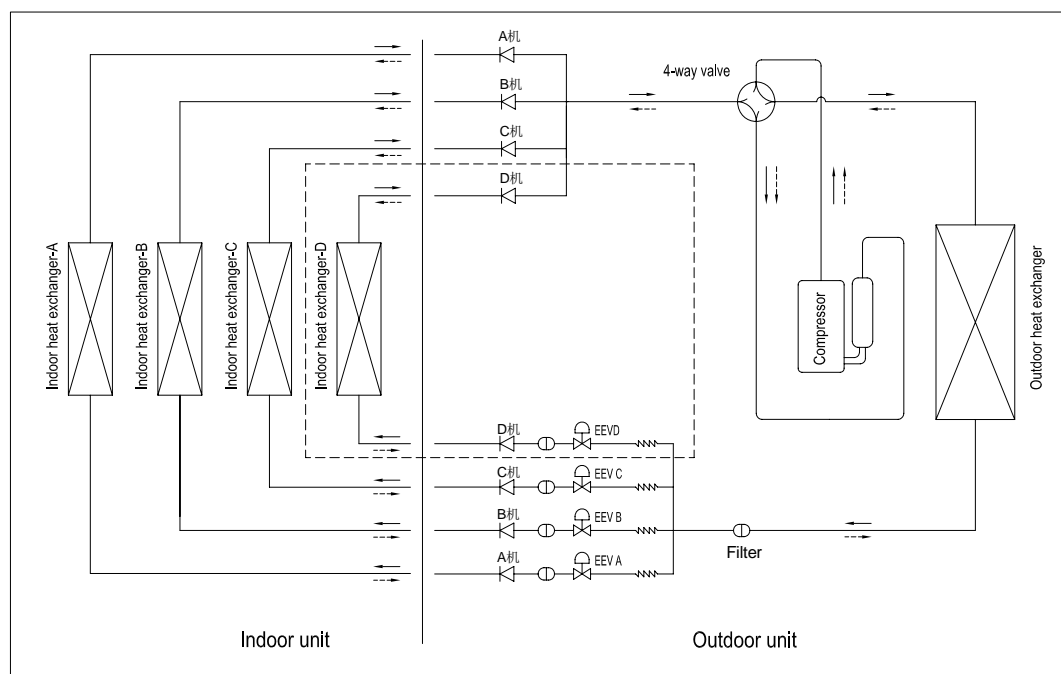
42K



4. DIAGRAM&DATA

4-1. Refrigerant flow Diagram

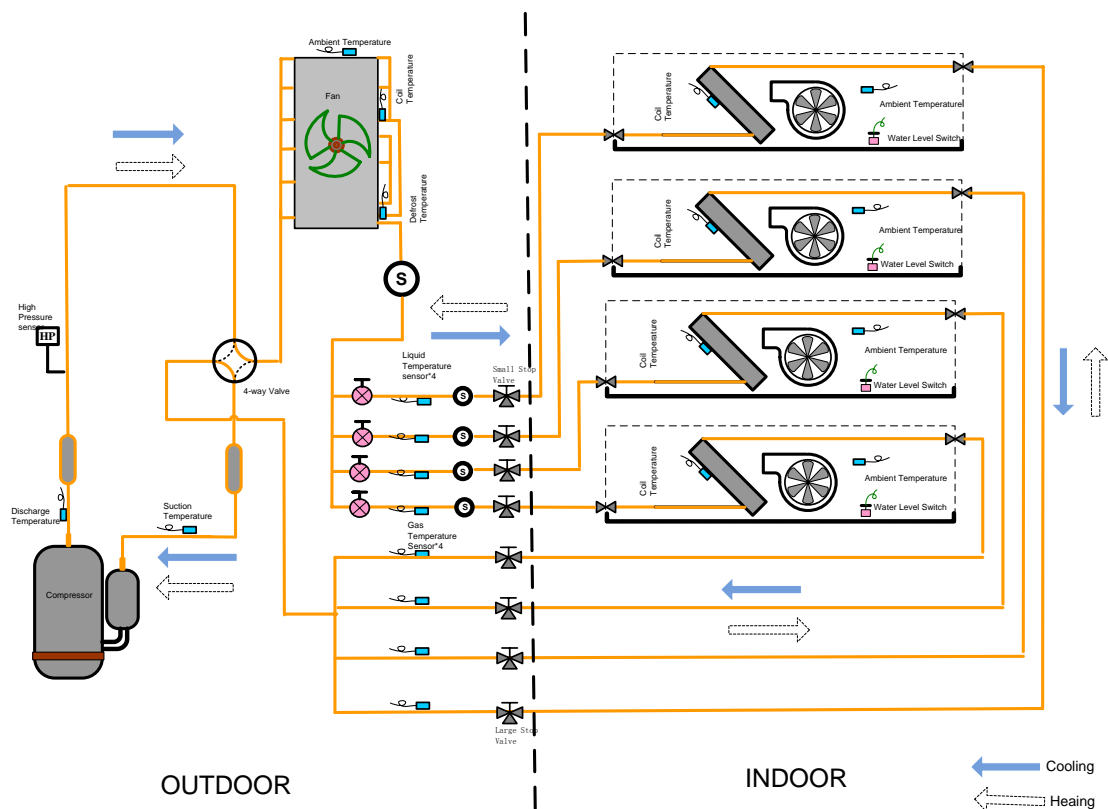
MODEL: AMW3-24U4SKC、AMW4-28U4SKC、AMW4-36U4SAC、AMW3-24U4SAD1、



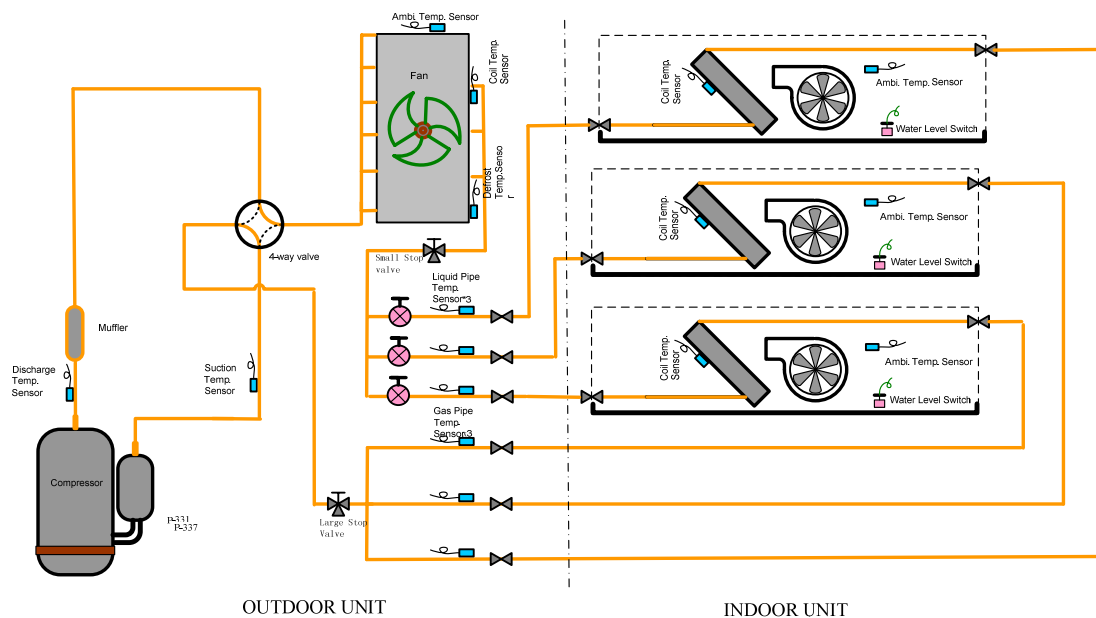
—→ **COOLING CYCLE**
 - - - -> **HEATING CYCLE**

4. DIAGRAM&DATA

AMW4-28U4SAD1, AMW4-36U4SAD1

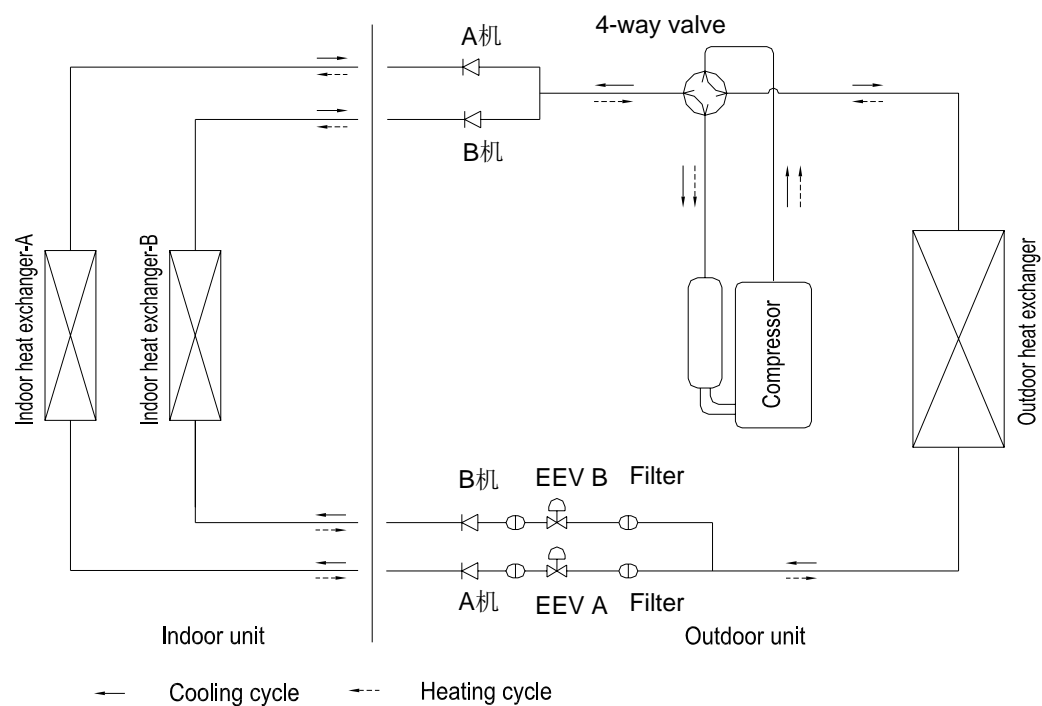


MODEL: AMW3-24U4SZD, AMW3-20U4SZD, AMW3-20U4SZD1

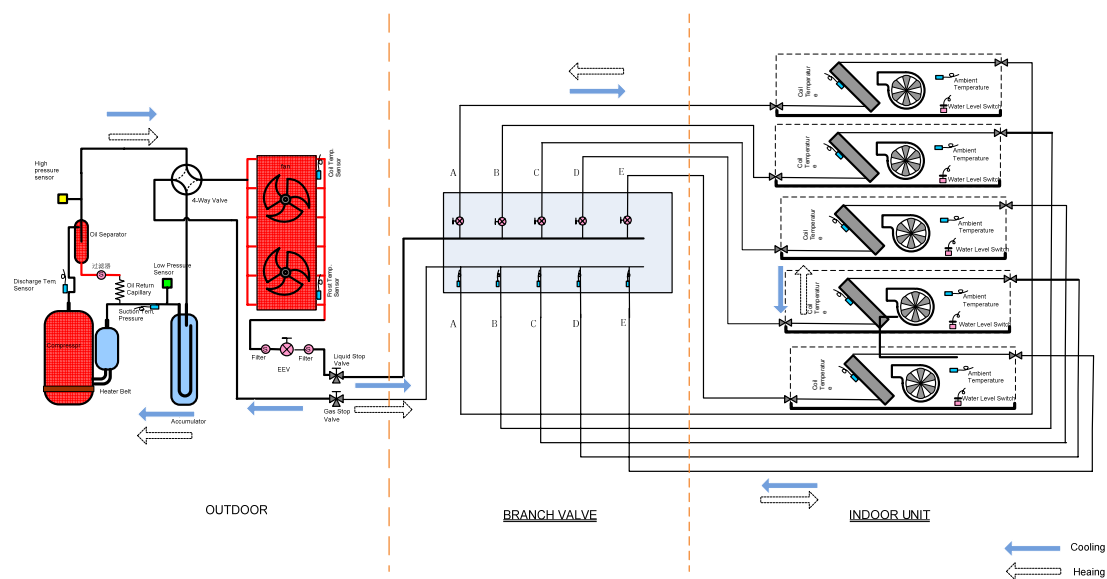


4. DIAGRAM&DATA

MODEL: **AMW2-16U4SGC1**、**AMW2-20U4SNC1**、**AMW2-16U4SGD1**、**AMW2-20U4SZD1**

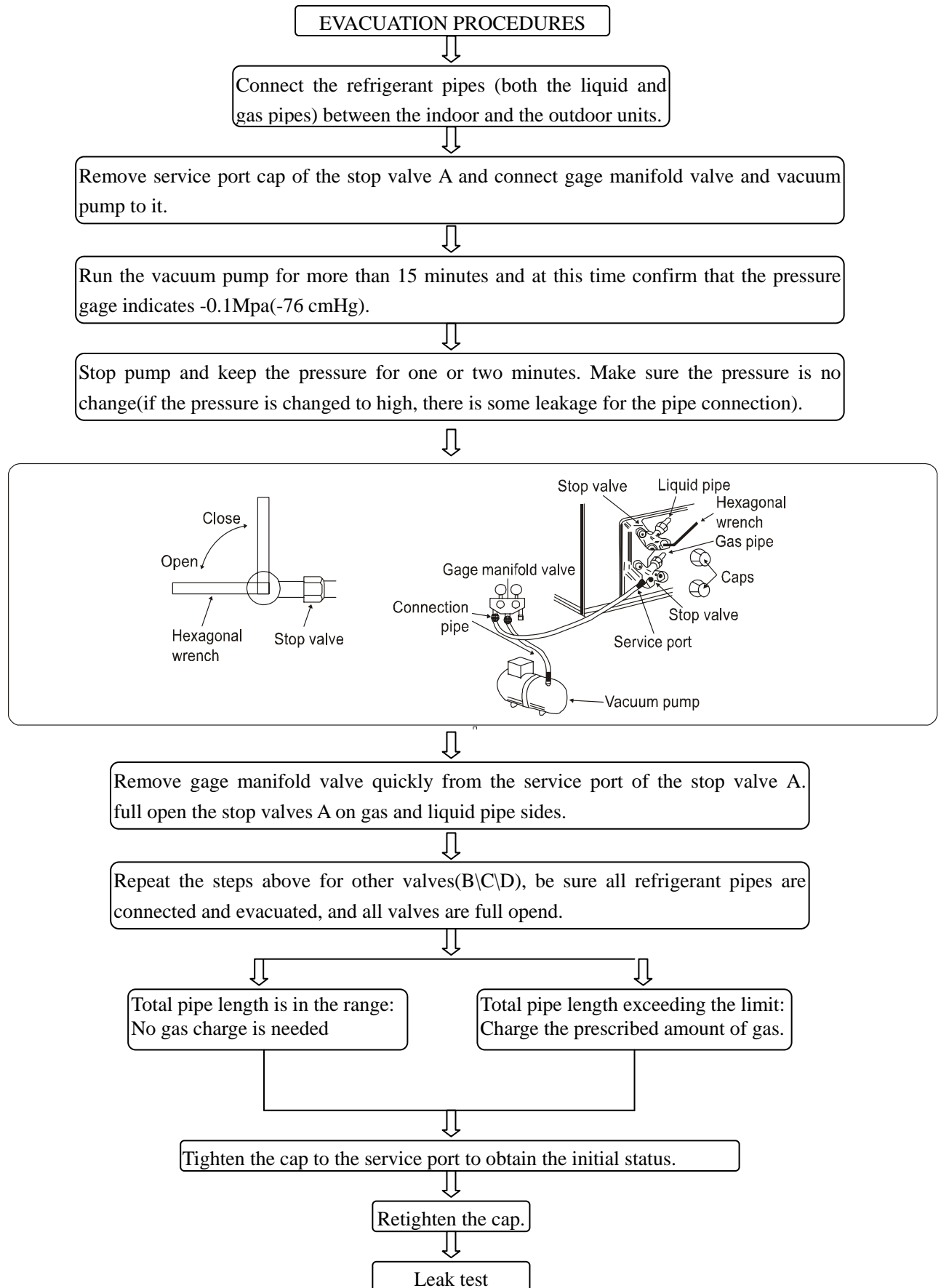


AMW-42U4SE



4. DIAGRAM&DATA

4-2. Evacuation Procedures



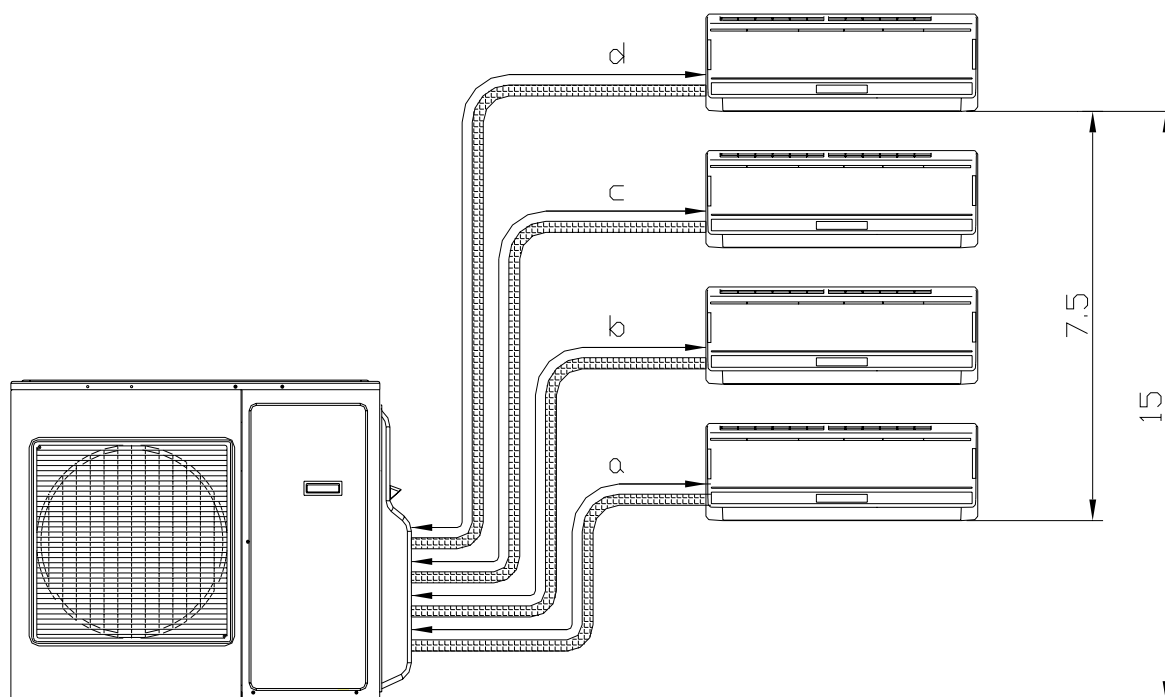
4. DIAGRAM&DATA

4-3. MAX. Refrigerant pipe length and height difference

MAX. Refrigerant pipe length and height difference:

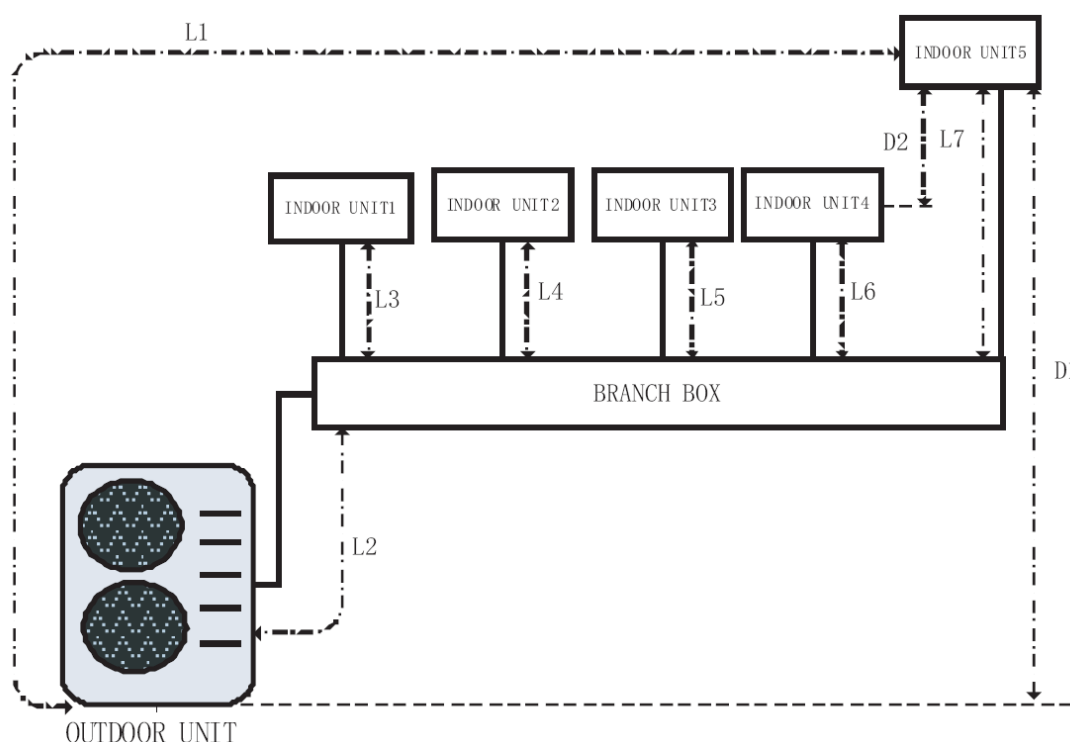
Model	AMW3-20U4SZD	AMW2-20U4SNC1 AMW2-16U4SGC1 AMW2-16U4SGD1 AMW2-20U4SZD1 AMW3-20U4SZD1
	AMW3-24U4SZD	
	AMW3-24U4SKC	
	AMW4-28U4SKC	
	AMW4-36U4SAC	
	AMW3-24U4SAD1	
	AMW4-28U4SAD1	
	AMW4-36U4SAD1	
Pipe length per. Indoor unit (a/b/c/d)	25m	20m
Total pipe length for multi-system (a+b+c+d)	60m	40m
Height difference (I.D ~ O.D)	15m	10m
Height difference (I.D ~ I.D)	7.5m	7.5m

*Do your best to reduce the pipe length. Long pipe may cause capacity of the indoor unit incline.



4. DIAGRAM&DATA

MODEL:AMW-42U4SE



Be sure to satisfy the max.high distance &max.pipe length at the same time when do the refrigerant piping design and installation.

Max.High Distance	High Distance between Outdoor and Indoor Unit	Outdoor is Higher than Indoor Unit	D1<30m
		Indoor is Higher than Outdoor Unit	D1<20m
	Max.High Distance between Indoor and Indoor		D2<8m
Max.Pipe Length	Max.Length between Indoor and outdoor		L1<40m
	Max.Length between branch valve box and outdoor		L2<30m
	Max.Length between branch valve box and indoor		L7<20m
	Total Pipe length		L2+L3+L4+L5+L6+L7<100m
	Total refrigerant charge:TOTAL WEIGHT<2.0kg (calculated in the following formula.If the calculated additional coolant amount more than 2.0kg, should reduce the length of the pipe line.)		

Refrigerant Additional Charge

The unit has been filled with refrigerant, but need additional charge for all the connected pipes in the refrigerant system.

Adding additional refrigerant according to the connecting pipe diameter and pipe length. Refrigerant type is

R410A, additional charge is calculated as follows:

Calculate charge refrigerant quantity by liquid pipe length, charge it to refrigerant cycle.

$$W1(\text{kg}) = L2 \times 0.050 \text{ kg/m}$$

$$W2(\text{kg}) = (L3+L4+L5+L6+L7) \times 0.015 \text{ kg/m}$$

$$\text{Total Additional refrigerant charge } W = W1 + W2$$

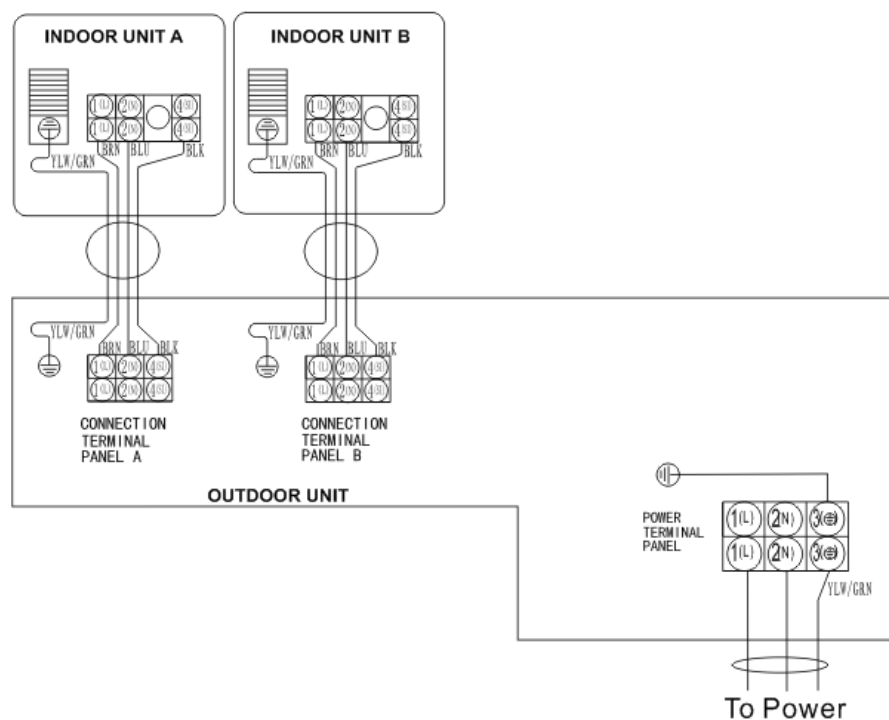
4. DIAGRAM&DATA

Outdoor unit precharged		Total refrigerant pipe length	
		0m~20m	20m~60m
AMW3-24U4SKC	2100g	0g	Xg = 15g / m × (Total pipe length(m) - 20) If gas pipe include 12.7,refrigerant piping length 20g/m
AMW4-28U4SKC	2400g	0g	
AMW4-36U4SAC	2600g	0g	
AMW3-24U4SZD	1750g	0g	
AMW3-20U4SZD	1600g	0g	
AMW3-24U4SAD1	2200g	0g	
AMW4-28U4SAD1	2600g	0g	
AMW3-20U4SZD1	1750g	0g	
AMW4-36U4SAD1	2600g	0g	
Outdoor unit precharged		Total refrigerant pipe length	
		0m~15m	15m~40m
AMW2-20U4SNC1	1400g	0	Xg = 15g / m × (Total pipe length(m) - 15)
AMW2-16U4SGC1	1270g		
AMW2-16U4SGD1	1270g		
AMW2-20U4SZD1	1400g		

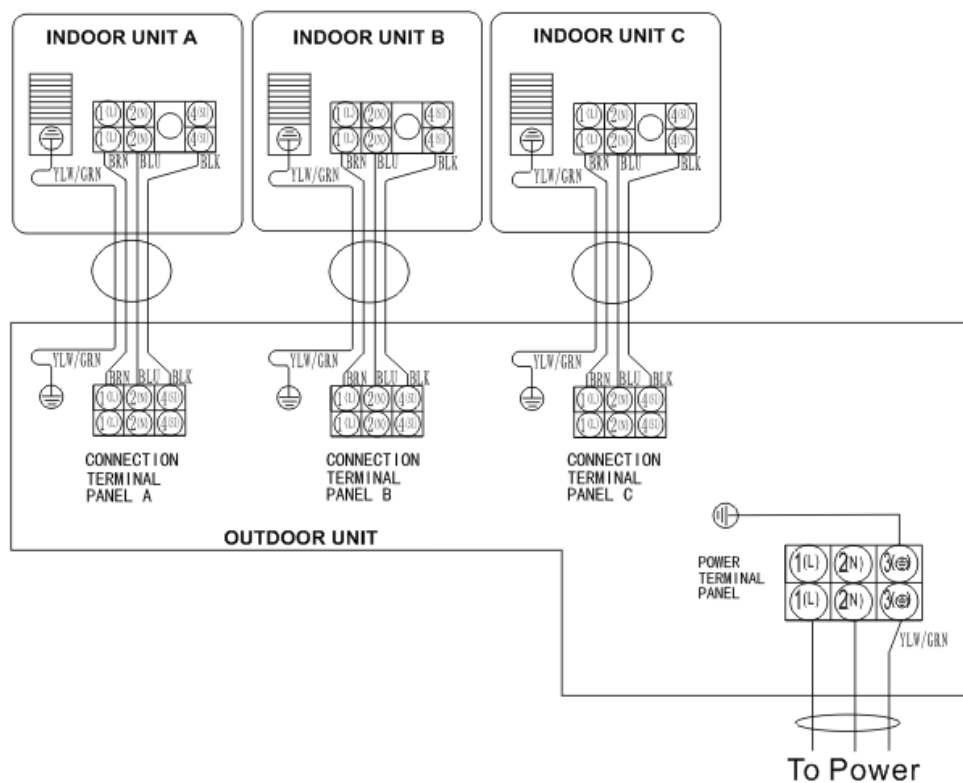
4. DIAGRAM&DATA

4-4 ELECTRIC Diagrams

Dual Types:

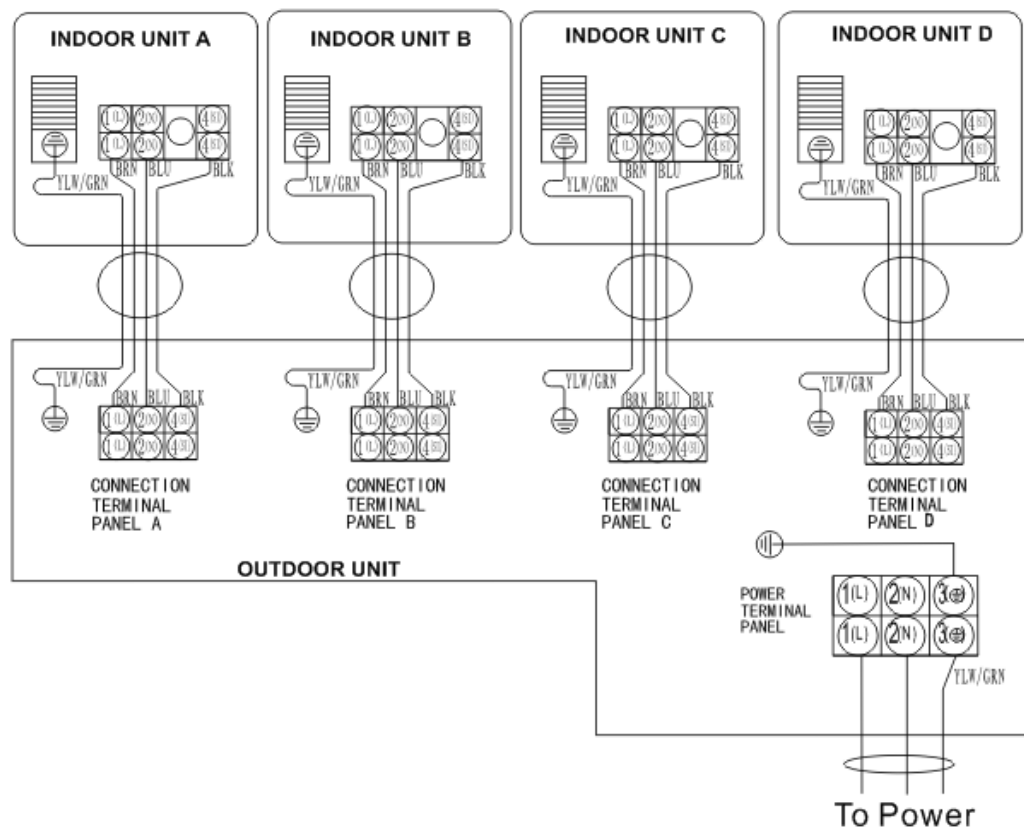


1 by3 Types:



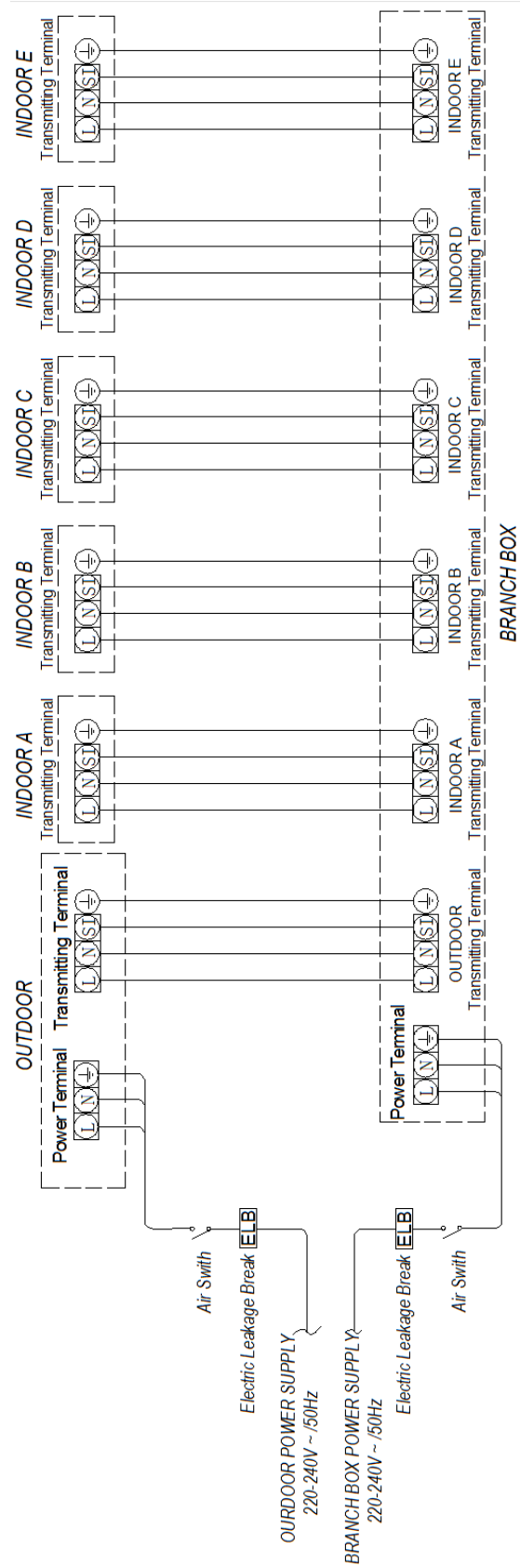
4. DIAGRAM&DATA

1 by4 Types:



4. DIAGRAM&DATA

Branch Box and Supporting Outdoor Unit(F15E & AUW-42U4SE)

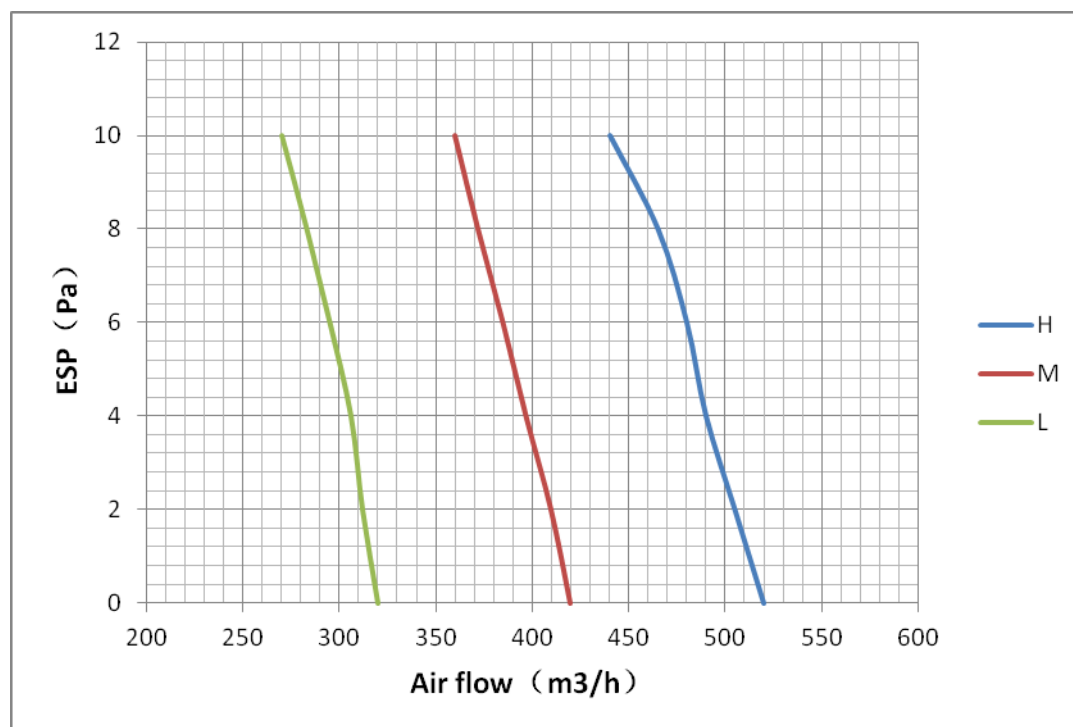


4. DIAGRAM&DATA

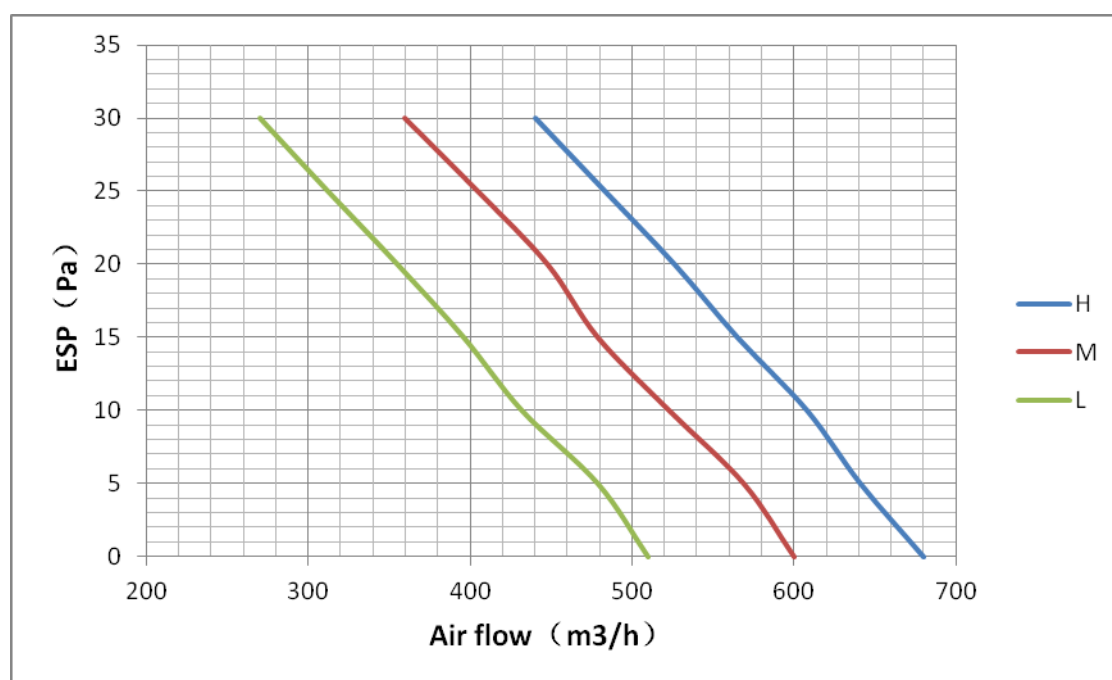
4-5 Air Flow and ESP Chart(Duct type)

Air flow and ESP (9K&12K)

10Pa ESP:



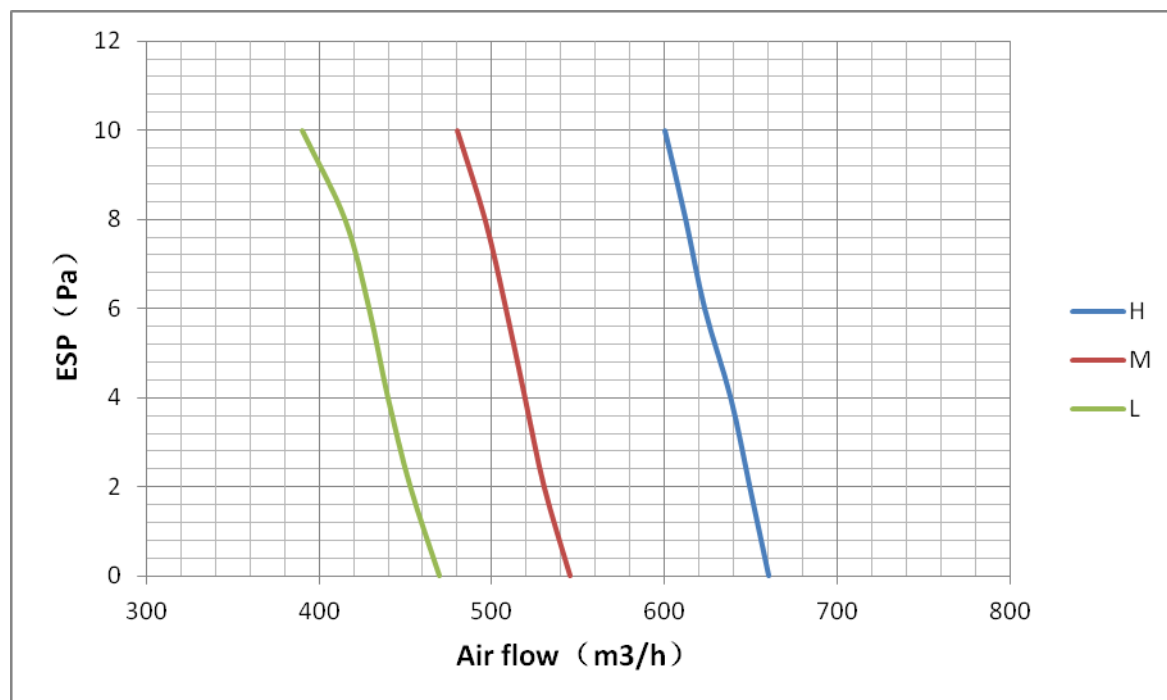
30Pa ESP:



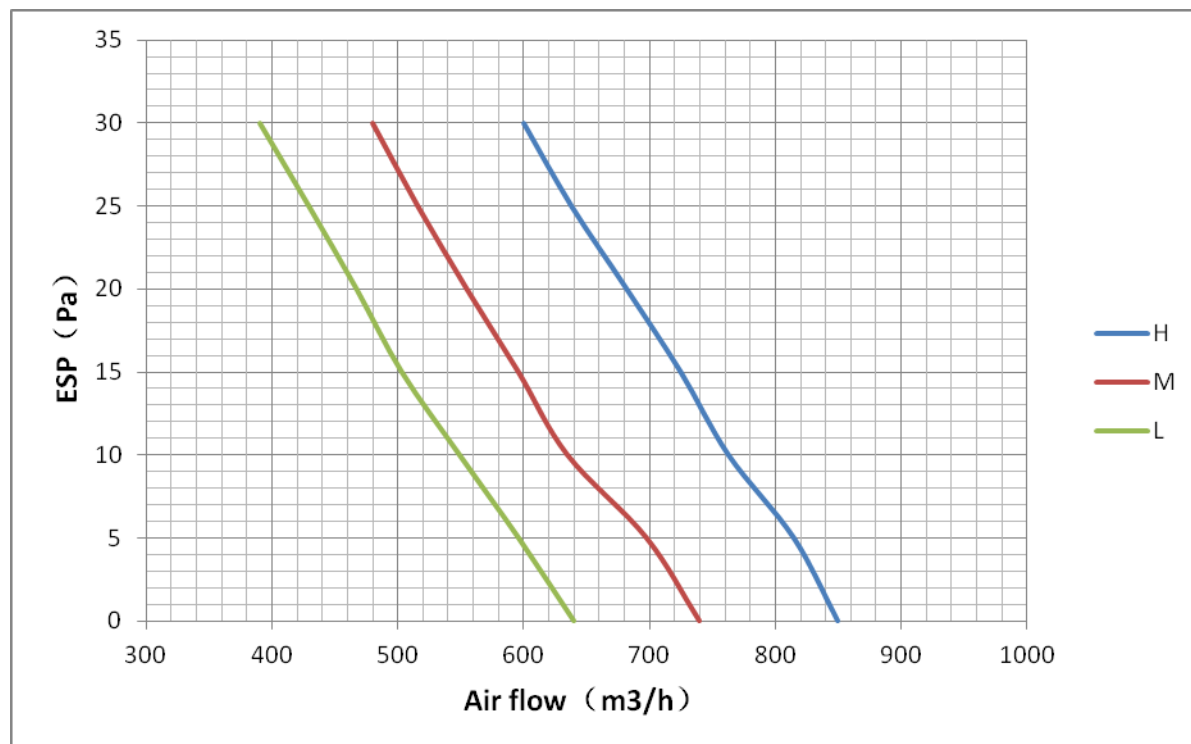
4. DIAGRAM&DATA

Air flow and ESP (18K)

10Pa ESP:



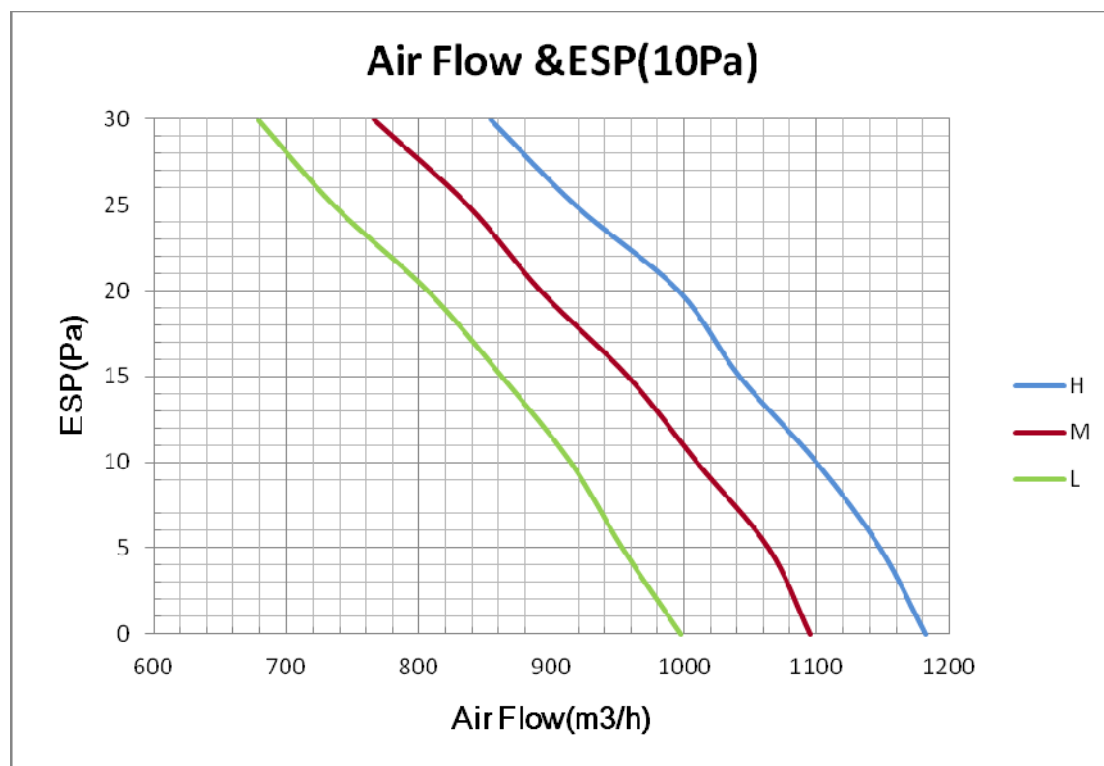
30Pa ESP:



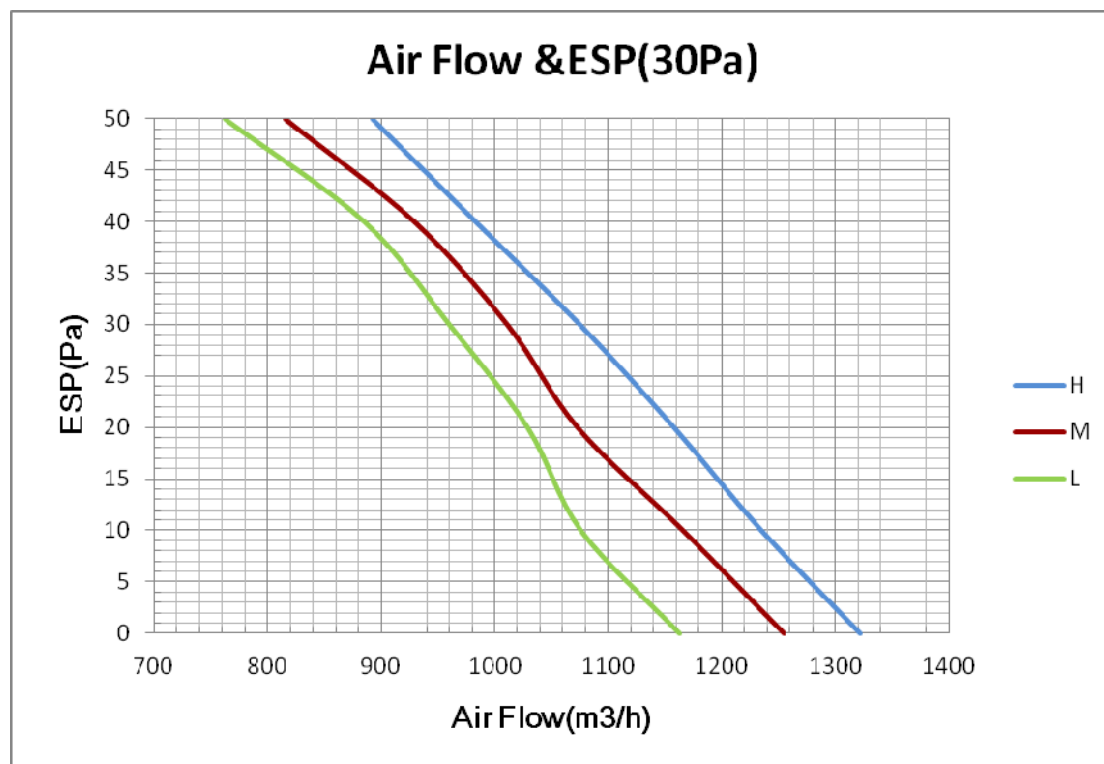
4. DIAGRAM&DATA

Air flow and ESP (24K)

10Pa ESP:



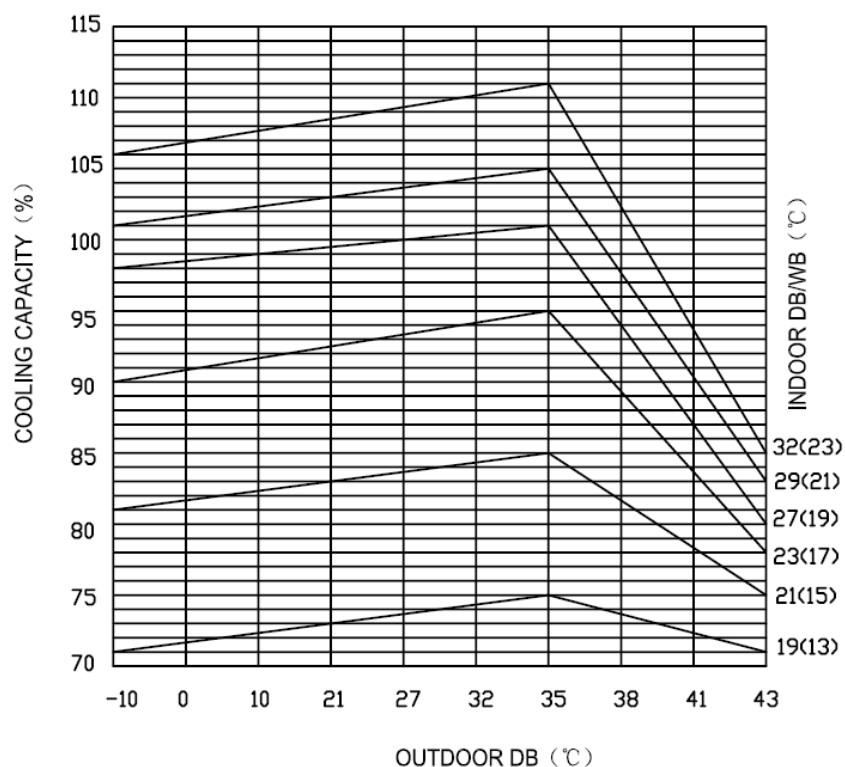
30Pa ESP:



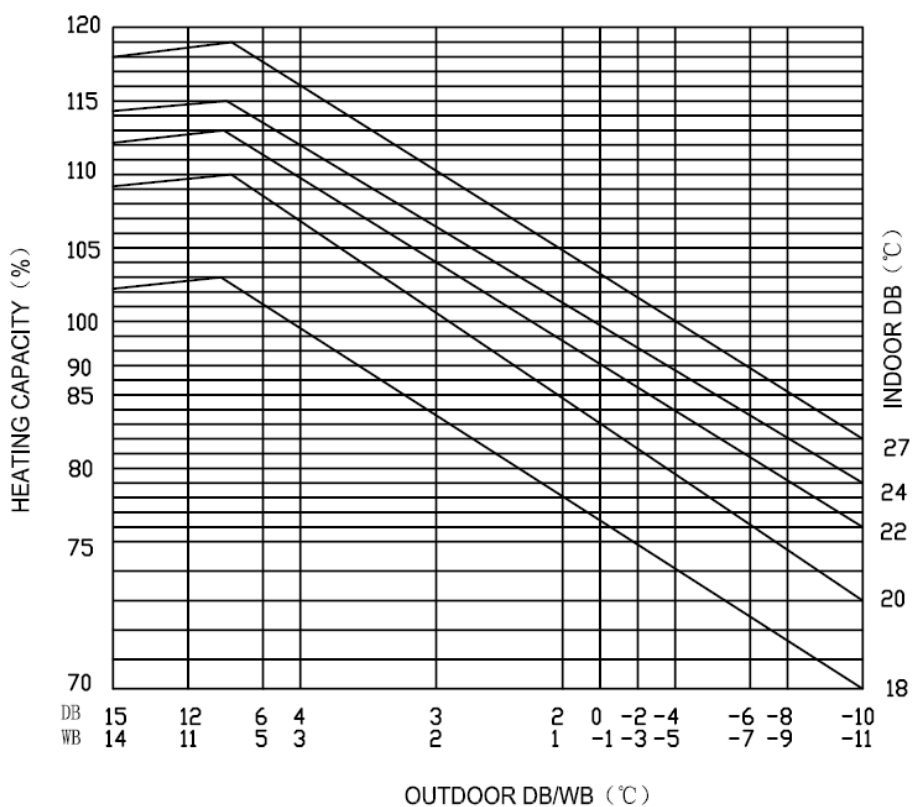
4. DIAGRAM&DATA

4-6 Performance Curve

COOLING PERFORMANCE CURVE



HEATING PERFORMANCE CURVE



5. ELECTRICAL DATA

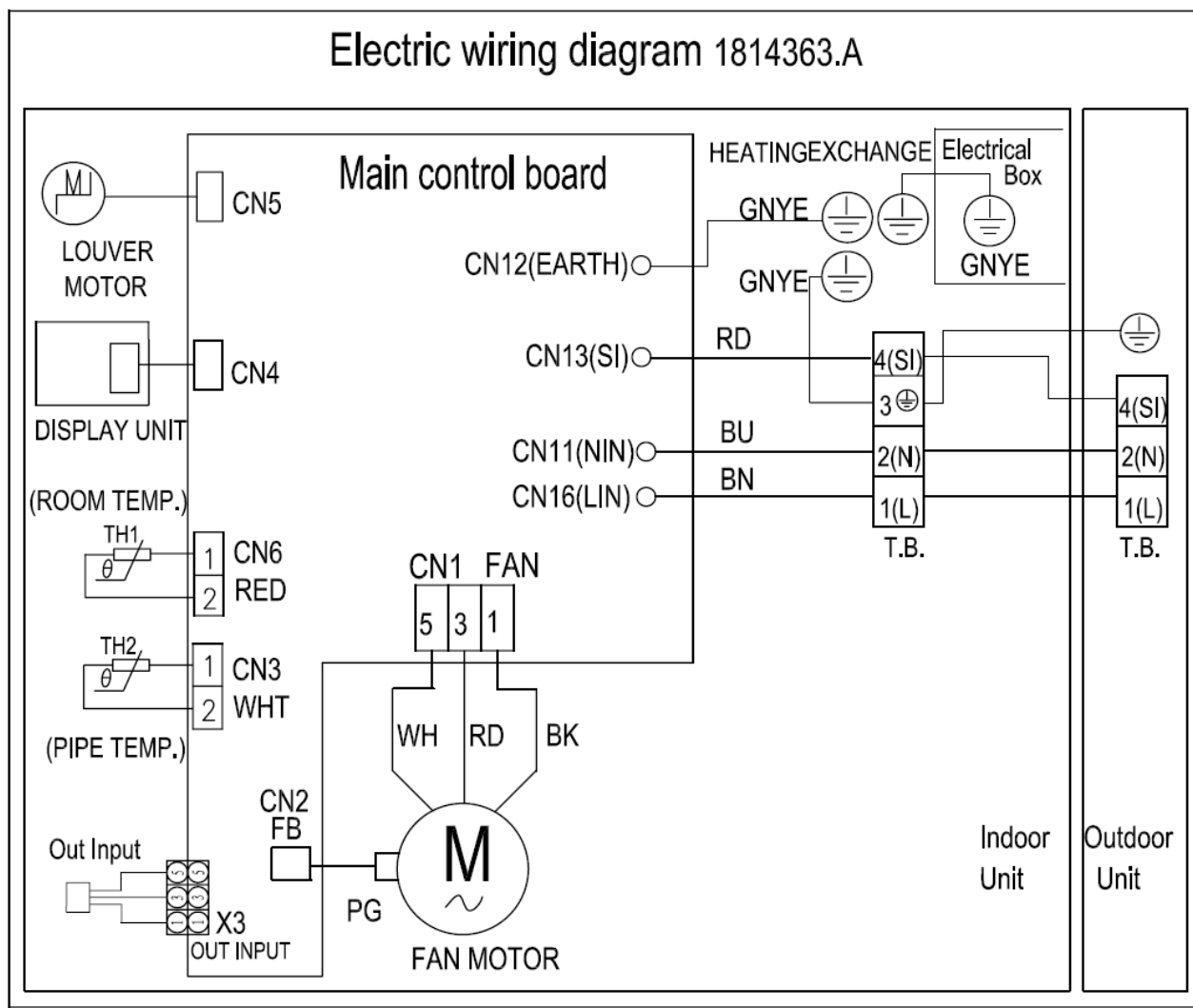
5-1. Electrical Wiring Diagrams

INDOOR:

1) AMS-07UR4SNVG4 (VT, VL, VQ, UP, UL, UQ, NS, ZC, ZA, NT, NK4, NM4, VM4) 4

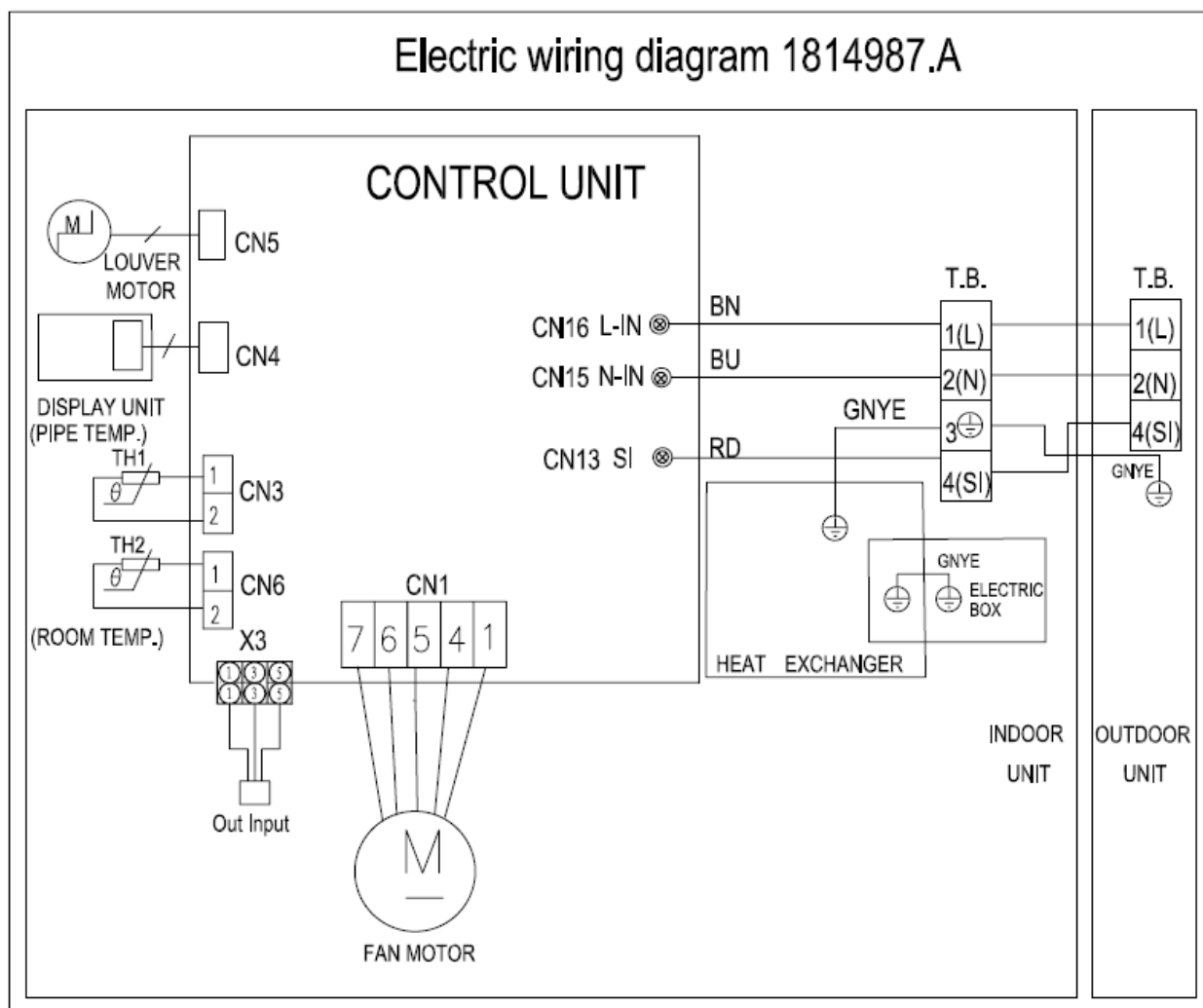
AMS-09UR4SNVG4 (VT, VL, VQ, UP, UL, UQ, NS, ZC, ZA, NT, NK4, NM4, VM4) 4

AMS-12UR4SNVG4 (VT, VL, VQ, UP, UL, UQ, NS, ZC, ZA, NT, NK4, NM4, VM4) 4



5. ELECTRICAL DATA

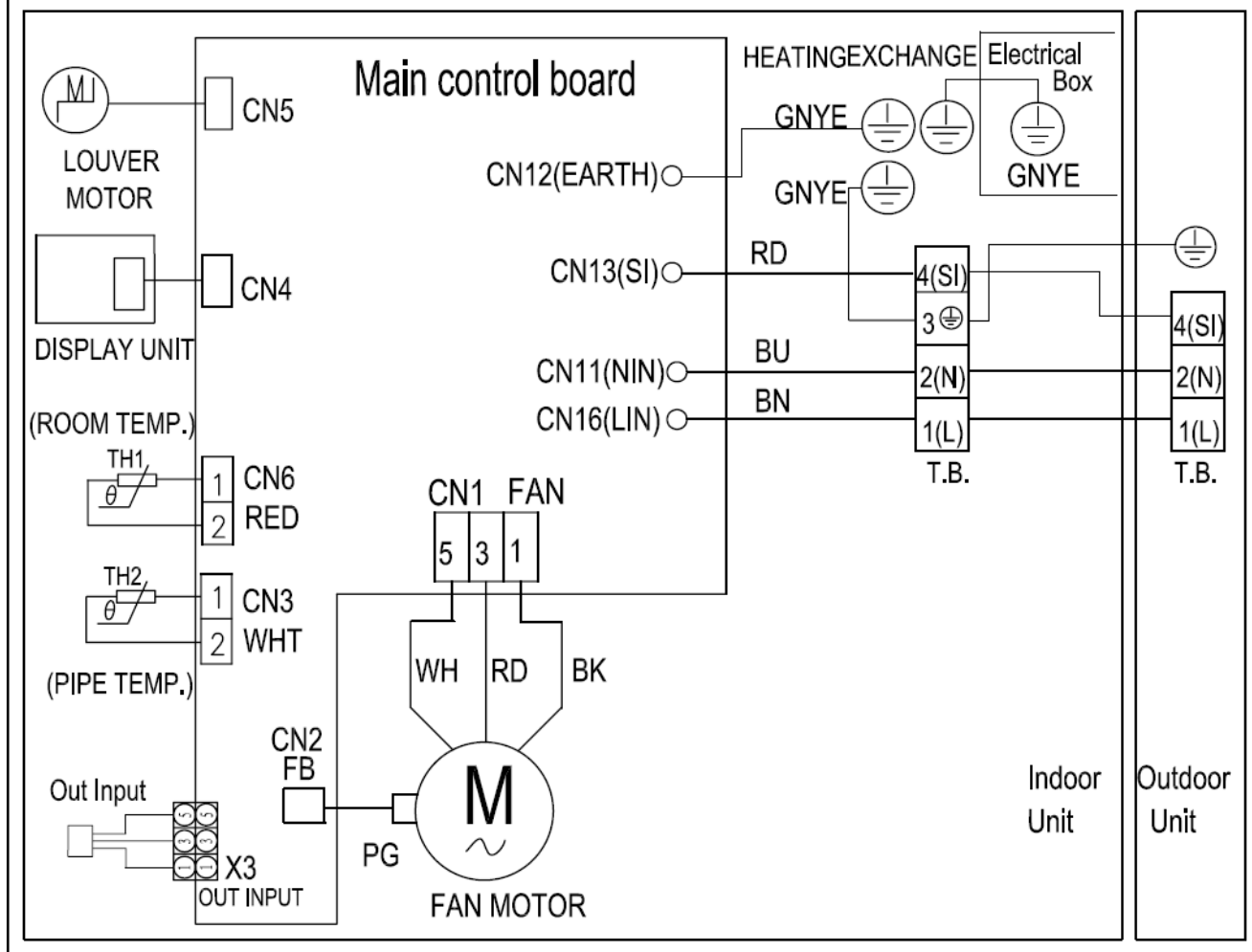
2) AMS-07/09/12UR4SG (NK/NM/VT/VQ) 4



5. ELECTRICAL DATA

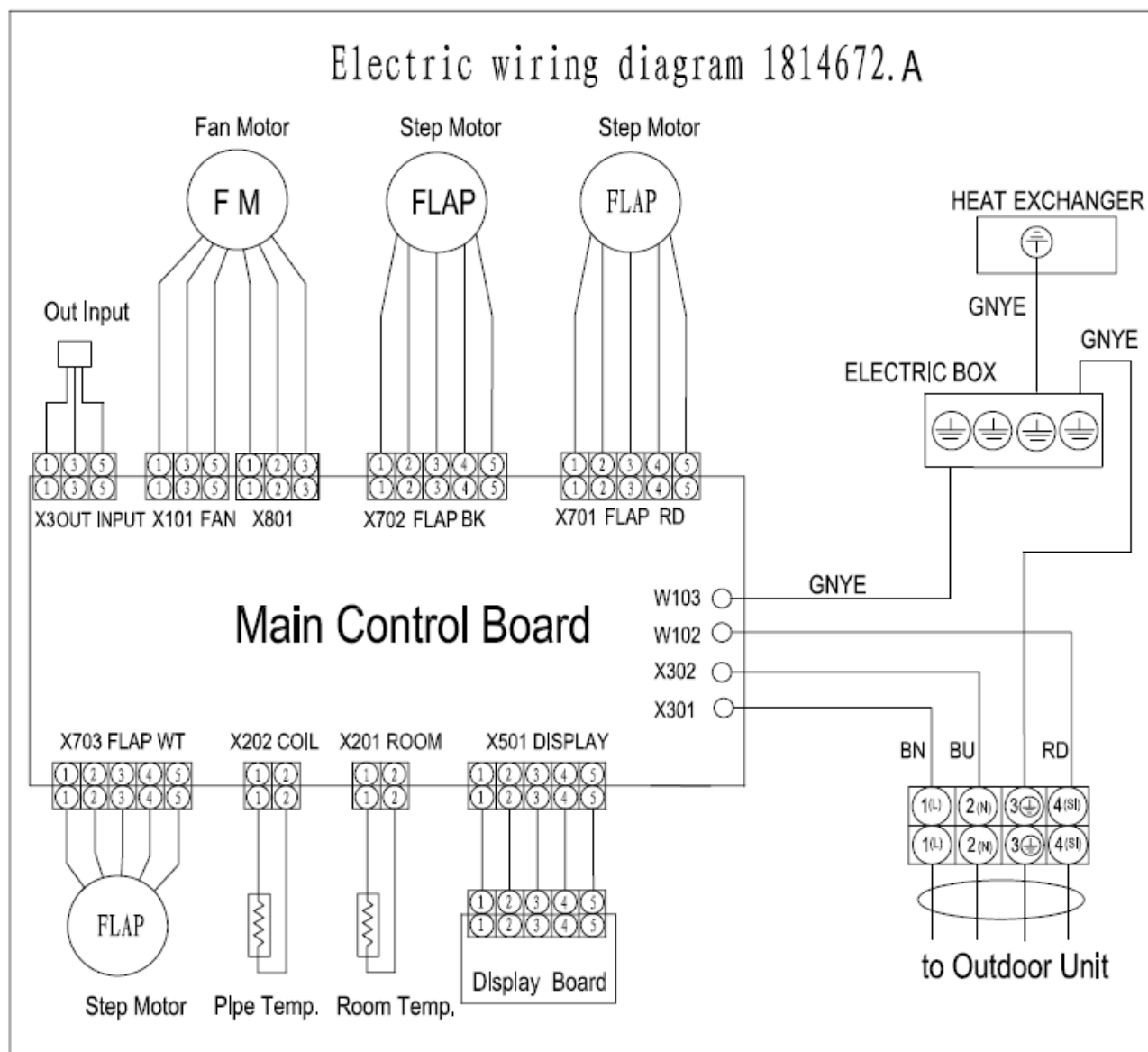
AMS-18UR4SV(VG4/ML4/VT4/UP4/UL4/UQ4/VQ4/NT4/NK4/NM4)

Electric wiring diagram 1814363.A



5. ELECTRICAL DATA

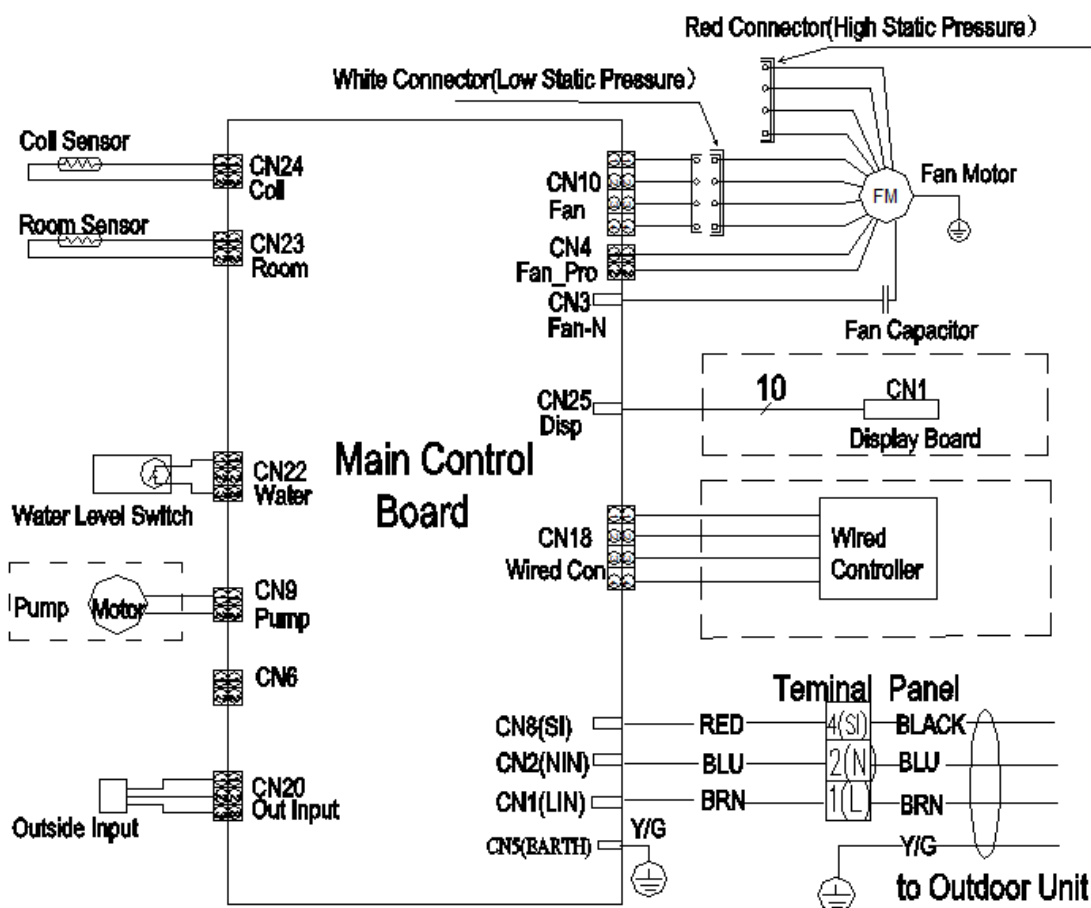
AMS-09UR4SPSC4 、AMS-12UR4SPSC4



5. ELECTRICAL DATA

3)AMD-09UX4SJD 、AMD-12UX4SJD 、AMD-18UX4SJD、AMD-24UX4SKD

Electrical Wiring Diagram 1821377.B



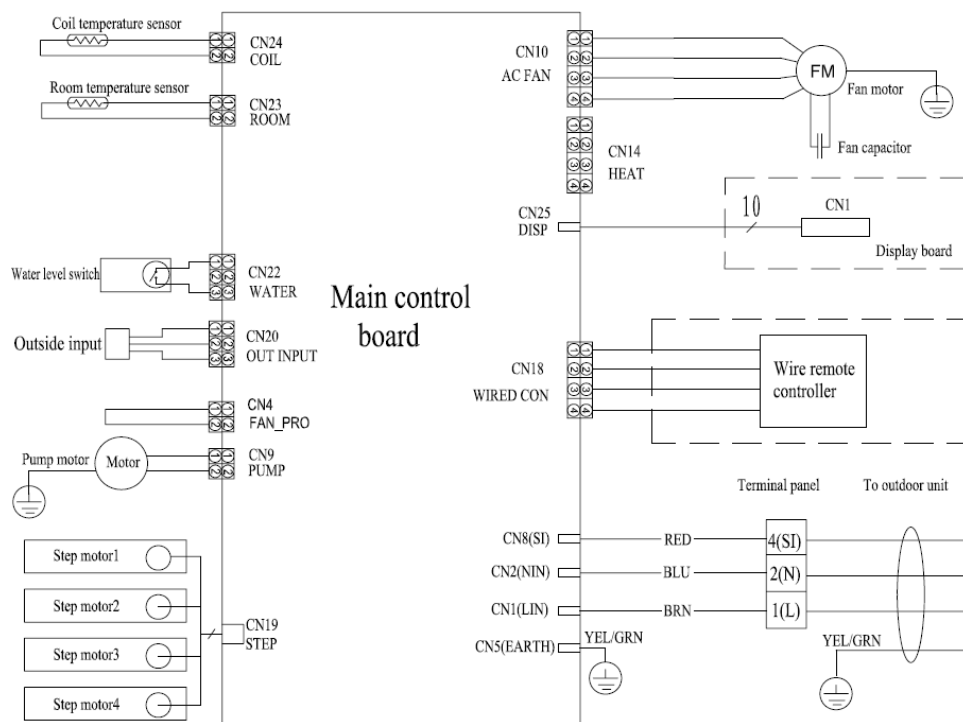
Attention:

1. The fan motor connection mode has been set by its product factory. Please according to specification to connect different static pressure connector.

5. ELECTRICAL DATA

4)AMC-12UX4SAA 、 AMC-18UX4SAA

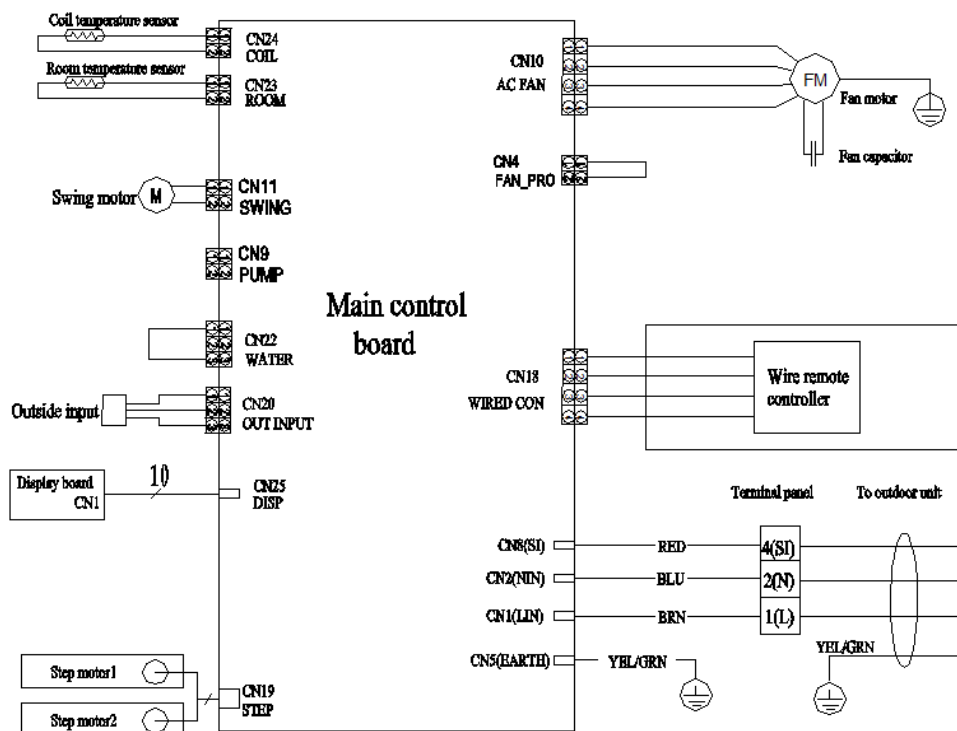
Electric wiring diagram 1812538. B



5. ELECTRICAL DATA

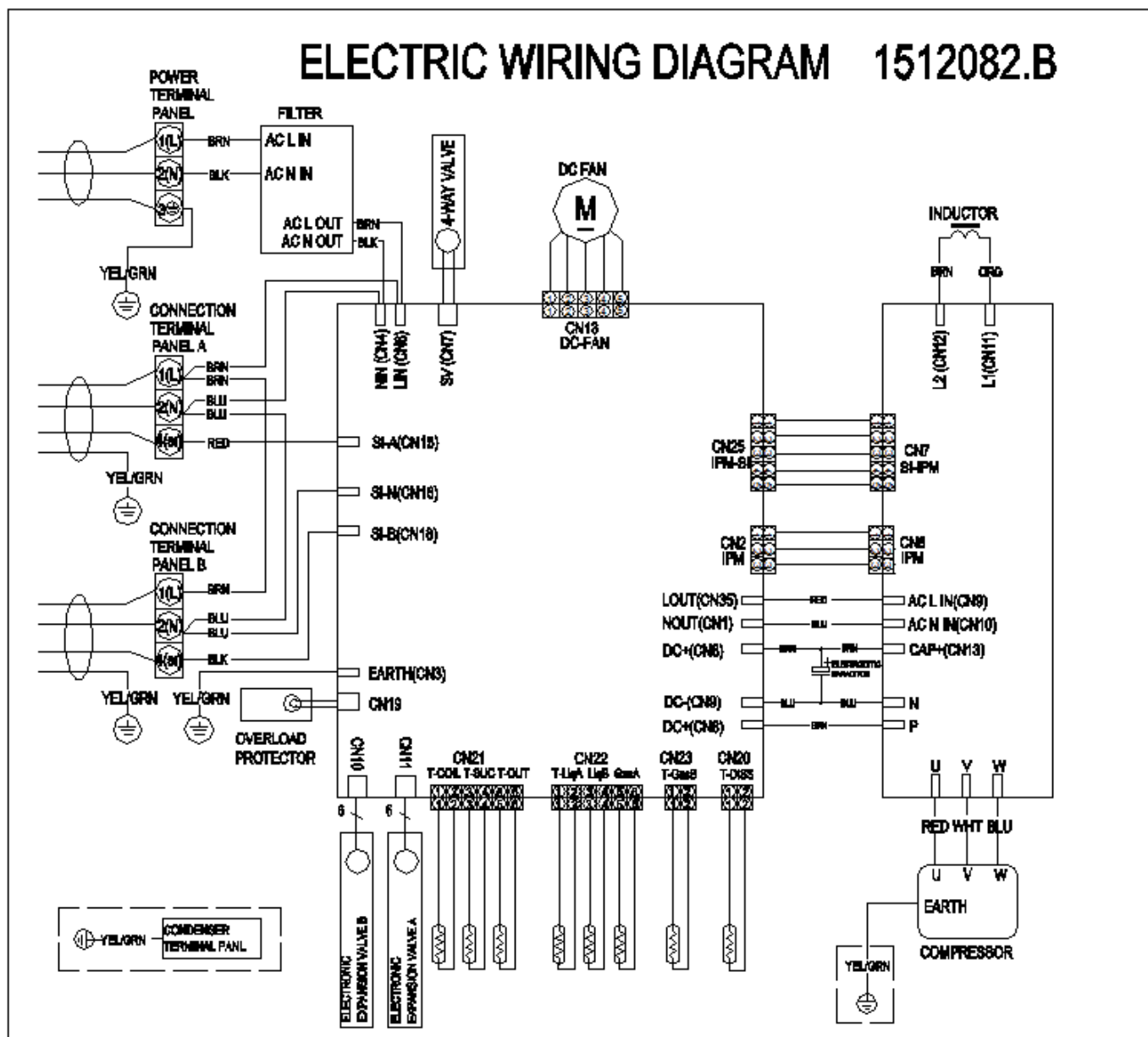
5) AMV-12UR4SA,AMV-18UR4SA

Electric wiring diagram 1806489. B



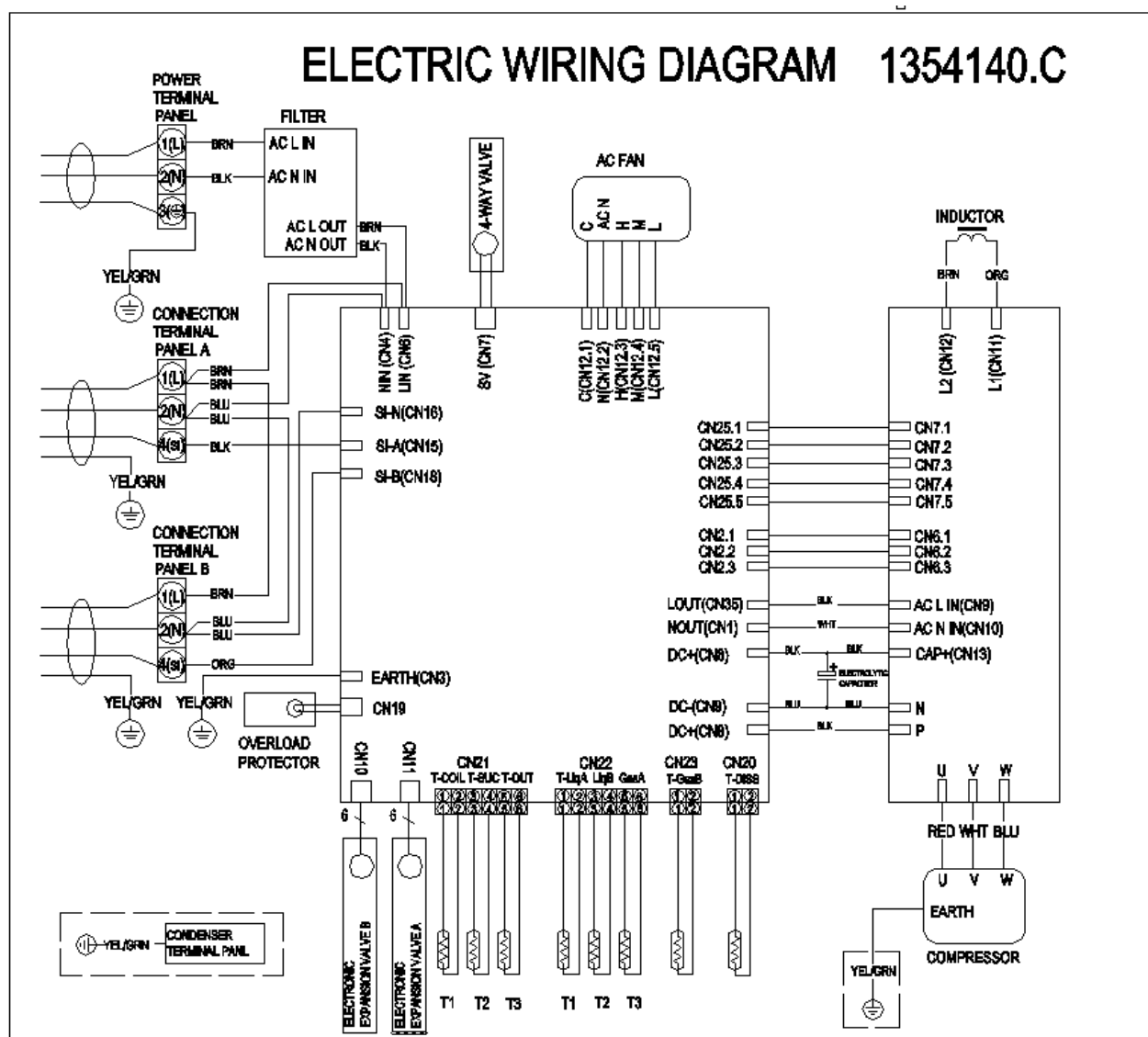
5. ELECTRICAL DATA

2) AMW2-16U4SGD1



5. ELECTRICAL DATA

3) AMW2-20U4SNC1

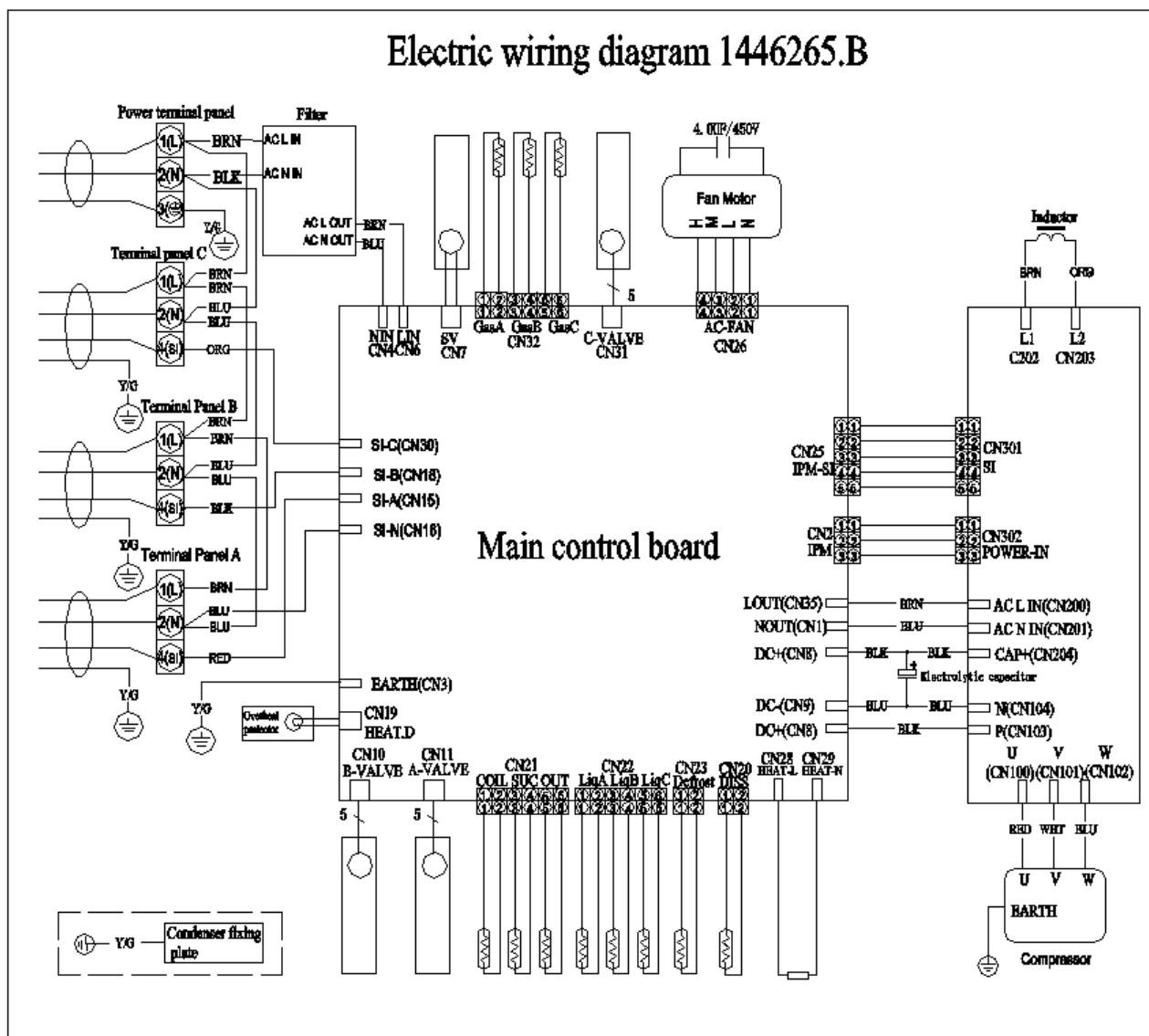


4) AMW3-20U4SZD



5. ELECTRICAL DATA

5) AMW3-24U4SZD



6) AMW3-24U4SKC

ELECTRIC WIRING DIAGRAM 1354463.C

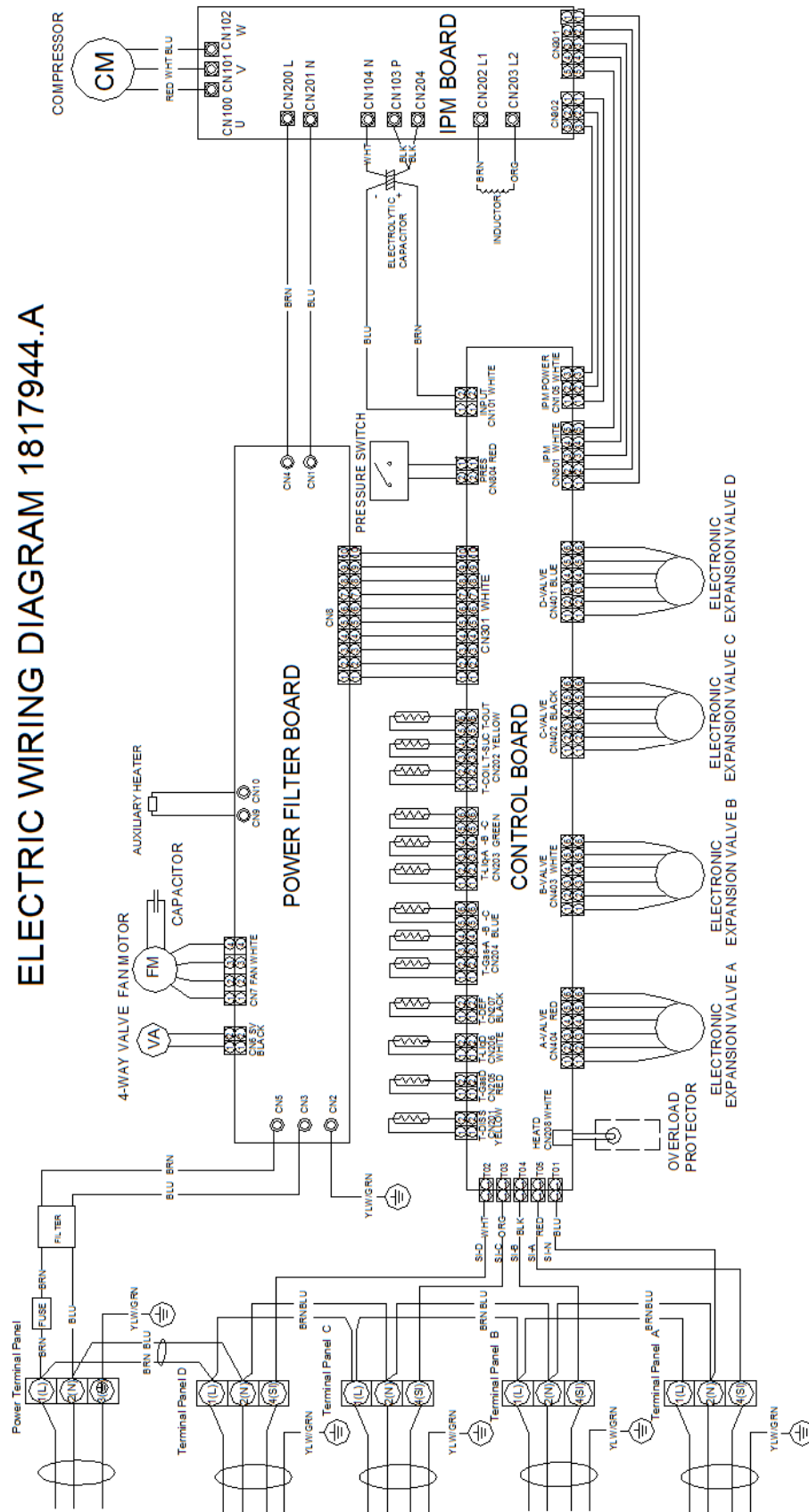
7) AMW4-28U4SKC



5. ELECTRICAL DATA

8) AMW4-36U4SAC

ELECTRIC WIRING DIAGRAM 1817944.A



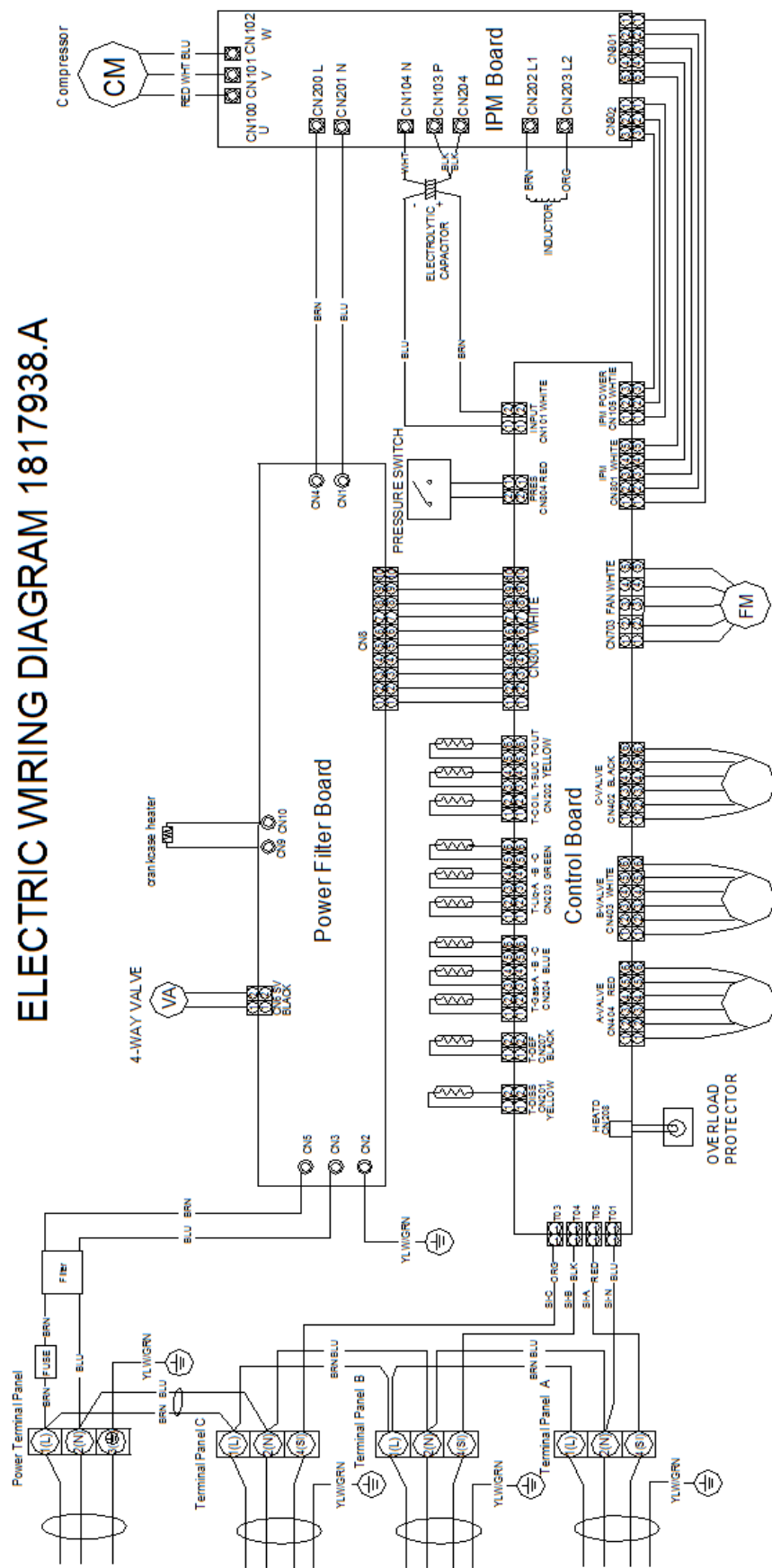
9) AMW2-20U4SZD1



5. ELECTRICAL DATA

10) AMW3-24U4SAD1

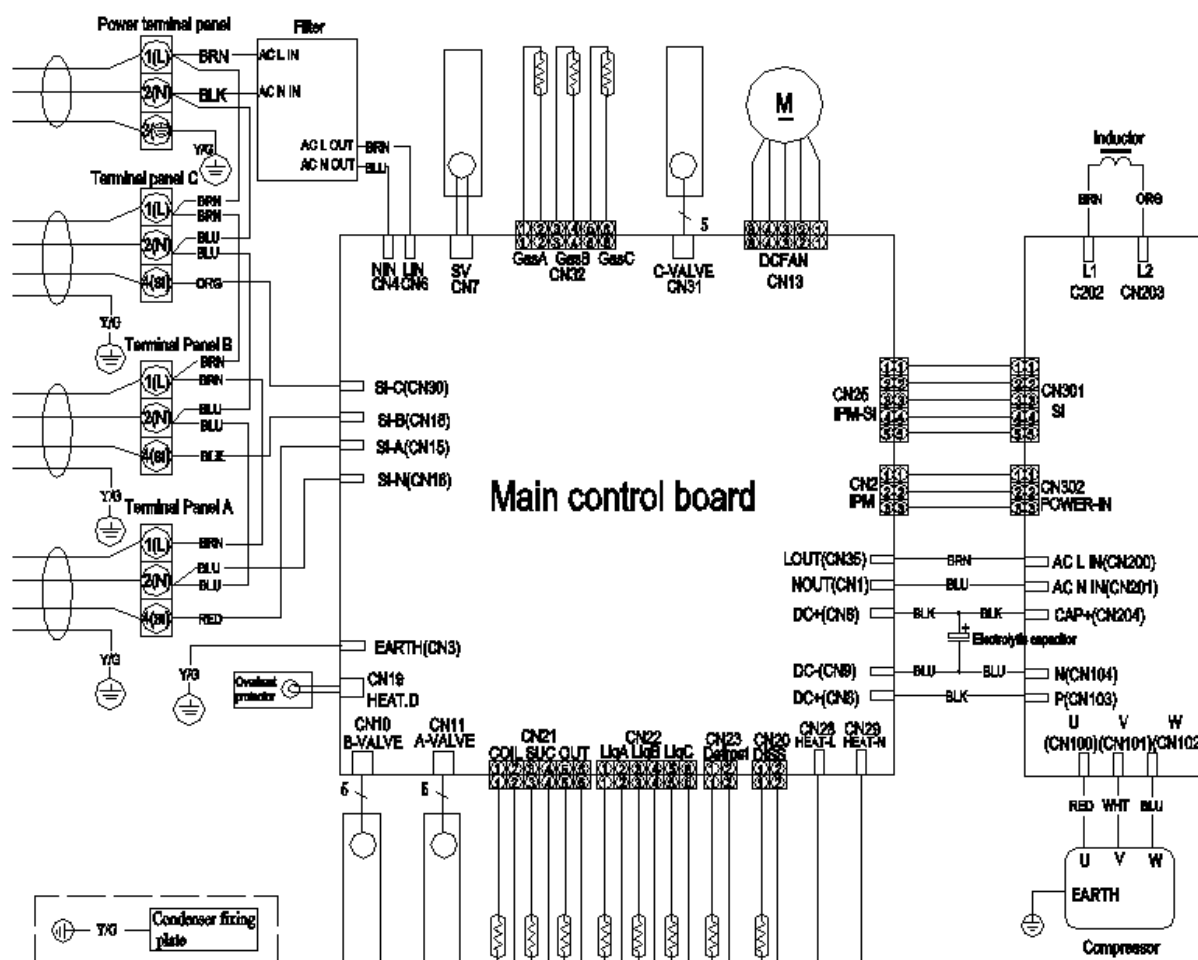
ELECTRIC WIRING DIAGRAM 1817938.A



5. ELECTRICAL DATA

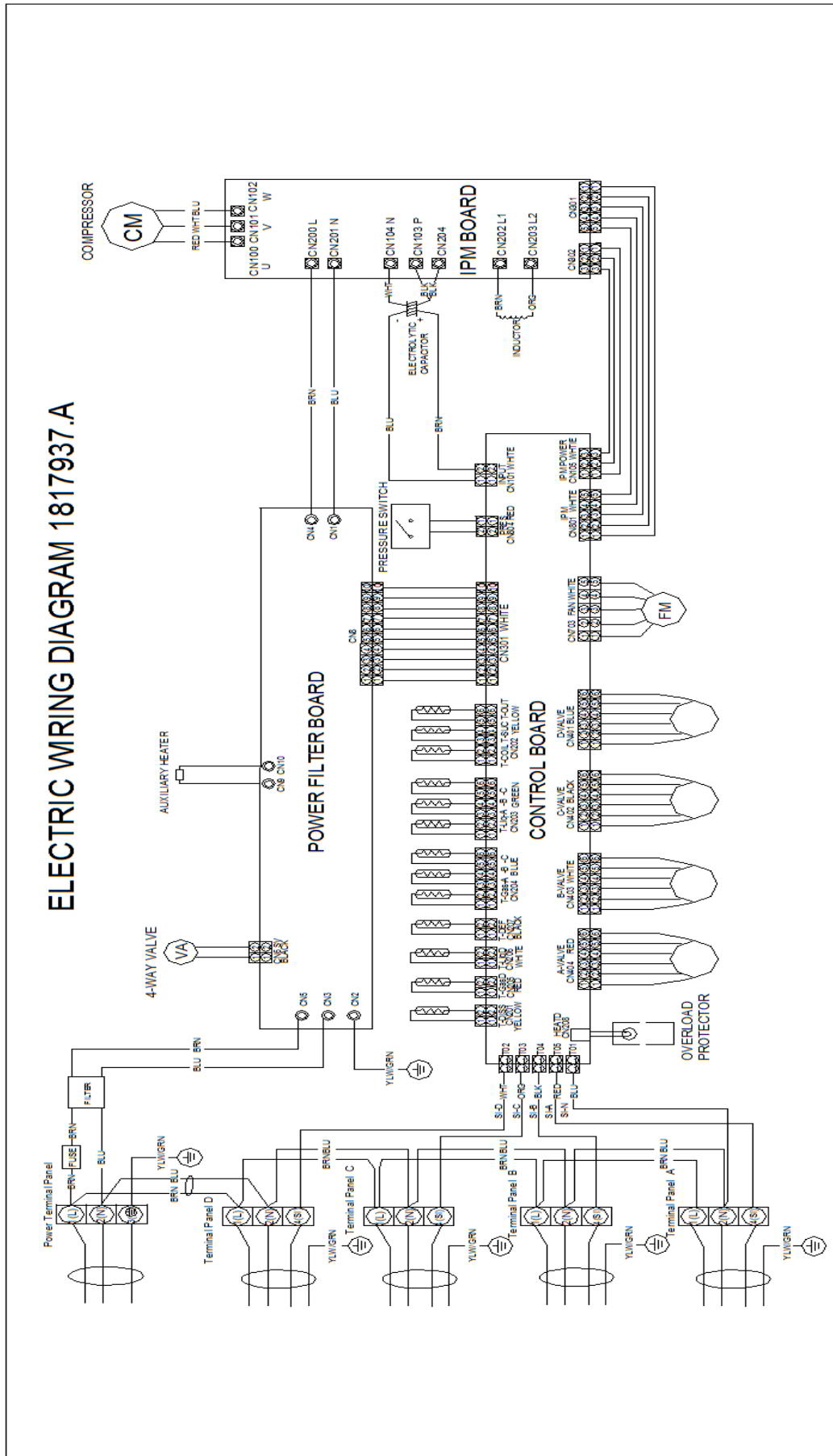
11)AMW3-20U4SZD1

Electric wiring diagram 1571506.C



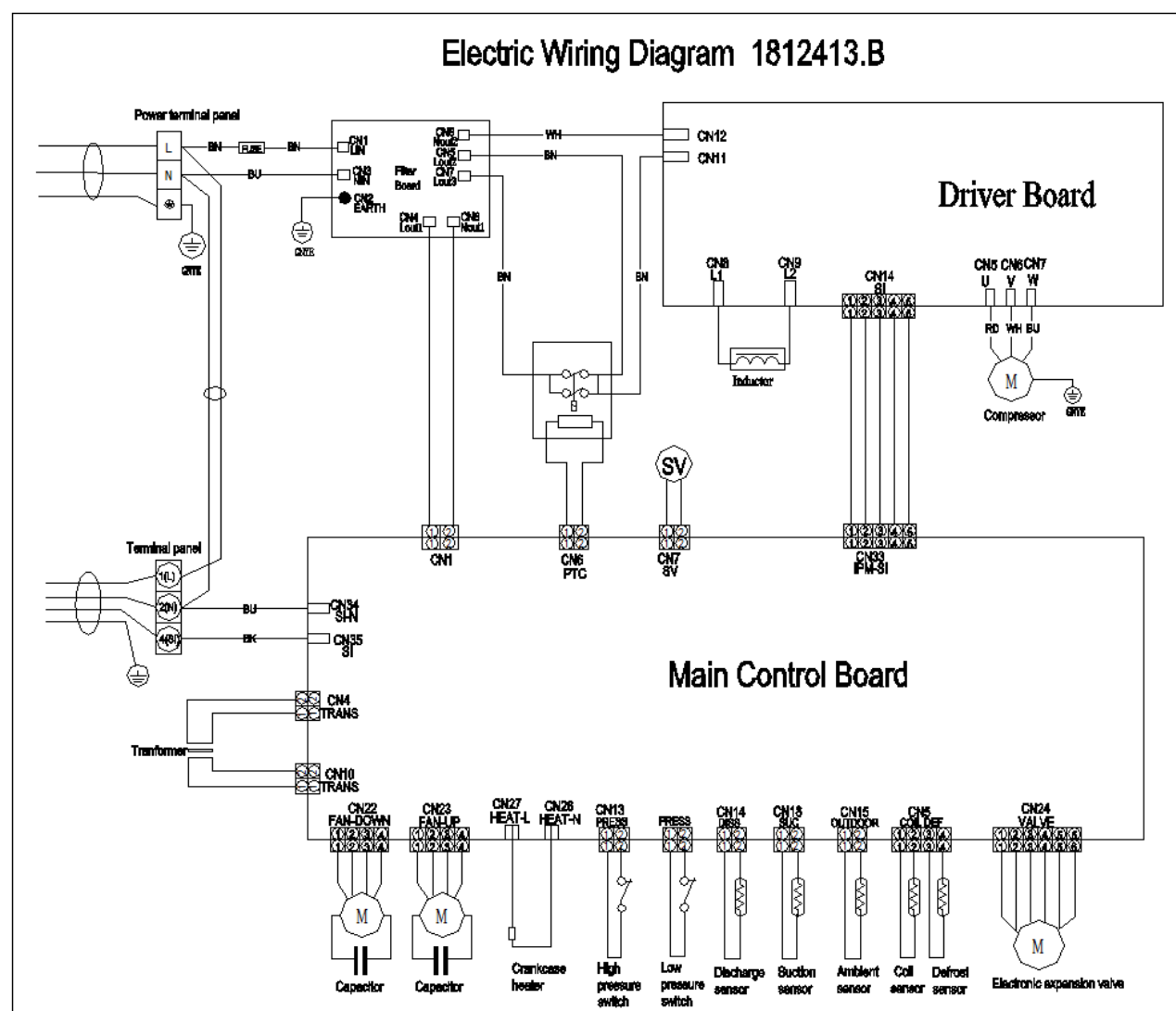
5. ELECTRICAL DATA

12)AMW4-36U4SAD1, AMW4-28U4SAD1



5. ELECTRICAL DATA

13)AMW-42U4SE



14)F15E(E)

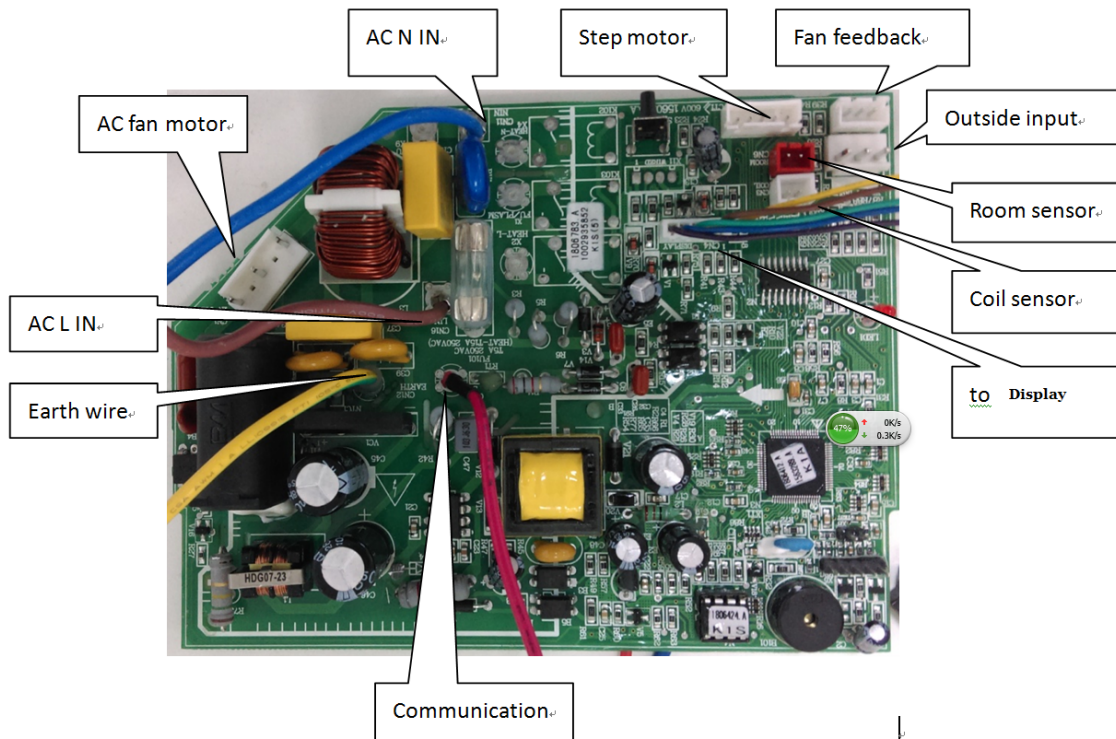


5. ELECTRICAL DATA

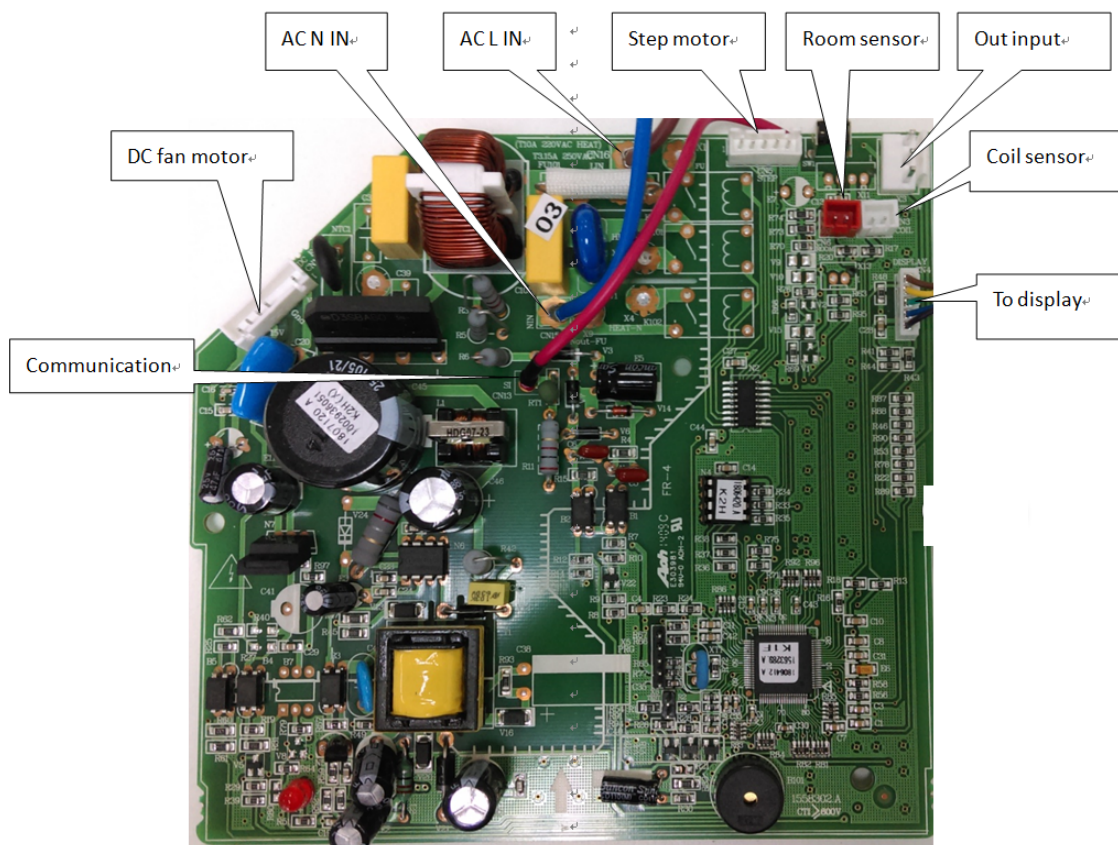
5-2. Electric control

1. Indoor control board for indoor unit

1) AMS-07/09/12UR4SN (VG/VT/VL/VQ/UP/UL/UQ/NS/ZC/ZA/NT/NK/NM/VM) 4

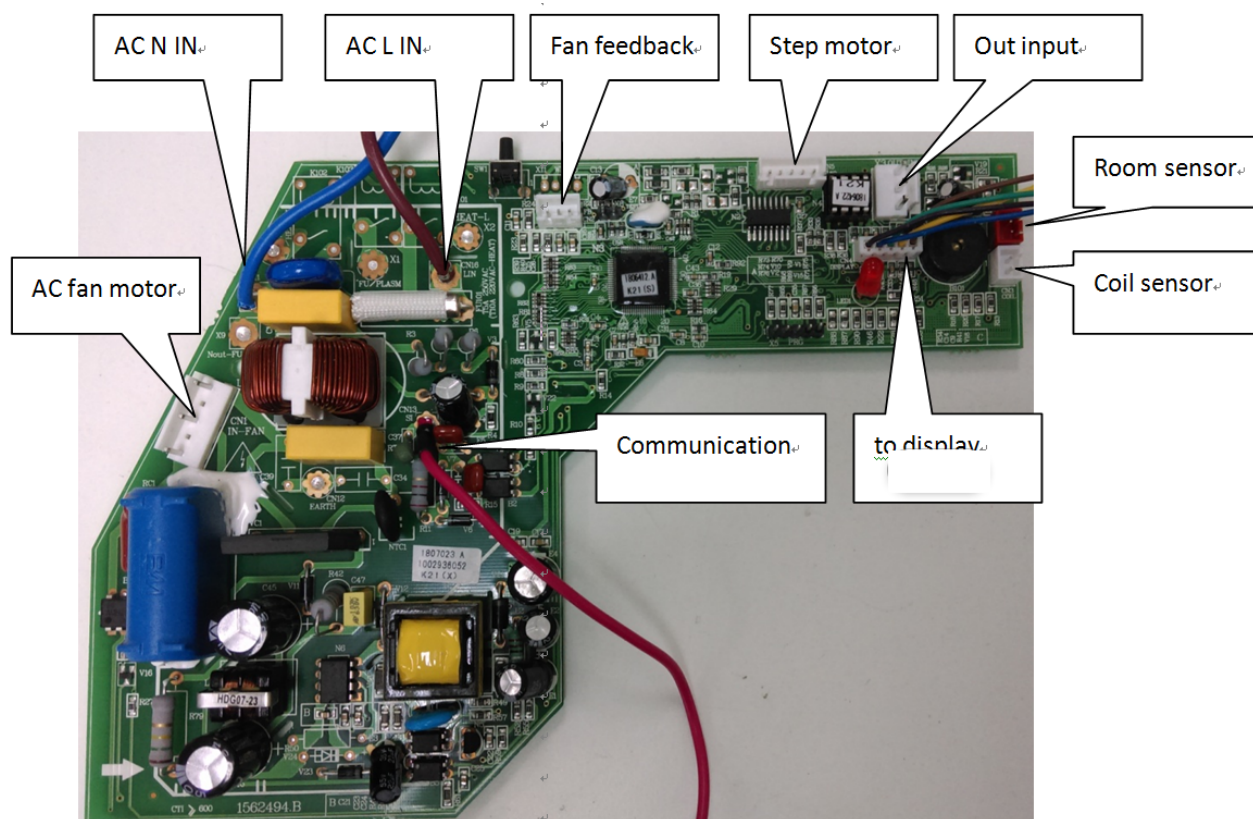


2) AMS-07/09/12UR4SG (NK/NM/VT/VQ) 4

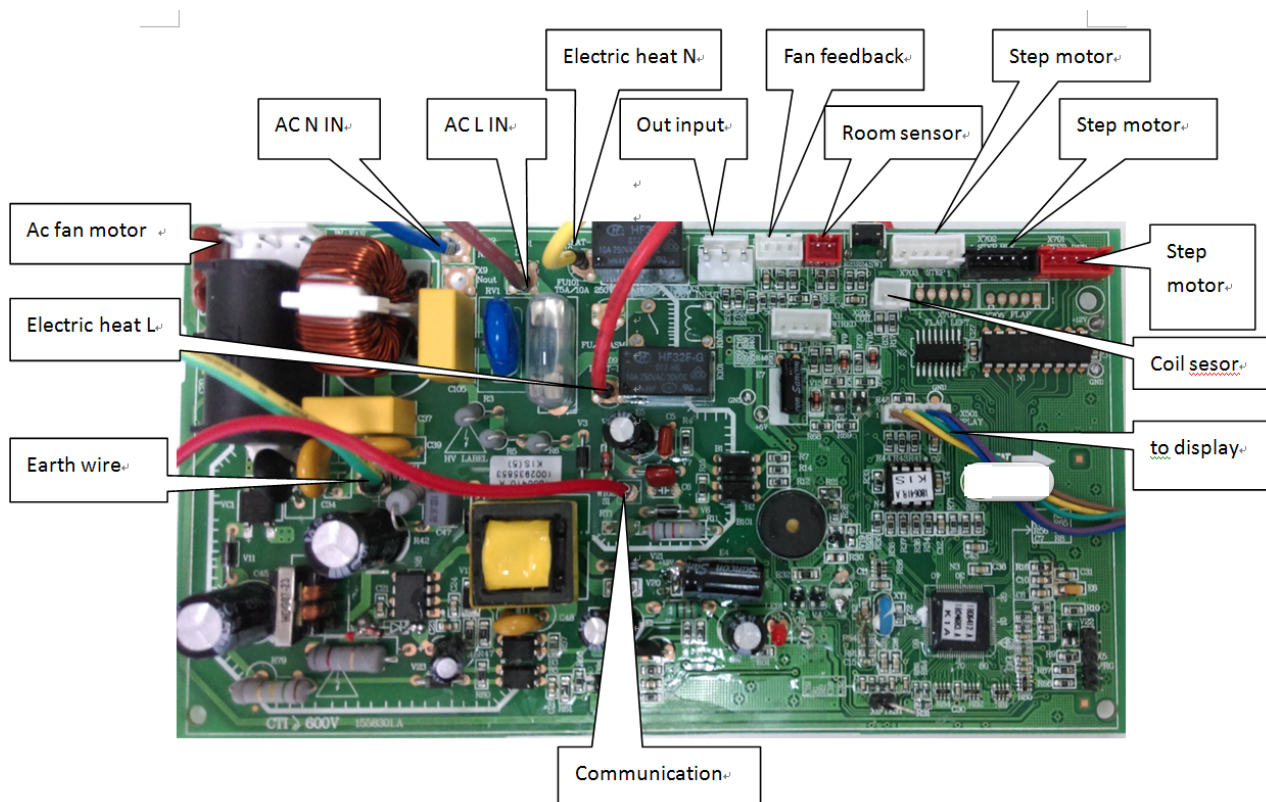


5. ELECTRICAL DATA

3) AMS-18U4SV(VG/VQ/NL/VT/UP/UL/UQ/NT/NK/NM) 4

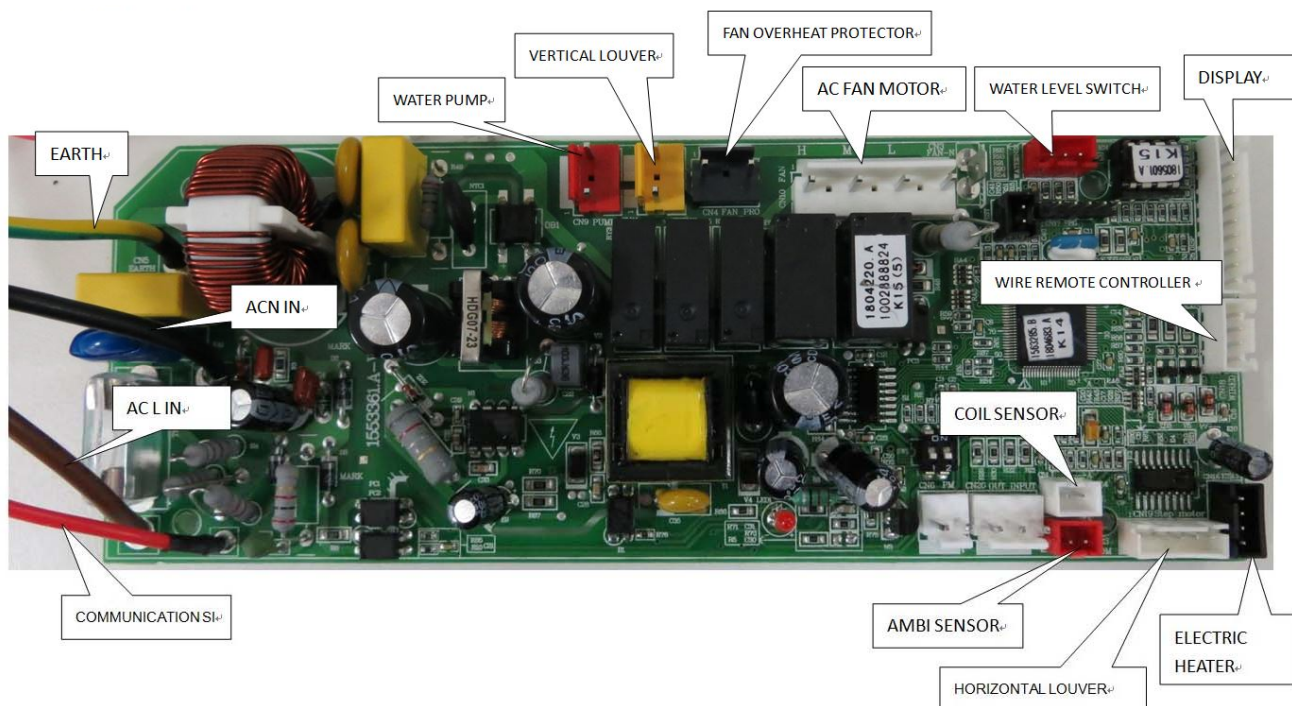


4) AMS-09UR4SPSC4 、 AMS-12UR4SPSC4



5. ELECTRICAL DATA

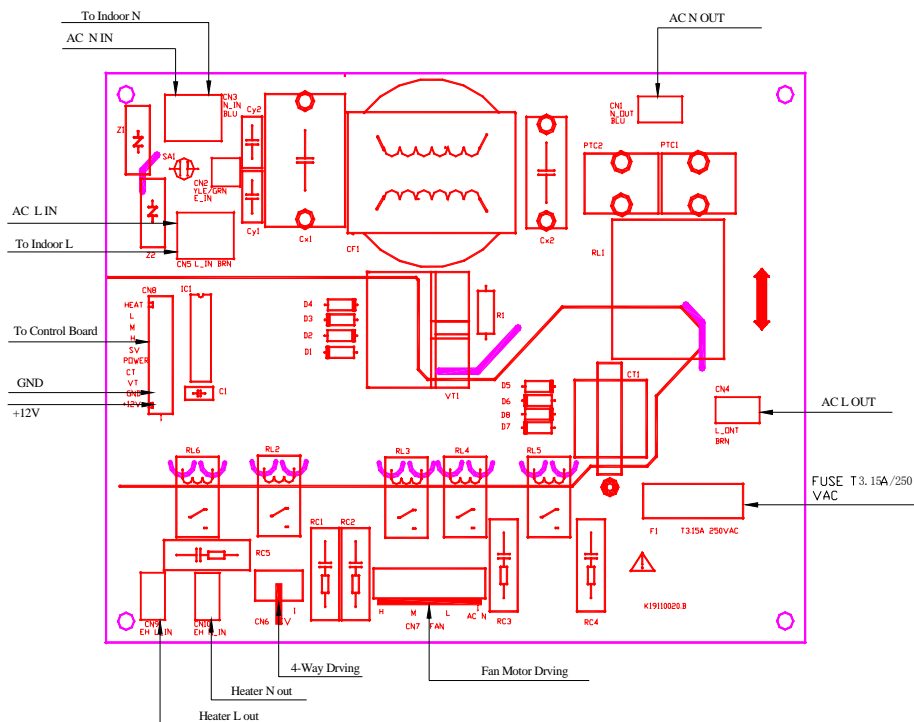
5) AMD-09UX4SJD、AMD-12UX4SD、AMD-18UX4SJD、AMD-24UX4SKD、AMC-12UX4SAA、AMC-18UX4SAA、AMV-12UR4SA、AMV-18UR4SA



5. ELECTRICAL DATA

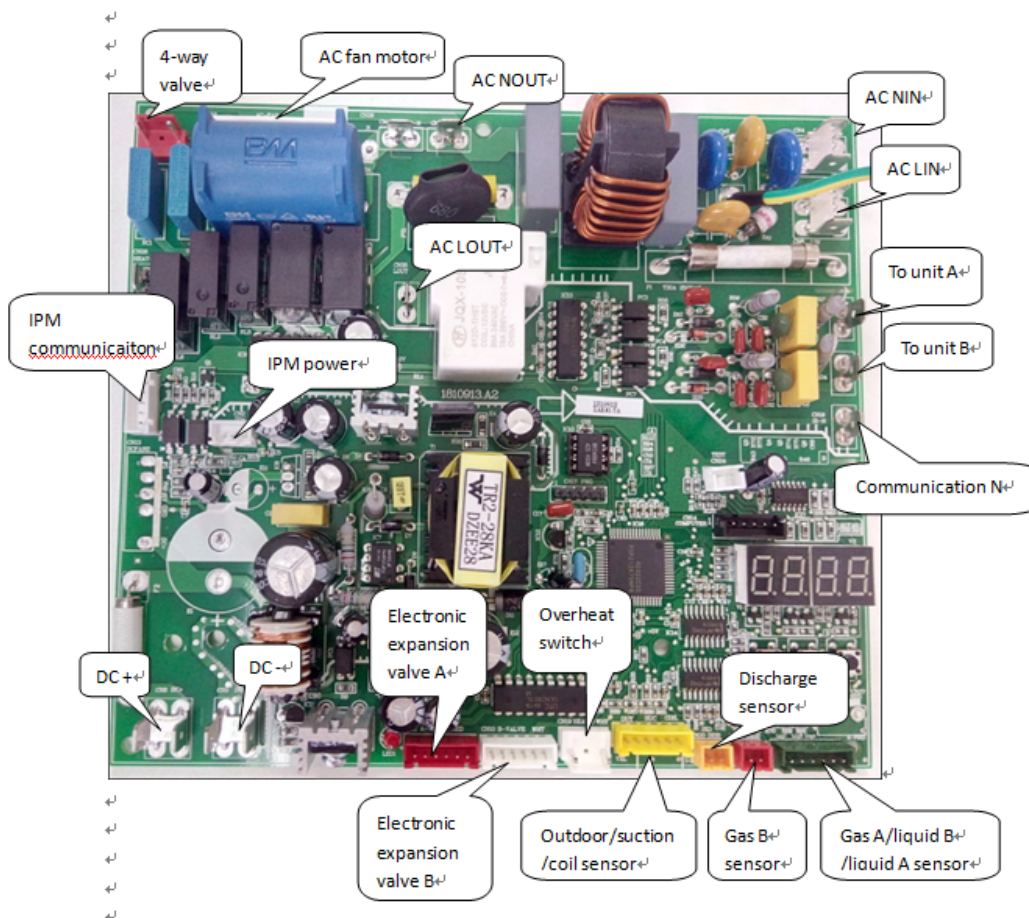
2. Control board for outdoor unit

1) FILTER BOARD (AMW3-24U4SKC、AMW4-28U4SKC AMW4-36U4SAC)



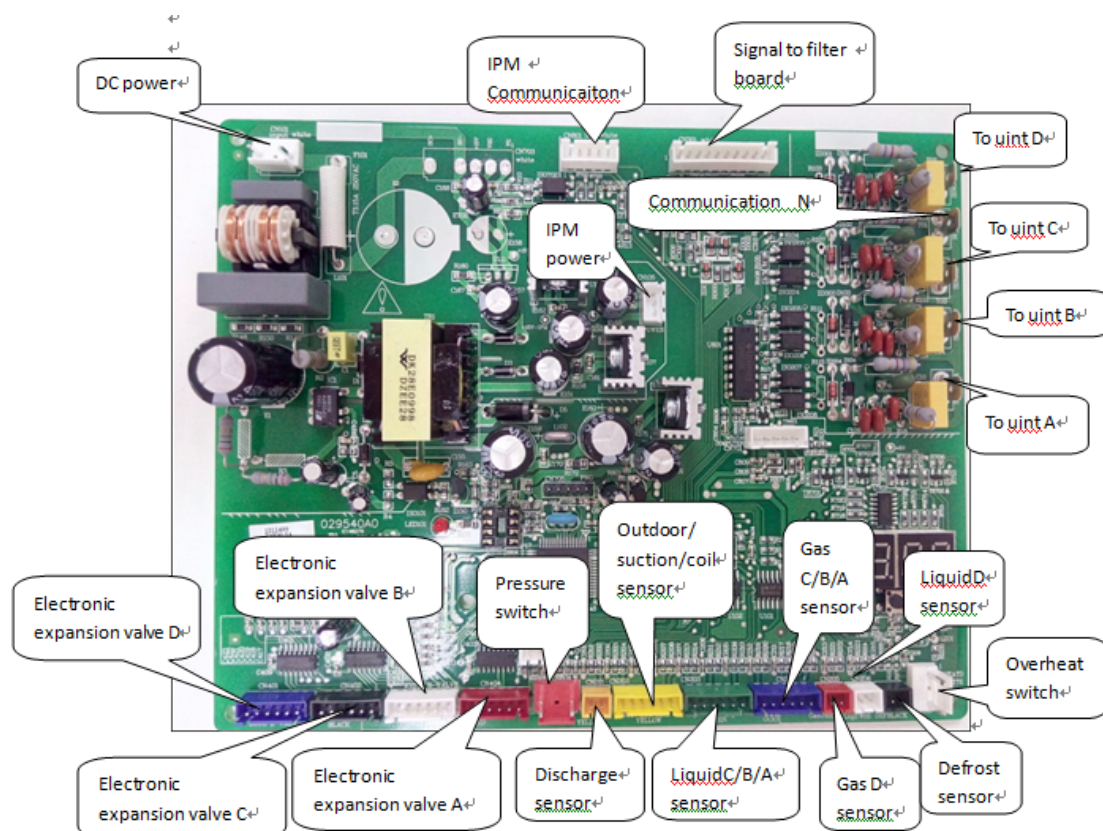
CONTROL BOARD

AMW2-16U4SGC1、AMW2-20U4SNC1

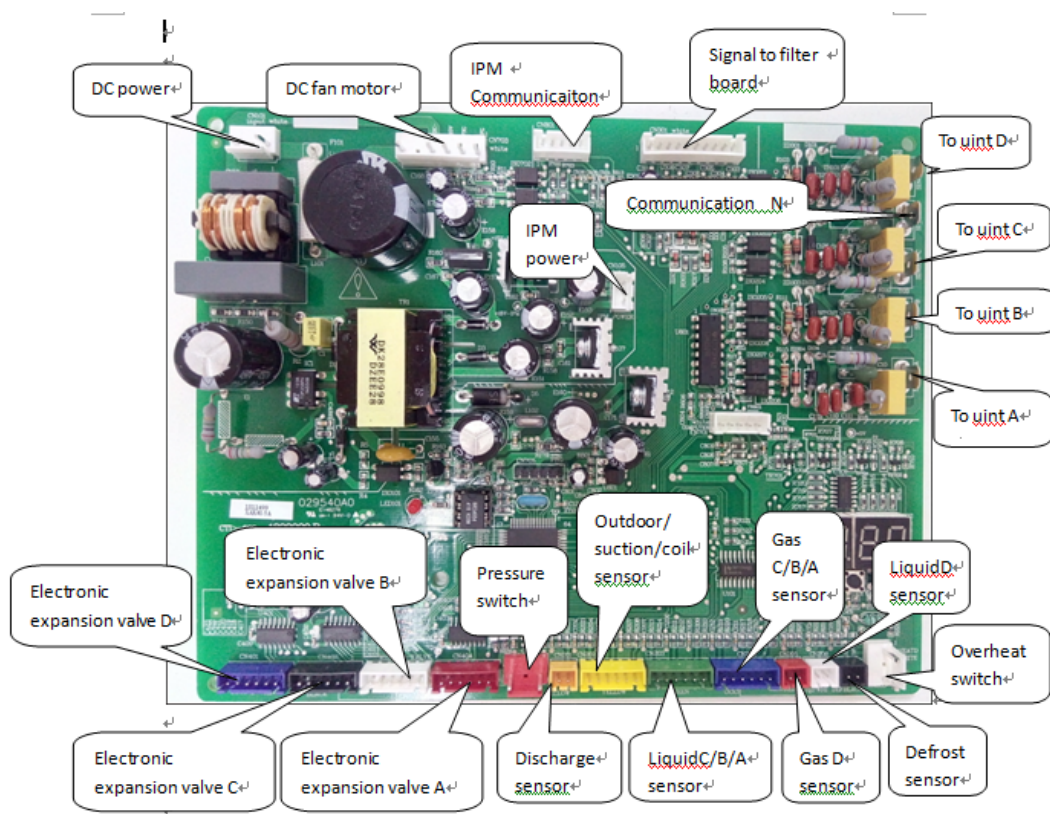


5. ELECTRICAL DATA

AMW4-28U2SAC/AMW4-36U2SAC/AMW4-36U4SAC

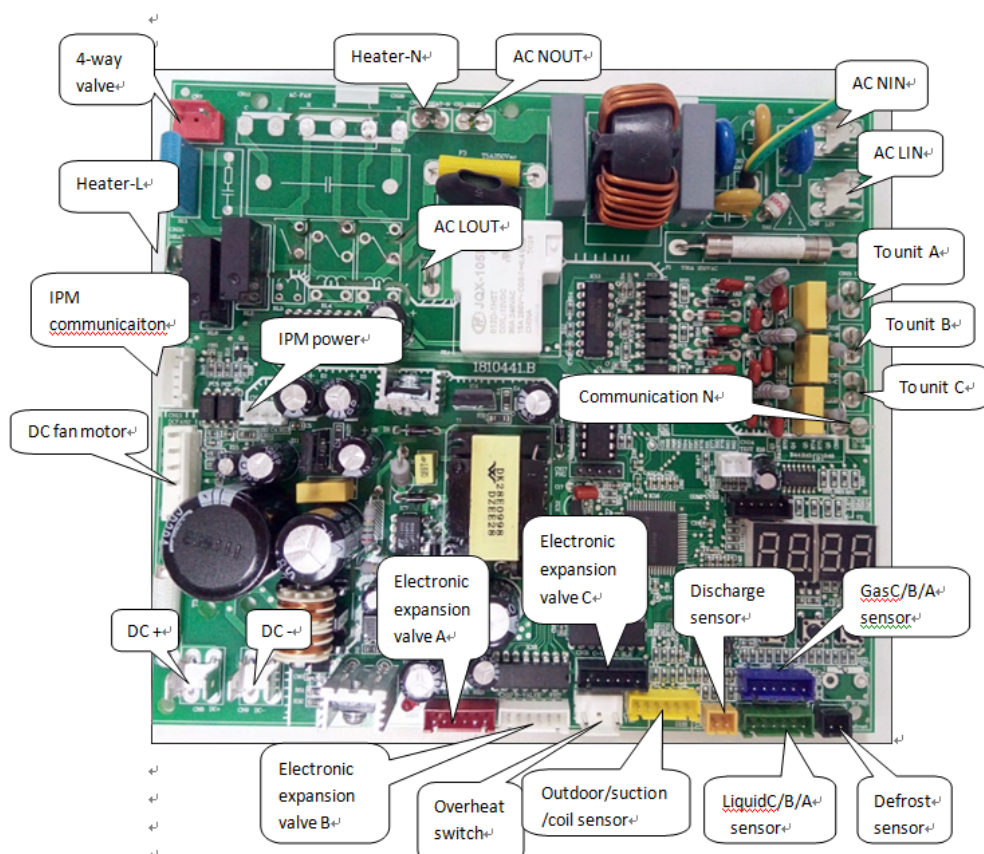


AMW3-24U4SAD1\AMW4-36U4SAD1\AMW4-28U4SAD1

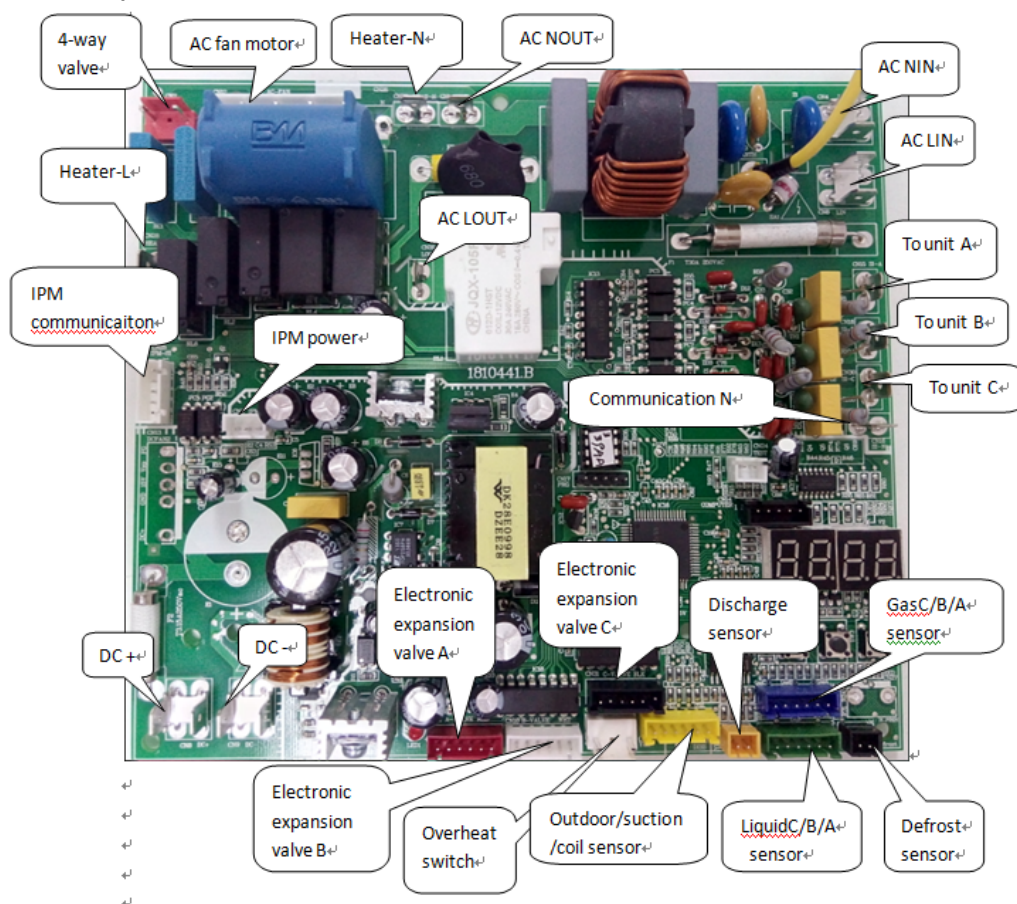


5. ELECTRICAL DATA

AMW3-20U4SZD1

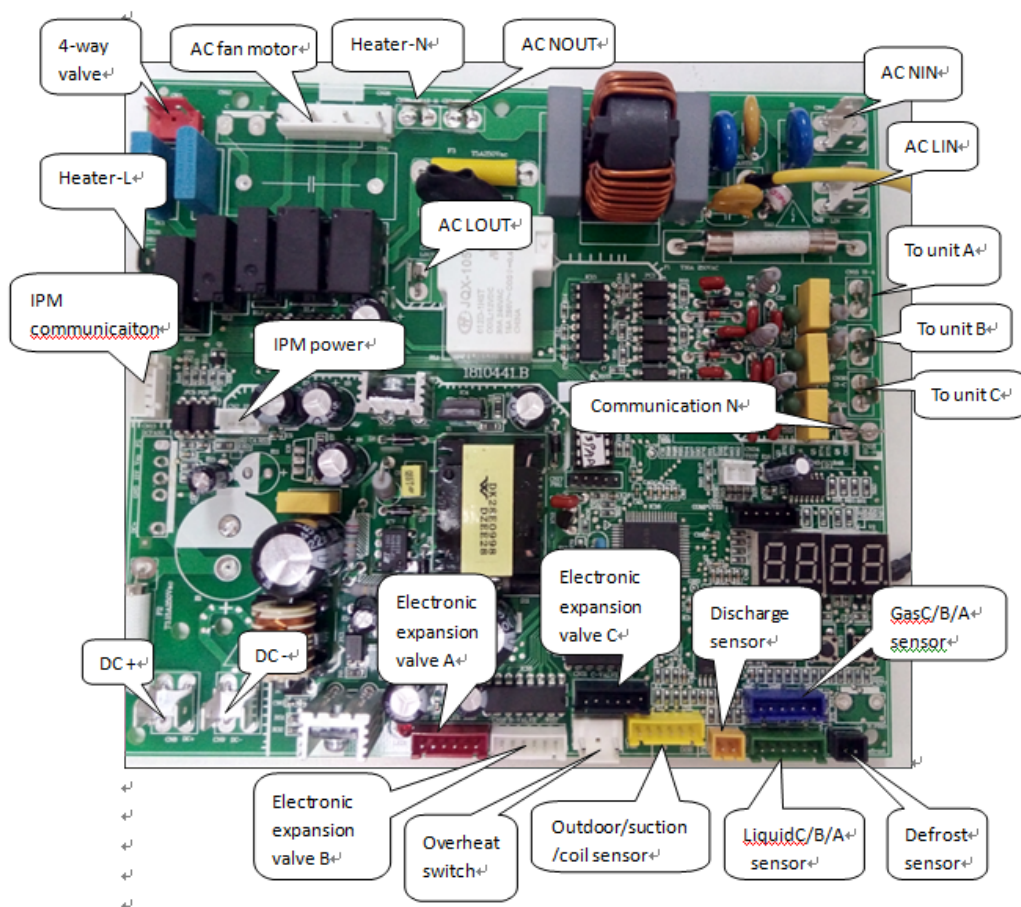


AMW3-20U4SZD

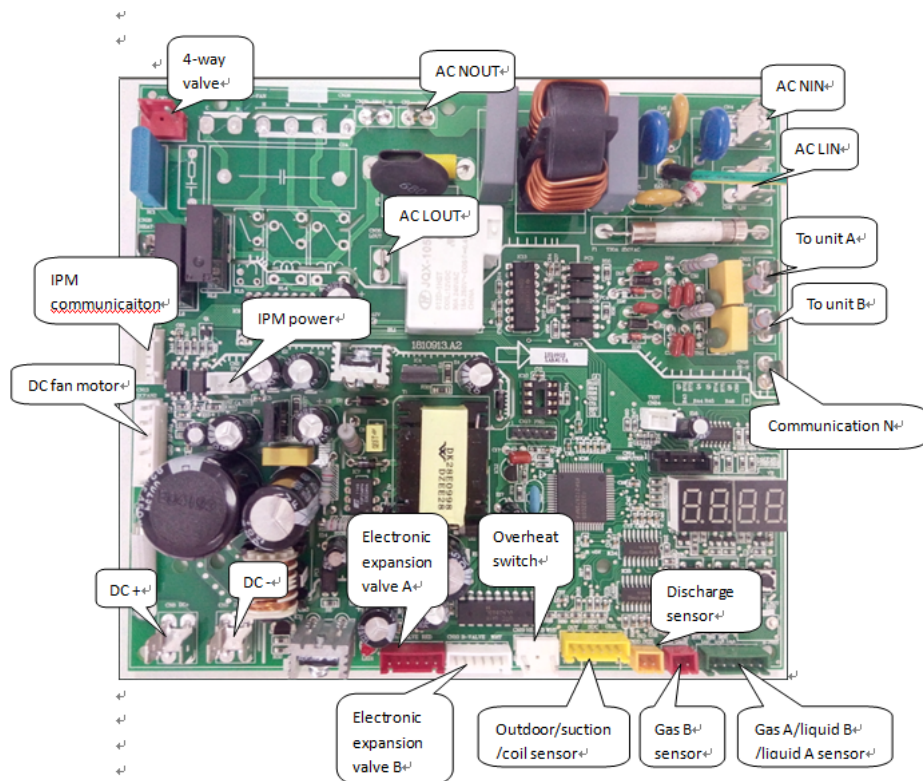


5. ELECTRICAL DATA

AMW3-24U4SZD、AMW3-24U2SZD

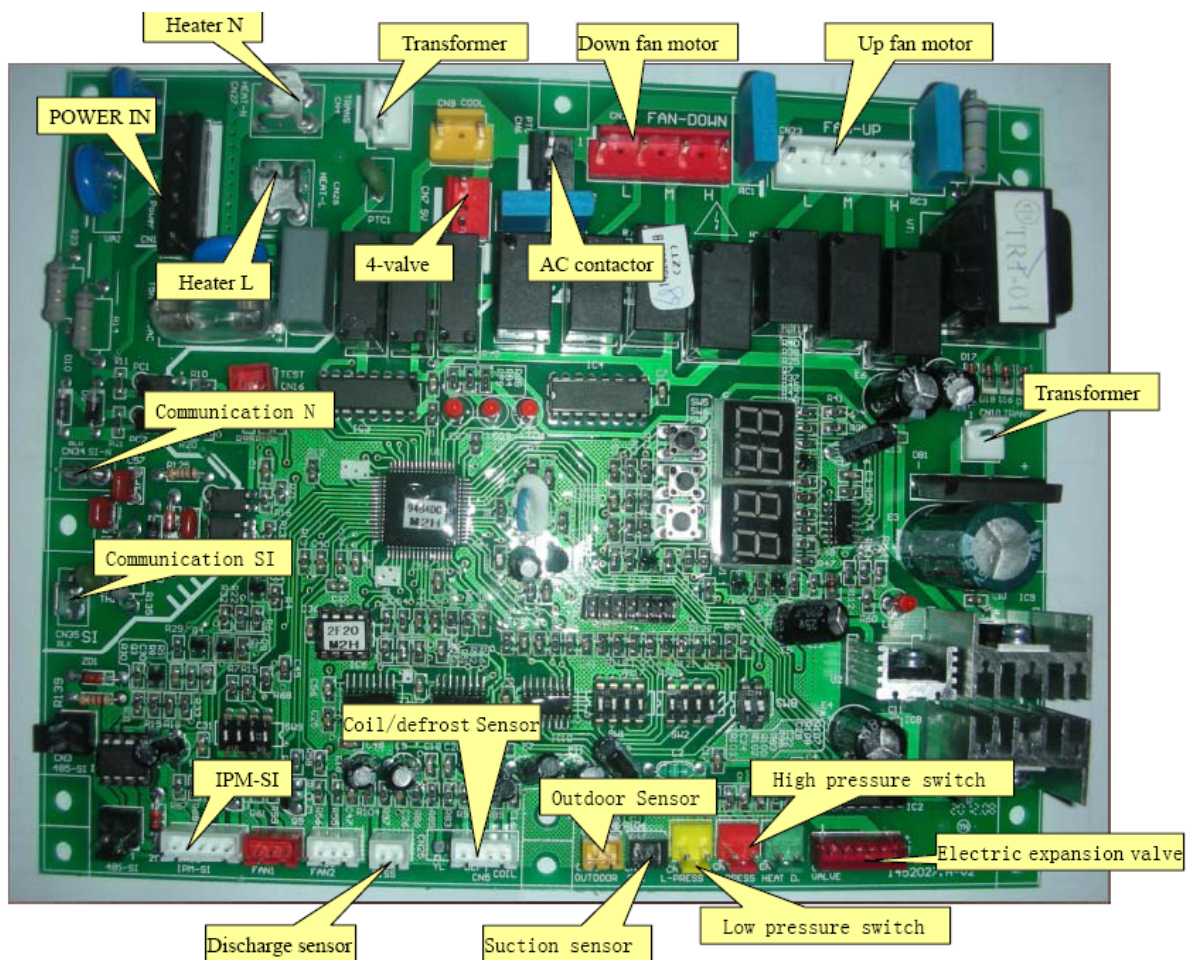


AMW2-16U4SGD1、AMW2-20U4SZD1



5. ELECTRICAL DATA

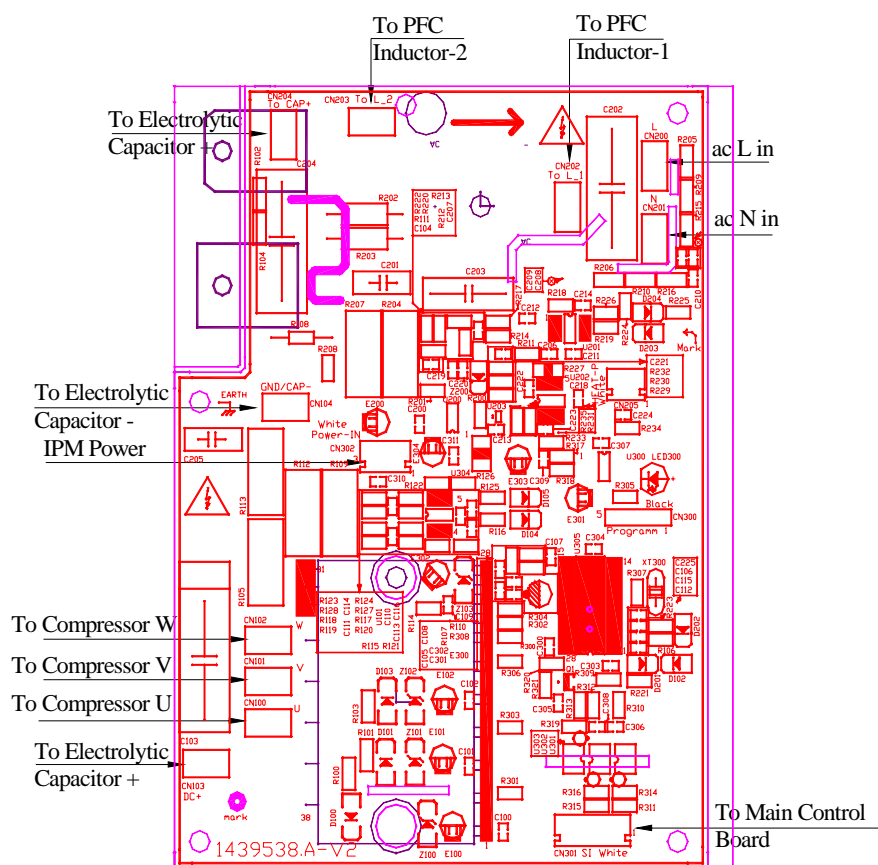
CONTROL BOARD(AMW-42U4SE)



5. ELECTRICAL DATA

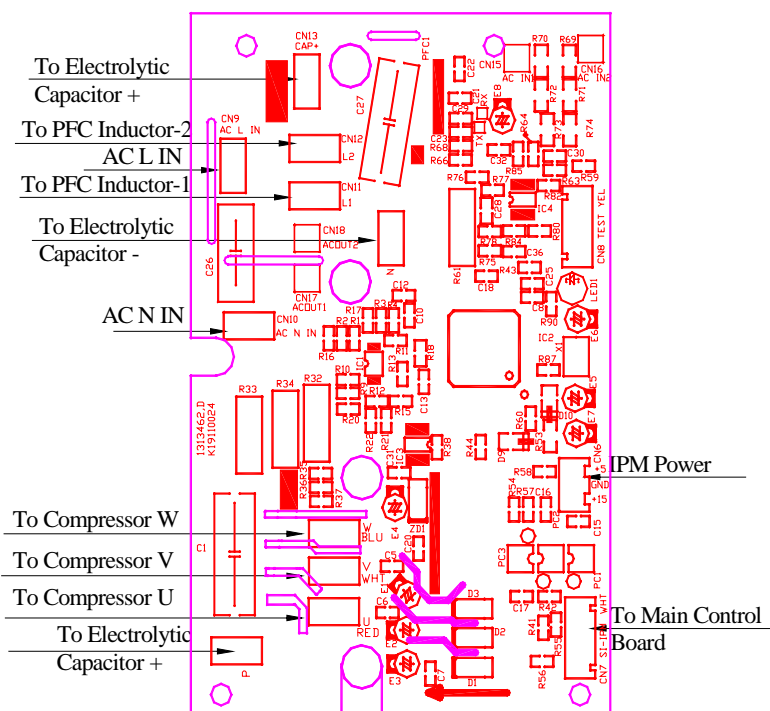
3)IPM BOARD

(AMW3-24U4SKC、AMW4-28U4SKC AMW4-36U4SAC AMW3-20U4SZD AMW3-24U4SZD、AMW3-24U4SAD1、AMW4-28U4SAD1)



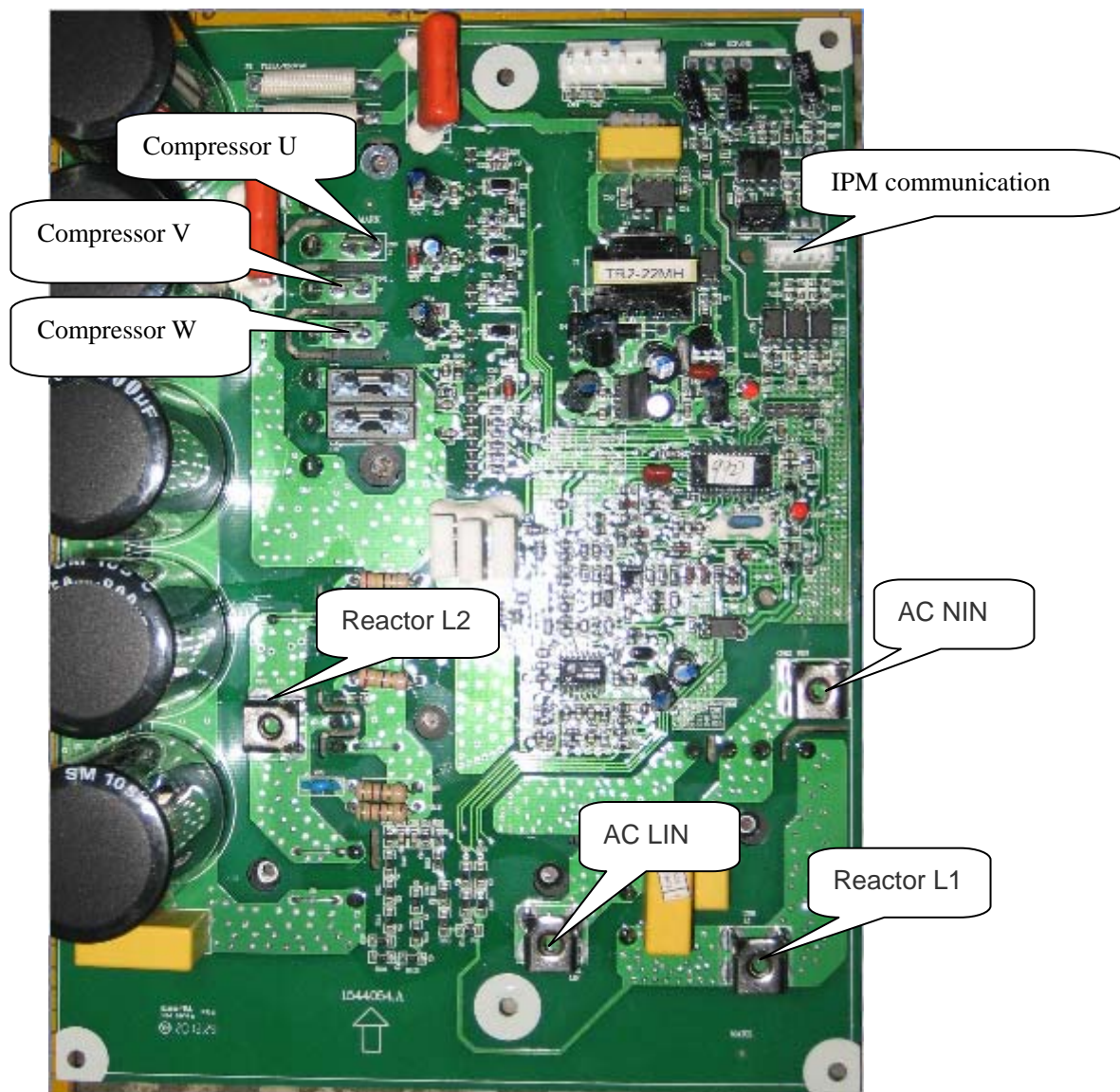
5. ELECTRICAL DATA

IPM Board (AMW2-16U4SGC1 AMW2-20U4SNC1、AMW2-16U4SGD1、AMW2-20U4SZD1)



5. ELECTRICAL DATA

IPM Board (AMW-42U4SE)



5. ELECTRICAL DATA

5-3. DIP Switch of Outdoor(42K)

SW1	Ref. Cycle No.Setting															
<div>Setting is required</div> <p>Unit No.0 and No.1 setting condition Set the unit of outdoor unit at each refrigerant cycle. (setting before shipment is unit 0.)</p>																
No.0	<table border="1"> <tr> <td>ON</td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> </tr> <tr> <td>OFF</td> <td><input checked="" type="checkbox"/></td> <td><input checked="" type="checkbox"/></td> <td><input checked="" type="checkbox"/></td> <td><input checked="" type="checkbox"/></td> </tr> <tr> <td></td> <td>1</td> <td>2</td> <td>3</td> <td>4</td> </tr> </table>	ON	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	OFF	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		1	2	3	4
ON	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>												
OFF	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>												
	1	2	3	4												
No.1	<table border="1"> <tr> <td>ON</td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> <td><input checked="" type="checkbox"/></td> </tr> <tr> <td>OFF</td> <td><input checked="" type="checkbox"/></td> <td><input checked="" type="checkbox"/></td> <td><input checked="" type="checkbox"/></td> <td><input type="checkbox"/></td> </tr> <tr> <td></td> <td>1</td> <td>2</td> <td>3</td> <td>4</td> </tr> </table>	ON	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	OFF	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>		1	2	3	4
ON	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>												
OFF	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>												
	1	2	3	4												

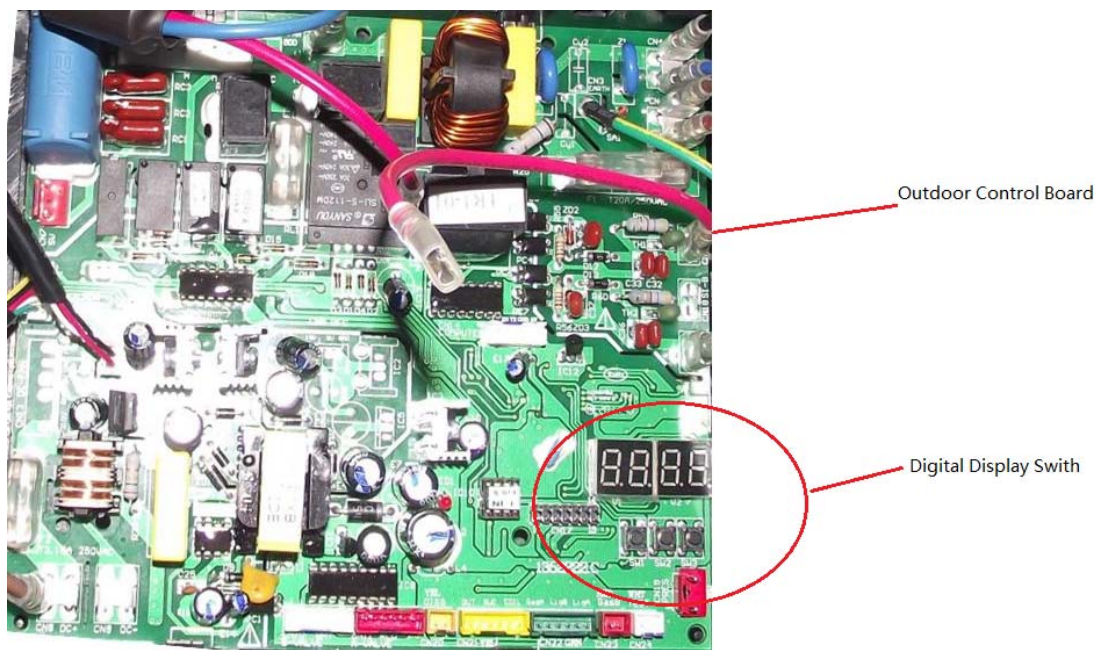
SW2	Refrigerant Piping Length Setting								
<div>Setting is required</div> <table border="1"> <tr> <th colspan="2">Actual Piping Length L(m)</th> </tr> <tr> <th>L<15</th> <th>15≤L<30</th> </tr> <tr> <td> Setting before Shipment ON <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> OFF <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> </td> <td> ON <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> OFF <input type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> </td> </tr> <tr> <td>1 2 3 4</td> <td>1 2 3 4</td> </tr> </table>		Actual Piping Length L(m)		L<15	15≤L<30	Setting before Shipment ON <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> OFF <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>	ON <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> OFF <input type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>	1 2 3 4	1 2 3 4
Actual Piping Length L(m)									
L<15	15≤L<30								
Setting before Shipment ON <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> OFF <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>	ON <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> OFF <input type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>								
1 2 3 4	1 2 3 4								

SW9	Transmission Setting						
<div>Setting is required</div> <table border="1"> <tr> <th>Setting before Shipment</th> <th>When using end resistance and bias resistor</th> </tr> <tr> <td> ON <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> OFF <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> </td> <td> ON <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> OFF <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> </td> </tr> <tr> <td>1 2 3 4</td> <td>1 2 3 4</td> </tr> </table>		Setting before Shipment	When using end resistance and bias resistor	ON <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> OFF <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>	ON <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> OFF <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	1 2 3 4	1 2 3 4
Setting before Shipment	When using end resistance and bias resistor						
ON <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> OFF <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>	ON <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> OFF <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>						
1 2 3 4	1 2 3 4						

Without turning off, the switches will not work and the contents of setting are invalid.
Mark of “■” indicates the position of dip switches.

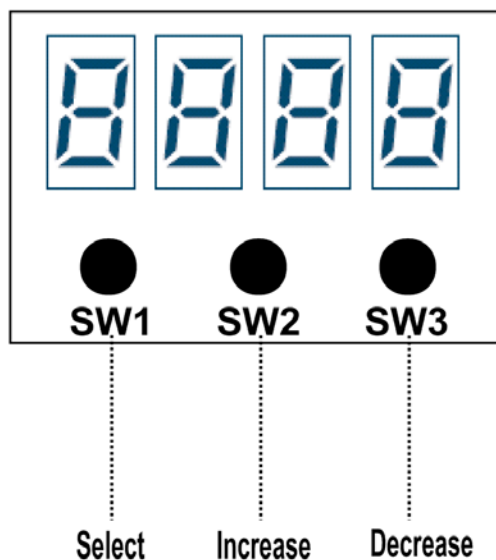
5. ELECTRICAL DATA

5-4. Digital Display Switch of Outdoor



Digital Display Switch Introduction(except 42K outdoor unit)

It can be used to check outdoor running parameters.



There are 3 buttons on the digital display board :

- 1) Select button : Select the corresponding parameters of the serial number when it is pressed.
- 2) INCREASE button : Each time it is pressed, the number rises by 1.
- 3) DECREASE button : Each time it is pressed, the number lowers by 1.

Hold down both SW1 and SW2, the number will rise, and the parameter will be displayed when released.

Hold down both SW1 and SW3, the number will decrease, and the parameter will be displayed when

5. ELECTRICAL DATA

released.

Parameters can be checked as following table below.

Note:

(1) ●:Valid; ○:Invalid; ◆: Set Parameter; ◇: Parameter Query Only。

(2): The right is therefore reserved to EE changing without notice.

Parameter code	Descriptions	Dual	1by3	1by4	Parameter Query	Note
0	Display limit Frequency or Frequency reduction when Compressor running; Display error code when stops.	●	●	●	◇	
1	Compressor Frequency	●	●	●	◇	
2	Current: actual value=display value /10	●	●	●	◇	
3	AC Input Voltage	●	●	●	◇	
4	Electronic expansion valve Opening(A)	●	●	●	◇	
5	Electronic expansion valve Opening(B)	○	●	●	◇	
6	Electronic expansion valve Opening(C)	○	●	●	◇	
7	Electronic expansion valve Opening(D)	○	○	●	◇	
8	DC Motor Set Speed	●	●	●	◆	
9	AC Motor Profile Speed	●	●	●	◆	
10	Target Frequency	●	●	●	◆	
11	A Target Overheat	●	●	●	◆	
12	B Target Overheat	●	●	●	◆	
13	C Target Overheat	○	●	●	◆	
14	D Target Overheat	○	○	●	◆	
15	Target Limit Current	●	●	●	◆	
16	Indoor A Speed	●	●	●	◇	
17	Indoor B Speed	●	●	●	◇	
18	Indoor C Speed	○	●	●	◇	
19	Indoor D Speed	○	○	●	◇	
24	IPM Error Code 1	●	●	●	◇	
25	IPM Error Code 2	●	○	○	◇	
26	IPM Error Code 3	●	○	○	◇	
27	IPM Error Code 4	●	○	○	◇	
40	Discharge Temperature	●	●	●	◇	
41	Ambient Temperature(Outdoor)	●	●	●	◇	
42	Suction Temperature	●	●	●	◇	
43	Outdoor Coil Temperature	●	●	●	◇	
44	Indoor Unit A Liquid Tube	●	●	●	◇	

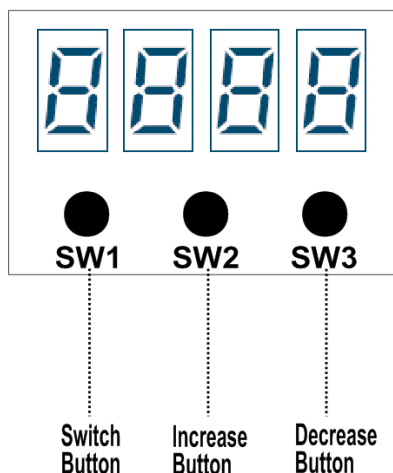
5. ELECTRICAL DATA

Parameter code	Descriptions	Dual	1by3	1by4	Parameter Query	Note
	Temperature					
45	Indoor Unit B Liquid Tube Temperature	●	●	●	◇	
46	Indoor Unit C Liquid Tube Temperature	○	●	●	◇	
47	Indoor Unit D Liquid Tube Temperature	○	○	●	◇	
48	Indoor Unit A Gas Tube Temperature	●	●	●	◇	
49	Indoor Unit B Gas Tube Temperature	●	●	●	◇	
50	Indoor Unit C Gas Tube Temperature	○	●	●	◇	
51	Indoor Unit D Gas Tube Temperature	○	○	●	◇	
52	Defrosting temperature	○	●	●	◇	
53	Room A Ambient Temperature	●	●	●	◇	
54	Room B Ambient Temperature	●	●	●	◇	
55	Room C Ambient Temperature	○	●	●	◇	
56	Room D Ambient Temperature	○	○	●	◇	
57	Room A Coil Temperature	●	●	●	◇	
58	Room B Coil Temperature	●	●	●	◇	
59	Room C Coil Temperature	○	●	●	◇	
60	Room D Coil Temperature	○	○	●	◇	
61	Room A Set Temperature	●	●	●	◇	
62	Room B Set Temperature	●	●	●	◇	
63	Room C Set Temperature	○	●	●	◇	
64	Room D Set Temperature	○	○	●	◇	
238	Outdoor DC Motor Speed Regulation Sign Manually	●	●	●	◆	1Valid
239	Manually Set The Running Current	●	●	●	◆	
244	Outdoor AC Motor Speed Regulation Sign Manually	●	●	●	◆	1Valid
245	Set Frequency Manually	●	●	●	◆	1Valid
255	Target Frequency	●	●	●	◇	1Valid

5. ELECTRICAL DATA

Digital Display Switch Introduction(for 42K outdoor unit)

It can be used to check outdoor running parameters.



There are 3 buttons on the digital display board :

1) SWITCH button : Indoor parameters and outdoor parameters can be selected in turn by pressing it.

P--outdoor unit, H--indoor unit ;

2) INCREASE button : Each time it is pressed, the number rises by 1,hold down it, the number will be rapidly rises ;

3) DECREASE button : Each time it is pressed, the number lowers by 1,hold down it, the number will be rapidly lowers.

4) The parameters will be displayed after 3s when the checking numbers are selected.

Parameters can be checked as following table below.

Parameter code	Descriptions
0	Protect Code or Error Code
P.1	Target Frequency
P.2	Driver Frequency
P.4	Outdoor Electronic expansion valve Opening
P.5	Outdoor Electronic expansion valve Target Opening
P.6	Upper DC Motor Revolving Speed
P.8	AC Input Voltage
P.9	Current
P.10	Modular Temperature
P.11	Capacity needed
P.12	Modular Trouble
P.20	Outdoor Ambient Temperature
P.21	Outdoor Coil Temperature

5. ELECTRICAL DATA

Parameter code	Descriptions
P.22	Outdoor Defrost Temperature
P.23	Suction Temperature
P.24	Discharge Temperature
H.1	Indoor Unit Error
H.2	Indoor Ambient Temperature
H.3	Indoor Coil Temperature
H.4	Indoor Setting Temperature

5. ELECTRICAL DATA

5-5. Static Pressure Setting (only for duct type)

CHANGE OF STATIC PRESSURE

The static pressure outside the indoor unit can be chosen .

You can change the static pressure by changing the fan motor terminal which refer to following Fig.below:

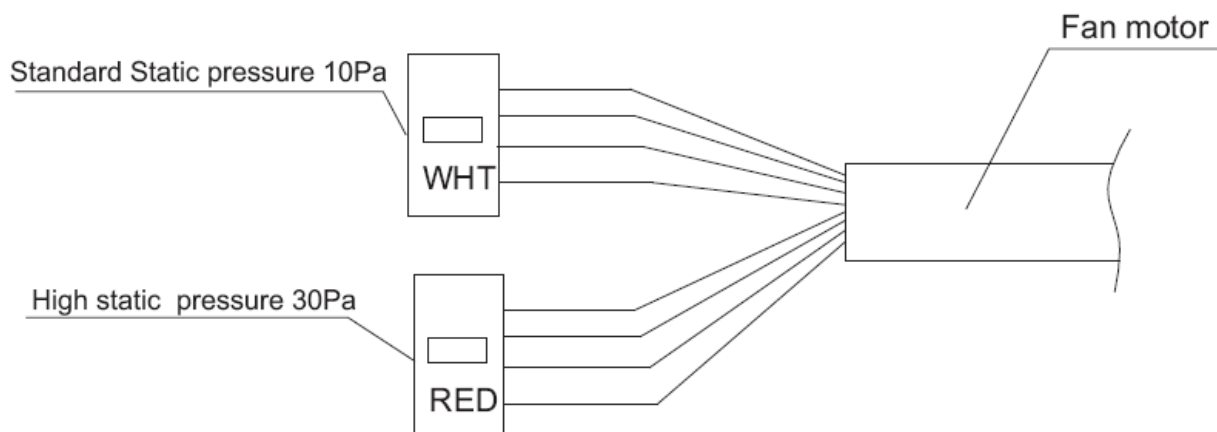


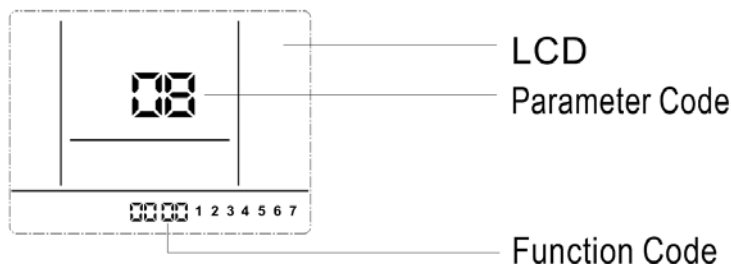
Fig 6.4

Note: High static pressure 30 Pa is higher noise than static pressure 10Pa.

5. ELECTRICAL DATA

5-6. System Parameter Adjustment

Internal control parameter adjustment can be performed.



OPERATION:

① Hold down both "MODE" button and "ADD.FUNC." button for 3 seconds, symbol and parameter number blinking at the same time.

② Press "▲" "▼" button to adjust parameter number until display "17".

And press "ENTER" button to entering system parameter adaption state, symbol stop blinking.

③ Select desired parameter code by pressing ▲/ ▼ button following the table below.

Press the "ENTER" button to rewrite the parameter values using "▲/ ▼" buttons.

PARAMETER CODE	PARAMETER DESCRIPTION	PARAMETER VALUE&REPRESENTATION		NOTE
		DATA TYPE	REPRESENTATION(FUNCTION CODE)	
1	Self Recovery of Power Break	Integer	0: Cancel Self Recovery of Power Break function; 1: Self Recovery of Power Break; others: invalid	
2	Temperature Type	Integer	0: Centigrade Temperature; 1: Fahrenheit Temperature; others: invalid	
3	Temperature Display Type	Integer	0: Default display set temperature; 1: Default display room temperature; others: invalid	
4	Ratio of temperature sensed by Wire remote controller(cooling mode)	Integer	0~10valid, more than 10 default is 10	
			0: 0%; 1: 10%; ...; 10: 100%	
5	Filter Clean Indicate	Integer	0: Cancel Filter Clean Indicate function; 1: Set Filter Clean Indicate function; others: invalid	
6	Filter Clean Time Set	Integer	0~32, more than 32 default is 32*1000h	
7	Installation Height	Integer	0~10m, more than 10m default is 10	
8	Cooling Temperature Compensation (wired controller)	Integer	0: 0℃; 1: -0.5℃; 2: -1℃; 3: -1.5℃; 4: -2℃;	
			5: -2.5℃; 6: -3℃; 7: -3.5℃; 8: -4℃; 9: -4.5℃;	
			10: -5℃; (the wired controller displays integer with the symbol)	
9	Heating Temperature Compensation (wired controller)	Integer	0: 0℃; 1: -0.5℃; 2: -1℃; 3: -1.5℃; 4: -2℃;	
			5: -2.5℃; 6: -3℃; 7: -3.5℃; 8: -4℃; 9: -4.5℃;	
			10: -5℃; (the wired controller displays integer with the symbol)	
10	Static Pressure Set	Integer	1~80, more than 80 default is 80, Default is 0(30Pa)	ONLY VALID FOR DC FAN TYPE INVERTER UNITARY
12	Ratio of temperature sensed by Wire remote	Integer	0~10valid, more than 10 default is 10	
			0: 0%; 1: 10%; ...; 10: 100%	

5. ELECTRICAL DATA

PARAMETER CODE	PARAMETER DESCRIPTION	PARAMETER VALUE&REPRESENTATION		NOTE
		DATA TYPE	REPRESENTATION(FUNCTION CODE)	
	<i>controller(Heating mode)</i>			
13	<i>Temperature Adjustment-Cooling</i>	<i>Character</i>	<i>-10~10℃ (Single Character with symbol)</i>	
14	<i>Temperature Adjustment-Heating</i>	<i>Character</i>	<i>-10~10℃ (Single Character with symbol)</i>	
18	<i>Cooling/Heating Temperature Limit</i>	<i>Integer</i>	<i>=0, Cooling/Heating Temperature Limit are all Invalid</i>	
			<i>=1, Cooling Temperature Limit is valid, Heating Temperature Limit is invalid</i>	
			<i>=2, Cooling Temperature Limit is invalid, Heating Temperature Limit is valid</i>	
			<i>=3, Cooling/Heating Temperature Limit are all valid</i>	
19	<i>The Lowest Set Temperature in Cooling Mode</i>	<i>Integer</i>	<i>SET VALUE=Actual temperature (16℃-32℃)</i>	
20	<i>The Highest Set Temperature in Heating Mode</i>	<i>Integer</i>	<i>SET VALUE=Actual temperature (16℃-32℃)</i>	



Parameter code will not display if the indoor unit is not equipped with this function. Please refer to indoor unit manual to check whether this function is effective.

EXIT :

Press "ON/OFF" button to exit, or no operation within 30 seconds automatically exit.

5. ELECTRICAL DATA

5-6. Sensor parameter

1. THE PARAMETER OF OUTDOOR COMPRESSOR DISCHARGE TEMPERATURE SENSOR:

($R_0=187.25K \pm 6.3\%$; $R_{100}=3.77K \pm 2.5K$; $B0/100=3979K \pm 1\%$)

T [°C]	Rmin [KΩ]	Rnom [KΩ]	Rmax [KΩ]	DR(MIN)%	DR(MAX)%
-30	908.2603	985.5274	1065.1210	-7.84	7.47
-29	855.3955	927.6043	1001.9150	-7.78	7.42
-28	805.9244	873.4324	924.8368	-7.73	5.56
-27	759.6097	822.7471	887.5944	-7.67	7.31
-26	716.2320	775.3041	835.9165	-7.62	7.25
-25	675.5881	730.8775	787.5529	-7.56	7.20
-24	637.4902	689.2583	742.2720	-7.51	7.14
-23	601.7645	650.2533	699.8601	-7.46	7.09
-22	568.2499	613.6835	660.1191	-7.40	7.03
-21	536.7970	579.3832	622.8658	-7.35	6.98
-20	507.2676	547.1989	587.9307	-7.30	6.93
-19	497.5332	516.9882	555.1565	-3.76	6.88
-18	453.4748	488.6192	524.3977	-7.19	6.82
-17	428.9819	461.9693	495.5191	-7.14	6.77
-16	405.9517	436.9251	486.3954	-7.09	10.17
-15	384.2888	413.3808	442.9105	-7.04	6.67
-14	363.9047	391.2386	418.9563	-6.99	6.62
-13	344.7169	370.4072	396.4325	-6.94	6.56
-12	326.6497	350.8019	375.2461	-6.88	6.51
-11	309.6286	332.3441	355.3104	-6.83	6.46
-10	293.5903	314.9620	336.5448	-6.79	6.41
-9	278.4719	298.5822	318.3744	-6.74	6.22
-8	264.2156	283.1464	302.2294	-6.69	6.31
-7	250.7678	268.5936	286.5448	-6.64	6.26
-6	238.0783	254.8686	271.7603	-6.59	6.22
-5	226.1003	241.9200	257.8193	-6.54	6.17
-4	214.7903	229.6997	244.6593	-6.49	6.11
-3	204.1073	218.1630	232.2612	-6.44	6.07
-2	194.0135	207.2681	220.5495	-6.39	6.02
-1	184.4732	196.9759	209.4913	-6.35	5.97
0	175.4533	187.2500	199.0468	-6.30	5.93
1	166.8952	178.0255	189.1529	-6.25	5.88
2	158.8023	169.3067	179.8058	-6.20	5.84
3	151.1467	161.0633	170.9724	-6.16	5.80
4	143.9026	153.2667	162.6216	-6.11	5.75
5	137.0455	145.8905	154.7246	-6.06	5.71
6	130.5528	138.9097	147.2544	-6.02	5.67
7	124.4033	132.3011	140.1856	-5.97	5.62
8	118.5769	126.0429	133.4946	-5.92	5.58

5. ELECTRICAL DATA

T [°C]	Rmin [KΩ]	Rnom [KΩ]	Rmax [KΩ]	DR(MIN)%	DR(MAX)%
9	113.0550	120.1146	127.1591	-5.88	5.54
10	107.8202	114.4973	121.1586	-5.83	5.50
11	102.8560	109.1728	115.4734	-5.79	5.46
12	98.1470	104.1246	110.0855	-5.74	5.41
13	93.6787	99.3367	104.9778	-5.70	5.37
14	89.4378	94.7946	100.1342	-5.65	5.33
15	85.4114	90.4842	95.5398	-5.61	5.29
16	81.5875	86.3926	91.1805	-5.56	5.25
17	77.9551	82.5076	87.0430	-5.52	5.21
18	74.5034	78.8177	83.1150	-5.47	5.17
19	71.2227	75.3122	79.3848	-5.43	5.13
20	68.1036	71.9808	75.8414	-5.39	5.09
21	65.1373	68.8141	72.4746	-5.34	5.05
22	62.3155	65.8032	69.2746	-5.30	5.01
23	59.6306	62.9395	66.2324	-5.26	4.97
24	57.0752	60.2152	63.3395	-5.21	4.93
25	54.6424	57.6227	60.5877	-5.17	4.89
26	52.3258	55.1551	57.9695	-5.13	4.85
27	50.1192	52.8058	55.4778	-5.09	4.82
28	48.0168	50.5684	53.1058	-5.05	4.78
29	46.0133	48.4371	50.8472	-5.00	4.74
30	44.1034	46.4046	48.6960	-4.96	4.71
31	42.2825	44.4711	46.6466	-4.92	4.66
32	40.5458	42.6261	44.6937	-4.88	4.63
33	38.8891	40.8668	42.8323	-4.84	4.59
34	37.3084	39.1890	41.0576	-4.80	4.55
35	35.7998	37.5883	39.3653	-4.76	4.51
36	34.3596	36.0609	37.7511	-4.72	4.48
37	32.9844	34.6030	36.2109	-4.68	4.44
38	31.6710	33.2113	34.7412	-4.64	4.40
39	30.4164	31.8823	33.3383	-4.60	4.37
40	29.2176	30.6130	31.9988	-4.56	4.33
41	28.0718	29.4004	30.7197	-4.52	4.29
42	26.9765	28.2417	29.4979	-4.48	4.26
43	25.9293	27.1342	28.3306	-4.44	4.22
44	24.9277	26.0755	27.2150	-4.40	4.19
45	23.9697	25.0632	26.1488	-4.36	4.15
46	23.0530	24.0950	25.1293	-4.32	4.12
47	22.1757	23.1688	24.1545	-4.29	4.08
48	21.3360	22.2826	23.2221	-4.25	4.05
49	20.5321	21.4345	22.3301	-4.21	4.01
50	19.7623	20.6226	21.4766	-4.17	3.98
51	19.0261	19.8468	20.6612	-4.14	3.94
52	18.3211	19.1040	19.8808	-4.10	3.91

5. ELECTRICAL DATA

T [°C]	Rmin [KΩ]	Rnom [KΩ]	Rmax [KΩ]	DR(MIN)%	DR(MAX)%
53	17.6458	18.3926	19.1338	-4.06	3.87
54	16.9986	17.7113	18.4185	-4.02	3.84
55	16.3784	17.0537	17.7335	-3.96	3.83
56	15.7839	16.4332	17.0774	-3.95	3.77
57	15.2139	15.8338	16.4488	-3.92	3.74
58	14.6673	15.2592	15.8464	-3.88	3.71
59	14.1430	14.7083	15.2690	-3.84	3.67
60	13.6400	14.1799	14.7154	-3.81	3.64
61	13.1573	13.6730	14.1846	-3.77	3.61
62	12.6941	13.1868	13.6756	-3.74	3.57
63	12.2494	12.7202	13.1872	-3.70	3.54
64	11.8224	12.2723	12.7186	-3.67	3.51
65	11.4124	11.8424	12.2690	-3.63	3.48
66	11.0185	11.4295	11.8373	-3.60	3.45
67	10.6401	11.0331	11.4230	-3.56	3.41
68	10.2765	10.6522	11.0251	-3.53	3.38
69	9.9271	10.2863	10.6429	-3.49	3.35
70	9.5912	9.9348	10.2756	-3.46	3.32
71	9.2682	9.5968	9.9231	-3.42	3.29
72	8.9576	9.2720	9.5841	-3.39	3.26
73	8.6589	8.9597	9.2583	-3.36	3.23
74	8.3716	8.6594	8.9451	-3.32	3.19
75	8.0951	8.3705	8.6440	-3.29	3.16
76	7.8290	8.0926	8.3544	-3.26	3.13
77	7.5730	7.8252	8.0758	-3.22	3.10
78	7.3264	7.5679	7.8078	-3.19	3.07
79	7.0891	7.3202	7.5499	-3.16	3.04
80	6.8605	7.0818	7.3018	-3.12	3.01
81	6.6403	6.8522	7.0629	-3.09	2.98
82	6.4282	6.6311	6.8329	-3.06	2.95
83	6.2239	6.4182	6.6115	-3.03	2.92
84	6.0269	6.2131	6.3982	-3.00	2.89
85	5.8371	6.0154	6.1928	-2.96	2.86
86	5.6542	5.8249	5.9949	-2.93	2.84
87	5.4777	5.6413	5.8042	-2.90	2.81
88	5.3076	5.4644	5.6205	-2.87	2.78
89	5.1435	5.2937	5.4433	-2.84	2.75
90	4.9853	5.1292	5.2726	-2.81	2.72
91	4.8326	4.9705	5.1079	-2.77	2.69
92	4.6852	4.8174	4.9492	-2.74	2.66
93	4.5430	4.6697	4.7960	-2.71	2.63
94	4.4058	4.5272	4.6483	-2.68	2.61
95	4.2733	4.3896	4.5058	-2.65	2.58
96	4.1453	4.2568	4.3683	-2.62	2.55

5. ELECTRICAL DATA

T [°C]	Rmin [KΩ]	Rnom [KΩ]	Rmax [KΩ]	DR(MIN)%	DR(MAX)%
97	4.0218	4.1287	4.2355	-2.59	2.52
98	3.9024	4.0049	4.1074	-2.56	2.50
99	3.7872	3.8854	3.9837	-2.53	2.47
100	3.6758	3.7700	3.8643	-2.50	2.44
101	3.5661	3.6585	3.7512	-2.53	2.47
102	3.4601	3.5509	3.6419	-2.56	2.50
103	3.3577	3.4468	3.5362	-2.59	2.53
104	3.2588	3.3463	3.4341	-2.61	2.56
105	3.1632	3.2491	3.3353	-2.64	2.58
106	3.0708	3.1551	3.2398	-2.67	2.61
107	2.9816	3.0643	3.1475	-2.70	2.64
108	2.8953	2.9765	3.0582	-2.73	2.67
109	2.8118	2.8915	2.9717	-2.76	2.70
110	2.7311	2.8093	2.8881	-2.78	2.73
111	2.6531	2.7299	2.8072	-2.81	2.75
112	2.5776	2.6530	2.7289	-2.84	2.78
113	2.5046	2.5785	2.6531	-2.87	2.81
114	2.4340	2.5065	2.5798	-2.89	2.84
115	2.3656	2.4368	2.5087	-2.92	2.87
116	2.2995	2.3693	2.4400	-2.95	2.90
117	2.2354	2.3040	2.3733	-2.98	2.92
118	2.1734	2.2407	2.3088	-3.00	2.95
119	2.1134	2.1795	2.2463	-3.03	2.97
120	2.0553	2.1201	2.1858	-3.06	3.01
121	1.9991	2.0626	2.1271	-3.08	3.03
122	1.9446	2.0070	2.0702	-3.11	3.05
123	1.8918	1.9530	2.0151	-3.13	3.08
124	1.8406	1.9007	1.9617	-3.16	3.11
125	1.7911	1.8500	1.9099	-3.18	3.14
126	1.7430	1.8009	1.8597	-3.22	3.16
127	1.6965	1.7533	1.8110	-3.24	3.19
128	1.6514	1.7071	1.7638	-3.26	3.21
129	1.6076	1.6623	1.7180	-3.29	3.24
130	1.5652	1.6189	1.6736	-3.32	3.27

5. ELECTRICAL DATA

2. THE PARAMETER OF THE OTHER SENSOR IN INDOOR AND OUTDOOR UNIT: ($R_0=15K \pm 2\%$;
 $B0/100=3450K \pm 2\%$)

T [°C]	Rmin [KΩ]	Rnom [KΩ]	Rmax [KΩ]	DR(MIN)%	DR(MAX)%
-30	60.78	64.77	68.99	-6.16	6.12
-29	57.75	61.36	65.16	-5.88	5.83
-28	54.89	58.15	61.58	-5.61	5.57
-27	52.19	55.14	58.23	-5.35	5.31
-26	49.63	52.30	55.08	-5.11	5.05
-25	47.21	49.62	52.13	-4.86	4.81
-24	44.92	47.10	49.37	-4.63	4.60
-23	42.76	44.73	46.78	-4.40	4.38
-22	40.71	42.49	44.34	-4.19	4.17
-21	38.77	40.38	42.05	-3.99	3.97
-20	36.93	38.39	39.90	-3.80	3.78
-19	35.18	36.51	37.87	-3.64	3.59
-18	33.53	34.74	35.97	-3.48	3.42
-17	31.96	33.06	34.17	-3.33	3.25
-16	30.48	31.47	32.49	-3.15	3.14
-15	29.07	29.97	30.89	-3.00	2.98
-14	27.73	28.56	29.39	-2.91	2.82
-13	26.46	27.22	27.98	-2.79	2.72
-12	25.26	25.95	26.64	-2.66	2.59
-11	24.11	24.75	25.38	-2.59	2.48
-10	23.03	23.61	24.19	-2.46	2.40
-9	21.99	22.53	23.06	-2.40	2.30
-8	21.01	21.51	22.00	-2.32	2.23
-7	20.08	20.54	20.99	-2.24	2.14
-6	19.19	19.62	20.04	-2.19	2.10
-5	18.35	18.74	19.14	-2.08	2.09
-4	17.55	17.92	18.29	-2.06	2.02
-3	16.78	17.13	17.48	-2.04	2.00
-2	16.06	16.38	16.71	-1.95	1.97
-1	15.36	15.67	15.98	-1.98	1.94
0	14.70	15.00	15.29	-2.00	1.90
1	14.08	14.36	14.64	-1.95	1.91
2	13.48	13.75	14.02	-1.96	1.93
3	12.91	13.17	13.43	-1.97	1.94
4	12.36	12.62	12.87	-2.06	1.94
5	11.85	12.09	12.34	-1.99	2.03
6	11.35	11.59	11.83	-2.07	2.03
7	10.88	11.11	11.35	-2.07	2.11
8	10.43	10.66	10.89	-2.16	2.11
9	9.999	10.230	10.450	-2.26	2.11
10	9.590	9.816	10.040	-2.30	2.23
11	9.199	9.422	9.647	-2.37	2.33

5. ELECTRICAL DATA

T [°C]	Rmin [KΩ]	Rnom [KΩ]	Rmax [KΩ]	DR(MIN)%	DR(MAX)%
12	8.826	9.047	9.269	-2.44	2.40
13	8.470	8.689	8.910	-2.52	2.48
14	8.129	8.347	8.567	-2.61	2.57
15	7.804	8.021	8.240	-2.71	2.66
16	7.493	7.709	7.928	-2.80	2.76
17	7.196	7.412	7.630	-2.91	2.86
18	6.912	7.127	7.346	-3.02	2.98
19	6.640	6.855	7.074	-3.14	3.10
20	6.381	6.595	6.815	-3.24	3.23
21	6.132	6.347	6.567	-3.39	3.35
22	5.894	6.109	6.330	-3.52	3.49
23	5.667	5.882	6.103	-3.66	3.62
24	5.449	5.664	5.886	-3.80	3.77
25	5.240	5.456	5.678	-3.96	3.91
26	5.048	5.260	5.478	-4.03	3.98
27	4.864	5.072	5.286	-4.10	4.05
28	4.687	4.891	5.101	-4.17	4.12
29	4.517	4.717	4.924	-4.24	4.20
30	4.355	4.550	4.753	-4.29	4.27
31	4.198	4.390	4.589	-4.37	4.34
32	4.048	4.236	4.431	-4.44	4.40
33	3.904	4.089	4.280	-4.52	4.46
34	3.766	3.946	4.134	-4.56	4.55
35	3.663	3.810	3.994	-3.86	4.61
36	3.506	3.679	3.859	-4.70	4.66
37	3.383	3.552	3.729	-4.76	4.75
38	3.265	3.431	3.604	-4.84	4.80
39	3.152	3.314	3.484	-4.89	4.88
40	3.043	3.202	3.368	-4.97	4.93
41	2.938	3.094	3.257	-5.04	5.00
42	2.838	2.990	3.149	-5.08	5.05
43	2.741	2.890	3.046	-5.16	5.12
44	2.648	2.793	2.946	-5.19	5.19
45	2.558	2.701	2.850	-5.29	5.23
46	2.472	2.611	2.758	-5.32	5.33
47	2.389	2.525	2.669	-5.39	5.40
48	2.309	2.443	2.583	-5.49	5.42
49	2.232	2.363	2.500	-5.54	5.48
50	2.158	2.286	2.421	-5.60	5.58
51	2.087	2.212	2.344	-5.65	5.63
52	2.018	2.140	2.269	-5.70	5.69
53	1.952	2.072	2.198	-5.79	5.73
54	1.888	2.005	2.129	-5.84	5.82
55	1.827	1.941	2.062	-5.87	5.87

5. ELECTRICAL DATA

T [°C]	Rmin [KΩ]	Rnom [KΩ]	Rmax [KΩ]	DR(MIN)%	DR(MAX)%
56	1.767	1.880	1.998	-6.01	5.91
57	1.710	1.820	1.936	-6.04	5.99
58	1.655	1.763	1.876	-6.13	6.02
59	1.602	1.707	1.818	-6.15	6.11
60	1.551	1.654	1.762	-6.23	6.13
61	1.502	1.602	1.709	-6.24	6.26
62	1.452	1.553	1.657	-6.50	6.28
63	1.409	1.505	1.606	-6.38	6.29
64	1.364	1.458	1.558	-6.45	6.42
65	1.322	1.413	1.511	-6.44	6.49
66	1.280	1.370	1.466	-6.57	6.55
67	1.241	1.328	1.422	-6.55	6.61
68	1.202	1.288	1.379	-6.68	6.60
69	1.165	1.249	1.339	-6.73	6.72
70	1.129	1.211	1.299	-6.77	6.77
71	1.095	1.175	1.261	-6.81	6.82
72	1.061	1.140	1.224	-6.93	6.86
73	1.029	1.106	1.188	-6.96	6.90
74	0.9977	1.073	1.153	-7.02	6.94
75	0.9676	1.041	1.120	-7.05	7.05
76	0.9385	1.011	1.088	-7.17	7.08
77	0.9104	0.9810	1.056	-7.20	7.10
78	0.8833	0.9523	1.026	-7.25	7.18
79	0.8570	0.9246	0.9971	-7.31	7.27
80	0.8316	0.8977	0.9687	-7.36	7.33
81	0.8071	0.8717	0.9412	-7.41	7.38
82	0.7834	0.8466	0.9146	-7.47	7.43
83	0.7604	0.8223	0.8888	-7.53	7.48
84	0.7382	0.7987	0.8639	-7.57	7.55
85	0.7167	0.7759	0.8397	-7.63	7.60
86	0.6958	0.7537	0.8161	-7.68	7.65
87	0.6755	0.7322	0.7933	-7.74	7.70
88	0.6560	0.7114	0.7712	-7.79	7.75
89	0.6371	0.6913	0.7498	-7.84	7.80
90	0.6188	0.6718	0.7291	-7.89	7.86
91	0.6011	0.6530	0.7051	-7.95	7.39
92	0.5840	0.6348	0.6897	-8.00	7.96
93	0.5674	0.6171	0.6709	-8.05	8.02
94	0.5514	0.6000	0.6527	-8.10	8.07
95	0.5359	0.5835	0.6350	-8.16	8.11
96	0.5209	0.5675	0.6179	-8.21	8.16
97	0.5064	0.5519	0.6014	-8.24	8.23
98	0.4923	0.5369	0.5853	-8.31	8.27
99	0.4787	0.5224	0.5698	-8.37	8.32

5. ELECTRICAL DATA

T [°C]	Rmin [KΩ]	Rnom [KΩ]	Rmax [KΩ]	DR(MIN)%	DR(MAX)%
100	0.4655	0.5083	0.5547	-8.42	8.36
101	0.4528	0.4946	0.5401	-8.45	8.42
102	0.4404	0.4814	0.5259	-8.52	8.46
103	0.4284	0.4685	0.5121	-8.56	8.51
104	0.4168	0.4561	0.4988	-8.62	8.56
105	0.4056	0.4440	0.4859	-8.65	8.62
106	0.3947	0.4323	0.4733	-8.70	8.66
107	0.3841	0.4210	0.4611	-8.76	8.70
108	0.3739	0.4100	0.4493	-8.80	8.75
109	0.3640	0.3993	0.4379	-8.84	8.81
110	0.3544	0.3890	0.4267	-8.89	8.84
111	0.3450	0.3789	0.4159	-8.95	8.90
112	0.3360	0.3692	0.4055	-8.99	8.95
113	0.3272	0.3597	0.3953	-9.04	9.01
114	0.3187	0.3505	0.3854	-9.07	9.06
115	0.3104	0.3416	0.3758	-9.13	9.10
116	0.3024	0.3330	0.3665	-9.19	9.14
117	0.2947	0.3246	0.3574	-9.21	9.18
118	0.2871	0.3164	0.3468	-9.26	8.77
119	0.2798	0.3085	0.3401	-9.30	9.29
120	0.2727	0.3008	0.33	-9.34	9.34

6. CONTROL MODE

6-1 Indoor control mode

Major general technical parameters

1 Remote receiver distance: 8 m.

2 Remote receiver angle: Less than 80 degrees.

3 Temperature control accuracy: $\pm 1^{\circ}\text{C}$.

4 Time error: Less than 1%.

2. Functions of the controller

Control function

2.1 Emergency switch

Press the emergency button can realize the starting or closing Machine, starting up according to the automatic mode of operation (invalid for duct type air-conditioner)

① Press this button to turn ON the unit, and press it again to turn off.

② When the machine is turned OFF, by press and hold the emergency switch for 5 seconds, with 3 beeps, the indoor unit would turn to emergency run. In such station, machine would be forced to turn to cooling operation with the indoor fan speed being set at high speed, the flaps sweeping and the air conditioner's operation is irrelevant with room temperatures.

③ If a remote signal has been received during the emergency run, the machine will operate upon the command of such a remote signal.

2.2 Operator-machine communication

The air conditioner has a thermal sensor to detect room temperatures. Some remote controller is equipped with a thermal sensor (Such remote controller has the function of man-machine communication. For details, refer to the section for the remote controller). In addition, there is a thermal sensor at the indoor air inlet. In the case where the remote controller is equipped with a thermal sensor, the default setting for room temperatures is subject to the detection by the remote controller. The remote controller detects the room temperature once every 20 seconds, and automatically transmits a signal at an interval of 3 minutes or when a change in the room temperature is detected. If the indoor control unit has not received a remote signal for more than 10 minutes, the control function will be automatically switched over to the thermal sensor on the indoor unit.

2.3 Timer function

1. Timer on: When set to start in a time by the remote controller, the air conditioner starts in the timer on condition. When the set time is up, the air conditioner will turn on and operates in the preset conditions after

6. CONTROL MODE

receiving a signal from the remote controller. If the air conditioner has not received a signal from the remote controller when the set time is up, it will automatically start and operate in the preset conditions.

2. Timer off: When set to stop in a set time by the remote controller, the air conditioner will start in the timer off condition. When the set time is up, the air conditioner will turn off after receiving a signal from the remote controller. If the air conditioner has not received a signal from the remote controller when the set time is up, it will turn off automatically.

3. Neither the turning on nor turning off operation will cancel the timer function (Some remote controller has a simple one-hour timer off function and excludes this operation).。

2.4 Sleep

1. In the heating, cooling or dehumidifying mode, press the "Sleep" button on the remote controller to start or cancel the sleep function in turn, and at the same time the sleep icon on the display screen will be on or off accordingly.

2. In the heating mode, the set temperature will decrease automatically after the sleep function is started.

3. In the cooling mode, the set temperature will rise automatically after the sleep function is started.

4. Turning off the unit will also cancel the sleep function.

2.5 High efficient run function

In Cool, Dehumidification, Fan mode, press the "HIGH POWER " to enter the refrigeration mode, set the temperature automatically adjust to 18℃; the Fan speed is powerful speed; frequency of high frequency operation.

In the heating mode, powerful function is invalid.

2.6 mute function (only for H1 wireless remote controller)

In the indoor machine operation mode, You may turn on mute function and turn off mute function by mute key, The air conditioner will run by mute fan speed in mute mode

27 prevent cooling wind mode

In the heating-run, to prevent the indoor fan from blowing cold air, the indoor fan will stop or run slowly until the coil is warmth.

2.8 blow waste heating and waste cooling function

6. CONTROL MODE

The heating mode, remote shutdown, such as indoor heat exchanger temperature is higher, the wind blowing out opportunities continue to run the waste heat, the wind guiding vane is adjusted to the horizontal position.

Cool and dehumidification mode after the compressor close, indoor machine will continue to set the speed of operation for a period of time.

Fan mode, compressor is shut off, the indoor fan immediately stop

2.9 automatically model

This model does not automatically model function, emergency button cannot set the automatic mode of operation, can use the emergency button shutdown, remote setting the automatic mode of indoor machine with remote signal.

2.10 dehumidifying mode:

Remote control setting for dehumidifying mode, mandatory for low speed operation of indoor machine, according to HIGH POWER bond or strong bond also maintain a low wind speed, the outdoor machine with cooling mode operation.

2.11 Self Recovery of Power Break

When the power supply is recovered after break, all preset are still effective and the air-conditioner can run according to the original setting.

How to set/cancel

It can be set by wire remote controller YXE-C01U/YXE-C02U.

Details see Internal control parameter adjustment.

2.12 wireless remote controller show fault :

In the indoor machine operation mode, if the product is faulty, continuous by remote control" sleep" button 4 times, indoor display screen will display the fault code, no fault will show "00".

2.13 Filter clean

6. CONTROL MODE

Filer clean led will light up when air filter is clogged with dust.

How to reset:

- ① Press Emergency switch;
- ② Press high power button for 5s;
- ③ By wire remote controller YXE-C01U/YXE-C02U, press cancel button for 3s.

2.14 Mode interfere

For the reason that all indoor units use one outdoor unit, outdoor unit can only run with same mode (cooling or heating), so, when the mode you set is different from the mode that outdoor is running with, mode interfere occurs. Following shows the mode interfere scene.

	cooling	dry	heating	fan	
cooling			x		--- normal
dry			x		x --- mode interfere
heating	x	x		x	
fan			x		

Outdoor unit always run with the mode of first indoor unit that turned on. when the setting mode of following indoor unit is interfered with it, 3 beeps would be heard, and the indoor unit interfered with the normal running units would turn off automatically.

6. CONTROL MODE

6-2 Outdoor mode control

Cooling Anti-freeze Protection

To prevent freezing caused by too low temperature of indoor evaporator, the air conditioner will implement real-time detection over the indoor coil temperature. If the indoor coil temperature is too low, the compressor will be prohibited from increasing the frequency or decrease the frequency even shut down automatically

Heating Overload Protection

To prevent system overload caused by excessive pressure in heating operation, the machine will implement real-time detection over the indoor fan-coil temperature:

If the indoor coil temperature grows higher, the compressor will be prohibited from increasing the frequency; If the temperature continues to rise, the compressor will decrease the frequency; If the indoor coil temperature is too high, the compressor will stop working immediately. The compressor then will reboot after the indoor coil temperature reduces.

Cooling Overload Protection

To prevent system overload due to excessive pressure during cooling operation, the machine will implement real-time detection over the outdoor condenser coil temperature:

If the outdoor coil temperature grows higher, the compressor will be prohibited from increasing the frequency; If the temperature continues to rise, the compressor will decrease the frequency; If the outdoor fan-coil temperature is too high, then the compressor will stop working immediately. The compressor will reboot after the outdoor coil temperature reduces.

Discharge Temperature Protection

To prevent working conditions of compressor from deteriorating due to high discharge temperature, the machine will implement real-time detection over the discharge temperature.

6. CONTROL MODE

If the discharge temperature grows higher, the compressor will be prohibited from increasing the frequency; if the temperature continues to rise, the compressor will decrease the frequency automatically; if the discharge temperature is too high, the compressor will stop working immediately. The compressor will then reboot when the discharge temperature returns to normal condition.

Oil-return Control

When the compressor continues to operate at low frequency, there will be an oil return. The compressor increases the frequency, and thus to return the oil in refrigerate system to the compressor.

Operation Mode

1 Mode Categories

Air conditioning mode is the operation mode set by users through remote controller, four modes are available: cooling, heating, dehumidification, as well as fan mode.

2 Mode conflict

The operating mode of outdoor unit is decided by the operating mode of the indoor unit firstly booted. Indoor unit subsequently booted will firstly determine whether it's own mode is conflict with the outdoor mode. If so, the indoor unit will automatically shut down after three beeps; If there is no conflict, the indoor unit will boot normally. The relationship of mode conflict is as follows:

Driven choice Active mode	Cooling	Dehumidificatio n	Heatin g	fan
Cooling			x	
Dehumidificati on			x	
Heating	x	x		x
fan			x	

— — — Mode conflict will not happen

6. CONTROL MODE

x — — Mode conflict will happen

Outdoor four-way Valve Control

Four-way valve of the outdoor machine shuts down when cooling but starts when heating. The operation of heating defrosting refers to defrosting operation and, when the heating remote shutdown, the four-way valve disconnects in 50s when the compressor stops working.

Start-up Protection:

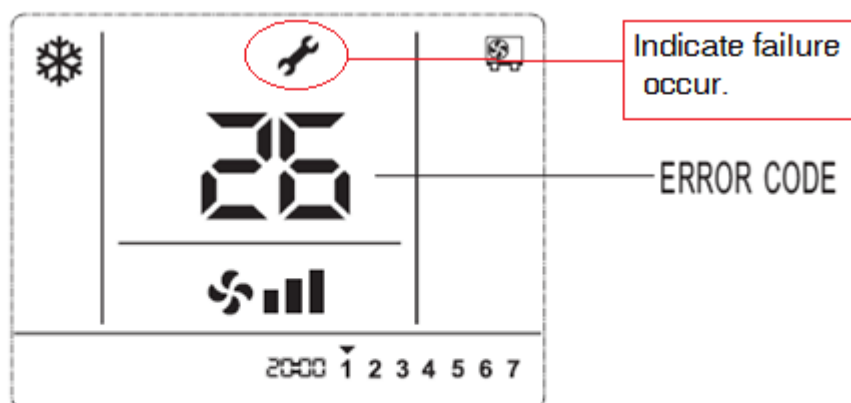
To prevent compressor from restart frequently in the condition that system pressure has not been completely balanced, it can't be restarted within 3 minutes.

Pressure Protection:

Pressure switch is normally kept open. When the pressure grows too high, the pressure switch will close and soft will enter pressure protection control. soft will automatically decrease the frequency. If the pressure is still unable to return to normal condition after decreasing frequency, compressor will stop and report the fault code of pressure protection.

7. TROUBLE SHOOTING

MOEDL:YXE-C01U




When the airconditioner is malfunction,  will display on the LCD, and error codes will appear and blink.

FIG.2 ERROR CODE DISPLAY ON WIRE REMOT CONTROLLER

(2) CHECK ERROR CODES BY DISPLAY PANEL(CASSETTE type and CEILING & FLOOR type)

Display by lamp indicator

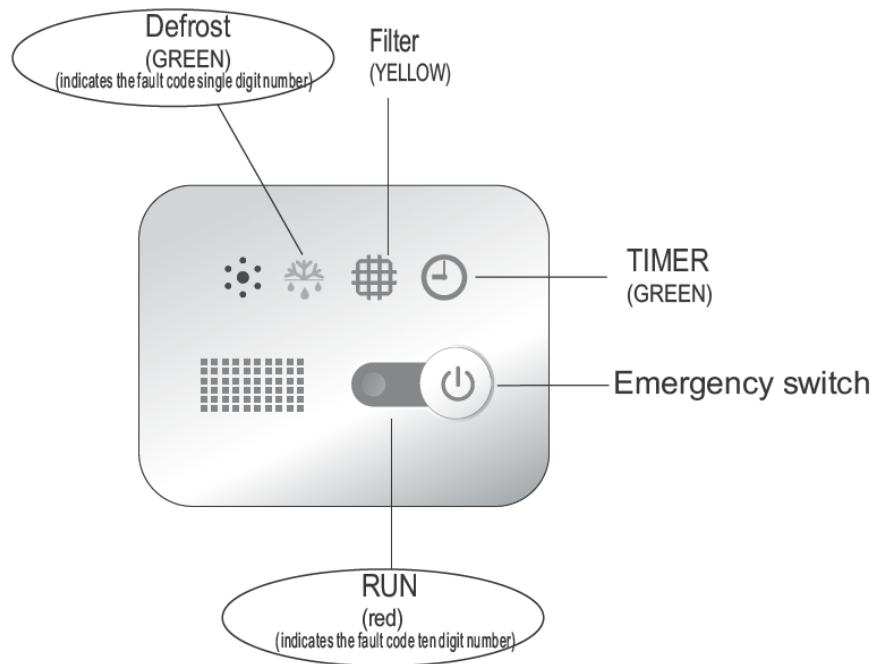
Lamp RUN(LED2 ,red) and Lamp DEFROST (LED5 ,green) flashing, Lamp RUN display fault code ten digit number, lamp DEFROST display fault code single digit number (as shown fig. below).

For example, fault code 36: led RUN & defrost flash 3 times at the same time, and led DEFROST continue flash 3 times, reports No. 36 fault.

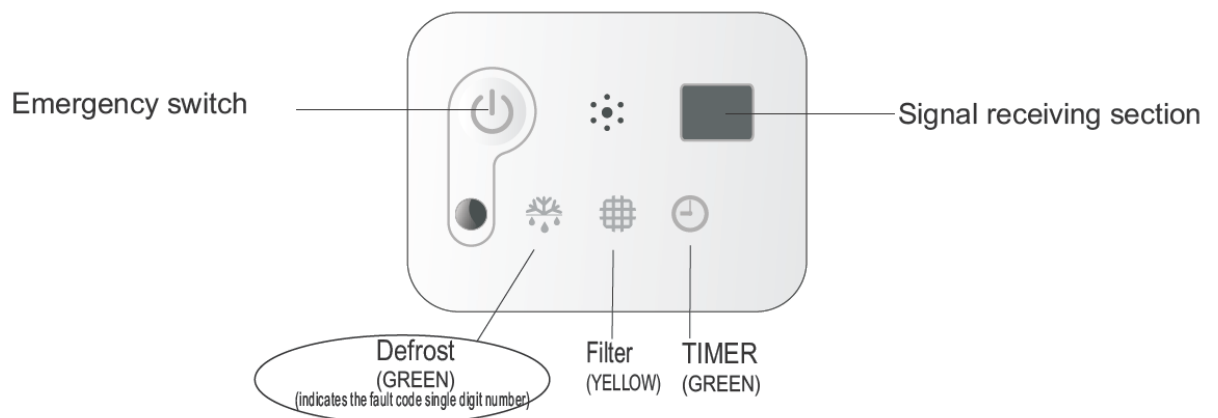
7. TROUBLE SHOOTING

CASSETTE TYPE

Display Panel-12K,18K



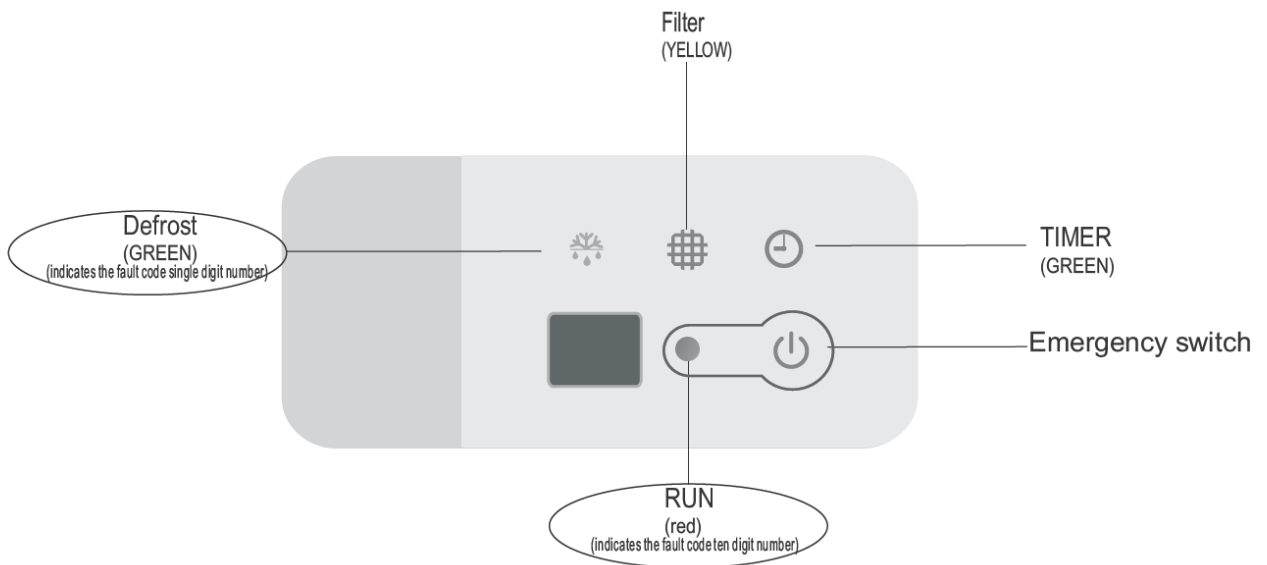
Display Panel-24K,36K,48K



7. TROUBLE SHOOTING

CEILING & FLOOR TYPE

Display Panel



LED FLASH CONTROL: flash 300mS(T1), off 300mS(T2), after 2000mS(T3) fault code repeat displays. (as shown below)

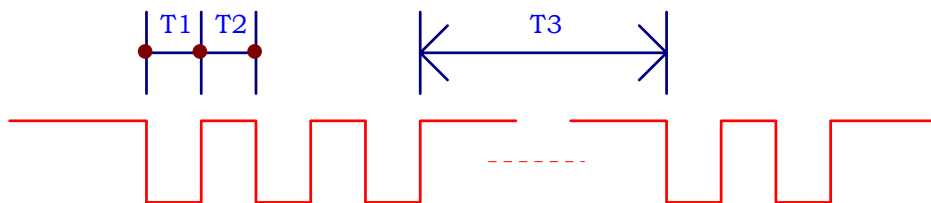
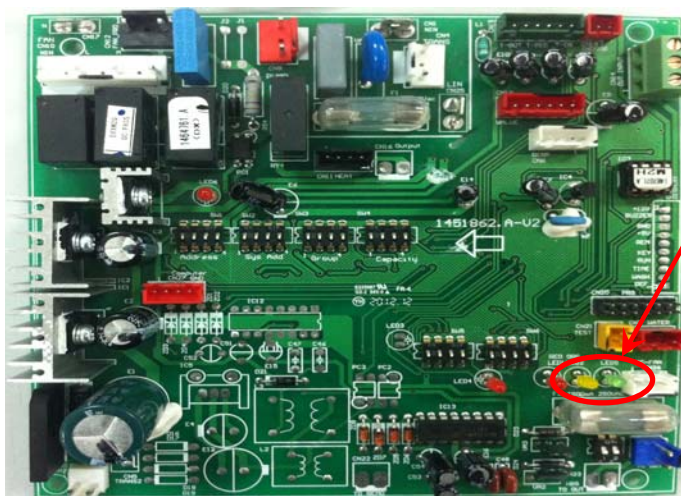


Fig.2 LED FLASH CONTROL

3.Duct type indoor units of VRF---FAULT CODE DISPLAY BY INDOOR BOARD



LED2 and LED5 are failure indicate lamps,
LED2 (RED) indicate fault code ten digit number, LED5 (GREEN) indicate single digit number code

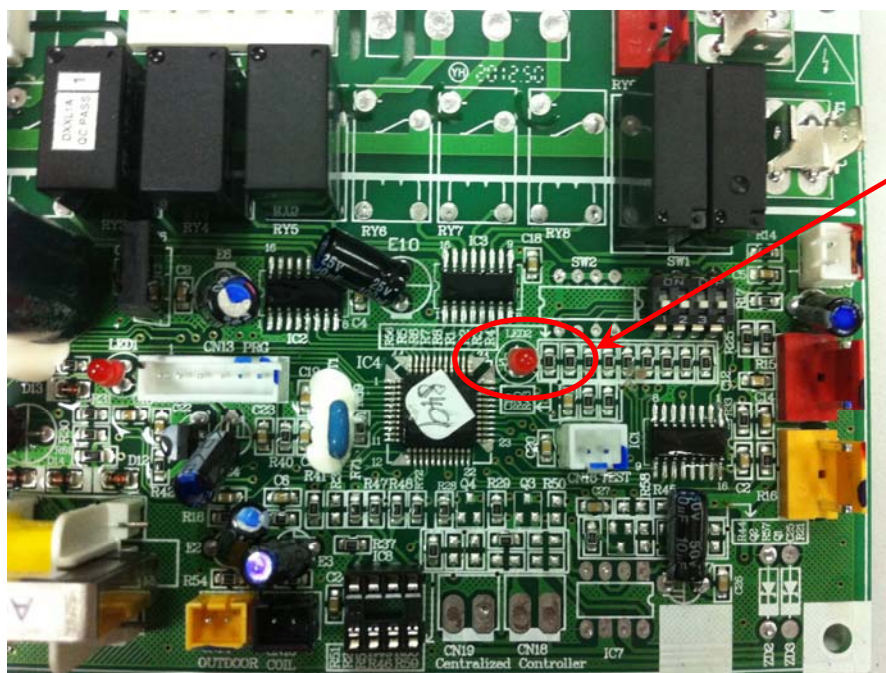
7. TROUBLE SHOOTING

2.OUTDOOR UNIT FAULT CODE DISPLAY

(1) ON/OFF UNITARY TYPE (with outdoor control box)

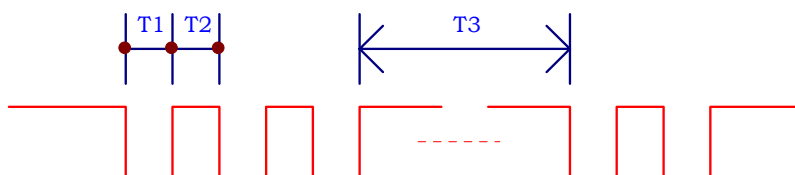
Fault code display by indicate lamps of outdoor control board flash.

The times that the lamp flashes equal to fault code.



LED FLASH CONTROL: flash 300mS(T1), off 300mS(T2), after 900mS(T3)fault code repeat displays.

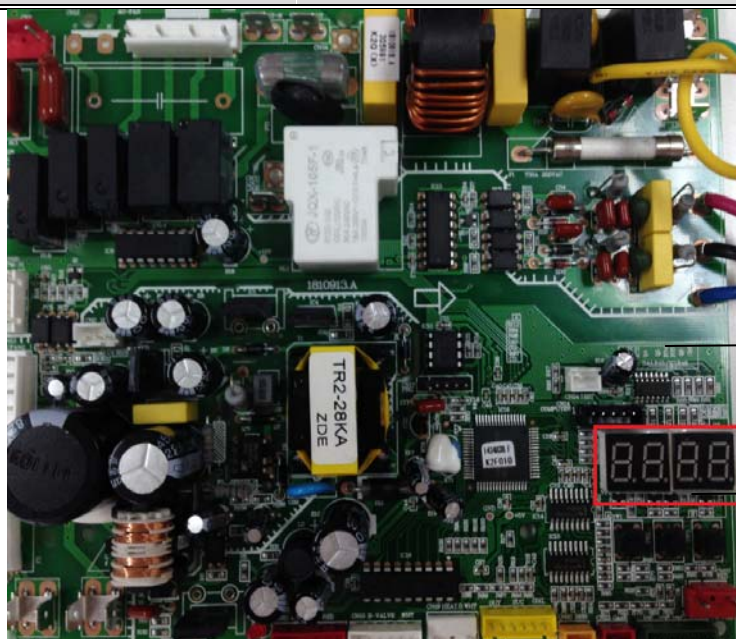
(as shown below)



(2) INVERTER UNITARY AIR CONDITONER , MULTI-SPLIT TYPE AIR CONDITONER&VRF:

Fault code will display on digital tube board.

7. TROUBLE SHOOTING



Outdoor Control Board

Digital Tube

FOR INVERTER UNITARY AIR CONDITONER&VRF



E shows failure occur

Display ERROR Code

* VRF:

Indoor unit can indicate both indoor failure and outdoor failure ,but outdoor only indicate outdoor's.

FOR MULTI-SPLIT TYPE

Error code display on digital tube board directly.

7. TROUBLE SHOOTING

3. Fault code display (Driver Board)

The lamp of driver board flash shows failure occur.

Or, fault code can be check on digital tube board .

7. TROUBLE SHOOTING

The following is the fault code table of outdoor.

sheet 1 Outdoor Error Code

Fault code	Fault Description	Possible Reason of Abnormality	How to Deal With	REMARKS
1	Outdoor ambient temperature sensor fault	1.The outdoor ambient temperature sensor connect loose; 2.The outdoor ambient temperature sensor is failure; 3.The sampling circuit is failure	1.Reconnect the outdoor ambient temperature sensor; 2.Replace the outdoor ambient temperature sensor components; 3.Replace the outdoor control board components.	
2	Outdoor coil temperature sensor fault	1.The outdoor ambient temperature sensor connect loose; 2.The outdoor ambient temperature sensor is failure; 3.The sampling circuit is failure	1.Reconnect the outdoor ambient temperature sensor; 2.Replace the outdoor ambient temperature sensor components; 3.Replace the outdoor control board components.	
3	The unit over-current turn off fault	1.Control board current sampling circuit is failure; 2.The current is over high because of the supply voltage is too low 3.The on-off compressor is blocked 4. Overload in cooling mode 5.Overload in heating mode	1. Replace the electrical control board components; 2. Normally protection 3. Replace the compressor 4. Please see the Note 3 5. Please see the Note 4	
4	EEPROM Data error	1.EE components is failure; 2.EE components control circuit failure; 3.EE components insert incorrect	1.Replace the EE components; 2.Replace the outdoor control board components; 3.Reassembly the EE components.	
5	Cooling freezing protection(the indoor coil temperature is too low) or heating overload(indoor coil temperature is too high)	1.The indoor unit can not blow air normally; 2.The room temperature is too low in cooling mode or the room temperature is too high in heating; 3.The filter is dirty; 4.The duct resistance of the duct 5.The setting fan speed is too low 6. The indoor unit has been installed without standard	1.Check the indoor fan, indoor fan motor and evaporator whether normally; 2. Normally protection 3.Clean the filter; 4.Check the volume control valve, duct length etc; 5.Set the speed with high speed; 6.Reinstall the indoor unit refer to the user manual to change the distance between the indoor unit and the wall or ceiling.	

7. TROUBLE SHOOTING

Fault code	Fault Description	Possible Reason of Abnormality	How to Deal With	REMARKS
6	Motor blockage protection	1.Outdoor ambient temperature sensor fault ; 2. Outdoor coil temperature sensor fault ; 3.Outdoor control board fault.	1.Replace outdoor ambient temperature sensor ; 2.Replace outdoor coil temperature sensor ; 3.Replace Outdoor control board.	Applied to ON/OFF air-conditioners with 2 control boards
7	The communication fault between the indoor unit and outdoor unit	1.The connection cable connect wrong between the indoor unit and outdoor unit; 2.The communication cable connect loose; 3.The communication cable is fault; 4.The indoor control board is fault; 5.The outdoor control board is fault; 6.Communication circuit fuse open; 7.The specification of communication cable is incorrect.	1.Reconnect the connection cable refer to the wiring diagram; 2.Reconnect the communication cable; 3.Replace the communication cable; 4.Replace the indoor control board; 5.Replace the outdoor control board; 6.Check the communication circuit, adjust the DIP switch and the short-circuit fuse. 7.Choose suitable communication cable refer to the user manual	
8	Phase current imbalance	1.The supply voltage fluctuates more than 4%; 2.The compressor power cord connect loose; 3.The AC contactor is fault; 4.The compressor motor fault.	1.Normally protection; 2.Reconnect the wire refer to the wiring diagram; 3.Replace the AC contactor; 4.Replace the compressor.	Application of three-phase power supply models
9	U phase current fault	1.Compressor U phase power cord is fault or connect wrong; 2.Outdoor control board is fault; 3.The Compressor is fault	1.Replace the U phase power cord or reconnect the U phase power cord refer to the wiring diagram; 2.Replace the outdoor control board; 3.Replace the compressor.	Application of three-phase power supply models
10	V phase current fault	1.Compressor V phase power cord is fault or connect wrong; 2.The outdoor control board is fault; 3.The compressor is fault	1.Replace the V phase power cord or reconnect the V phase power cord refer to the wiring diagram; 2.Replace the outdoor control board; 3.Replace the compressor.	Application of three-phase power supply models
11	phase wrong failure	1.Three-phase power is abnormal; 2.The outdoor wiring connect wrong; 3. The outdoor control board is failure	1.Normally protection, please check the supply power 2.Check the wiring connection refer to the wiring diagram;	Application of three-phase power

7. TROUBLE SHOOTING

Fault code	Fault Description	Possible Reason of Abnormality	How to Deal With	REMARKS
			3. Replace the outdoor control board	supply models
12	voltage absent phase	1. Three-phase power is abnormal; 2. The outdoor wiring connect wrong; 3. The outdoor control board is failure.	1. Normally protection 2. Check the wiring connection refer to the wiring diagram; 3. Replace the outdoor control board	Application of three-phase power supply models
13	Compressor overheat protector device	1. The wiring of the overload protector connect loose. 2. The overload protector is failure . 3. The refrigerant is not enough; 4. The installation pipe is too long than normal, but not add the enough refrigerant; 5. The expansion valve is failure; 6. The outdoor control board is failure	1. Reconnect the wiring of the overload protector; 2. Replace the overload protector; 3. Check the welding point of the unit to confirm whether it is leakage, and then recharge the refrigerant; 4. Add the refrigerant; 5. Replace expansion valve; 6. Replace the outdoor control board.	
14	the high pressure switch operate or the unit turn off for high pressure protection	1. The wiring of the high pressure protector connect loose; 2. The high pressure protector is failure; 3. The outdoor control board is abnormal; 4. Overload in cooling; 5. Overload in heating.	1. Reconnect the wiring the high pressure protector; 2. Replace the high pressure protector; 3. Replace the outdoor control board; 4. Please refer to the Note 3; 5. Please refer to the Note 4.	Applied to models with high pressure switch or pressure sensor
15	the low pressure switch protection or the unit turn off for low pressure protection	1. The low pressure switch is failure; 2. The wiring of the low pressure switch connect loose; 3. The refrigerant is not enough; 4. The expansion valve failure in heating mode; 5. The outdoor control board is abnormal.	1. Reconnect the wiring of the low pressure switch; 2. Replace the low pressure switch; 3. Check the welding point to confirm whether the unit is leakage, and then add some refrigerant; 4. Replace the expansion valve; 5. Replace the outdoor control board.	Applied to models with low pressure switch or pressure sensor
16	overload protection in cooling mode	System overload	Please refer to the Note 3.	
17	Discharge temperature sensor fault	1. The wiring of the discharge temperature sensor connect loose; 2. The discharge temperature sensor is failure; 3. The sampling circuit is abnormal.	1. Reconnect the wiring of the discharge temperature sensor; 2. Replace the discharge temperature sensor; 3. Replace the outdoor control board.	
18	AC voltage is abnormal	1. The AC voltage > 275V or < 160V. 2. The AC voltage of sampling circuit on the driver board is abnormally	1. Normally protection, please check the supply power; 2. Replace the driver board.	MUTI-SPLIT TYPE ONLY

7. TROUBLE SHOOTING

Fault code	Fault Description	Possible Reason of Abnormality	How to Deal With	REMARKS
19	Suction temperature sensor fault	1.The wiring of the suction temperature sensor connect loose; 2. The suction temperature sensor is failure; 3. The sampling circuit is abnormally	1.Reconnect the wiring of the suction temperature sensor; 2.Replace the suction temperature sensor; 3.Replace the outdoor control board.	
20	The temperature sensor for the inlet tube of the condenser fault	1.The wiring of the temperature sensor for the inlet tube connect loose; 2.The temperature sensor for the inlet tube is failure; 3.The sampling circuit is abnormally	1.Reconnect the wiring of the temperature sensor for the inlet tube of the condenser; 2.Replace the temperature sensor for the inlet tube of the condenser; 3.Replace the outdoor control board.	
21	The outlet tube of the condenser temperature sensor fault	1.The wiring of the temperature sensor for the outlet tube connect loose; 2.The temperature sensor for the outlet tube is failure; 3.The sampling circuit is abnormally	1. Reconnect the wiring of the temperature sensor for the outlet tube of the condenser. 2.Replace the temperature sensor for the outlet tube of the condenser; 3.Replace the outdoor control board.	
22	The defrosting sensor fault	1.The wiring of the defrosting sensor connect loose; 2.The defrosting sensor is failure; 3.The sampling circuit is abnormally	1. Reconnect the wiring of the defrosting sensor; 2. Replace the defrosting sensor; 3. Replace the outdoor control board.	
23	Expansion valve A tube(thin) sensor fault	1. The wiring of the sensor for the expansion valve A(thin tube) connect loose; 2.The sensor for the expansion A(thin tube) is failure; 3. The sampling circuit is abnormally	1. Reconnect the wiring of the sensor for the expansion valve A(thin tube); 2. Replace the sensor for the expansion valve A(thin tube); 3. Replace the outdoor control board.	FOR MUTI-SPLIT &Inverter unitary types
24	Expansion valve B (thin)tube sensor fault	1. The wiring of the sensor for the expansion valve B (thin tube) connect loose; 2.The sensor for the expansion valve B(thin tube) is failure; 3.The sampling circuit is abnormally	1.Reconnect the wiring of the sensor for the expansion valve B(thin tube); 2.Replace the sensor for the expansion valve B(thin tube); 3. Replace the outdoor control board.	FOR MUTI-SPLIT outdoor
25	Expansion valve C (thin)tube sensor fault	1. The wiring of the sensor for the expansion valve C(thin tube) connect loose; 2.The sensor of the expansion valve C (thin tube) is failure; 3.The sampling circuit is abnormally	1. Reconnect the wiring of the sensor for the expansion valve C(thin tube); 2. Replace the sensor for the expansion valve C(thin tube); 3. Replace the outdoor control board.	FOR MUTI-SPLIT outdoor
26	Expansion valve D (thin)tube sensor fault	1.The wiring of the sensor for the expansion valve D(thin tube) connect loose; 2.The sensor of the expansion valve D (thin tube) is failure; 3.The sampling circuit is abnormally	1. Reconnect the wiring of the sensor for the expansion valve D(thin tube); 2. Replace the sensor for the expansion valve D(thin tube); 3. Replace the outdoor control board.	FOR MUTI-SPLIT outdoor
27	Expansion valve A (thick tube) sensor fault	1. The wiring of the sensor for the expansion valve A(thick tube) connect loose;	1. Reconnect the wiring of the sensor for the expansion valve A(thick tube);	FOR MUTI-SPLIT

7. TROUBLE SHOOTING

Fault code	Fault Description	Possible Reason of Abnormality	How to Deal With	REMARKS
		2.The sensor of the expansion valve A (thick tube) is failure; 3.The sampling circuit is abnormally	2. Replace the sensor for the expansion valve A(thick tube); 3. Replace the outdoor control board.	&inverter unitary types
28	Expansion valve B (thick tube) sensor fault	1. The wiring of the sensor for the expansion valve B(thick tube) connect loose; 2.The sensor of the expansion valve B (thick tube) is failure; 3. The sampling circuit is abnormally	1. Reconnect the wiring of the sensor for the expansion valve B(thick tube); 2. Replace the sensor for the expansion valve B(thick tube); 3. Replace the outdoor control board.	FOR MUTI-SPLIT outdoor
29	Expansion valve C (thick tube) sensor fault	1. The wiring of the sensor for the expansion valve B(thick tube) connect loose; 2.The sensor of the expansion valve C (thick tube) is failure; 3. The sampling circuit is abnormally	1. Reconnect the wiring of the sensor for the expansion valve B(thick tube); 2. Replace the sensor for the expansion valve C(thick tube); 3. Replace the outdoor control board.	FOR MUTI-SPLIT outdoor
30	Expansion valve D (thick tube) sensor fault	1. The wiring of the sensor for the expansion valve B(thick tube) connect loose; 2.The sensor of the expansion valve D (thick tube) is failure; 3. The sampling circuit is abnormally	1. Reconnect the wiring of the sensor for the expansion valve B(thick tube); 2. Replace the sensor for the expansion valve D(thick tube); 3. Replace the outdoor control board.	FOR MUTI-SPLIT outdoor
31	The discharge pressure is too high	1. Overload in cooling; 2. Overload in heating	1. Overload in cooling; 2. Overload in heating	VRF outdoor
32	The suction pressure is too low fault	1.The refrigerate is not enough for the unit; 2.The expansion valve is failure in heating mode; 3.The outdoor ambient temperature is too low in heating mode	1.Check the welding point to confirm whether it exist the leakage point, and then add some refrigerate; 2. Replace the expansion valve; 3.The unit should operate within allowable temperature range.	VRF outdoor
40	high pressure and low pressure imbalance before compressor start	1.The wiring of the high/low pressure sensor connect loose; 2.The wiring of the bypass valve connect loose; 3. High/low pressure sensor is failure; 4.Bypass coil is failure. 5.Bypass valve is failure. 6.The capillary that connect with bypass valve blockage 7.The outdoor control board is fault;	1.Reconnect the wiring of high/low pressure sensor . 2..Reconnect the wiring of the bypass valve ; 3.Replace pressure sensor. 4.Replace bypass valve coil. 5.Replace bypass coil. 6.Check whether blockage occur. 7.Replace outdoor control board.	VRF outdoor
42	the voltage sensor fault	1.The wiring of the voltage sensor connect wrong or loose; 2. The voltage sensor is failure; 3. The sampling circuit of the voltage sensor is failure.	1. Reconnect the wiring of the current sensor; 2. Replace the voltage sensor; 3. Replace the outdoor control board.	
43	High Pressure sensor fault	1.The wiring of the high-pressure pressure sensor connect loose;	1.Reconnect the wiring of the high-pressure pressure sensor;	VRF

7. TROUBLE SHOOTING

Fault code	Fault Description	Possible Reason of Abnormality	How to Deal With	REMARKS
		2.The high-pressure pressure sensor is failure 3.The sampling circuit of the high-pressure pressure sensor is failure	2.Replace the high-pressure pressure sensor; 3.Replace the outdoor control board.	
44	Low Pressure sensor fault	1.The wiring of the low-pressure pressure sensor connect loose; 2.The low-pressure pressure sensor is failure 3.The sampling circuit of the low-pressure pressure sensor is failure.	1.Reconnect the wiring of the low-pressure pressure sensor; 2.Replace the low-pressure pressure sensor; 3.Replace the outdoor control board.	
45	IPM fault	There are many reasons for this failure, If you need further analysis, fault code of the driver board is needed by watching the driver board fault led. Analysis can be further to know why and how to operate. Specific see table 5, table 6.	See attached "analysis of the driving board fault".	Applied for INVERTER type
46	IPM and control board communication fault	1.The cable between the control board and the driver board connect loose; 2.The cable between the control board and the driver board is failure; 3.The driver board is failure 4.The control board is failure	1.Reconnect the cable between the control board and the driver board; 2.Replace the communication cable between the control board and the driver board; 3.Replace the driver board; 4.Replace the control board.	Applied for Inverter Unitary type&Free-Match
46-1	IPM and control board communication fault	1.The cable between the control board and the driver board connect loose; 2.The cable between the control board and the driver board is failure; 3.The driver board is failure 4.The control board is failure	1.Reconnect the cable between the control board and the driver board; 2.Replace the communication cable between the control board and the driver board; 3.Replace the driver board; 4.Replace the control board.	Applied for VRF
46-2	Replenish gas board and control board communication fault	1.The cable between the control board and replenish gas board connect loose; 2.The cable between the control board and replenish gas board is failure; 3.The replenish gas board is failure 4.The control board is failure	1.Reconnect the cable between the control board and the replenish gas board; 2.Replace the communication cable between the control board and the replenish gas board; 3.Replace the replenish gas board ; 4.Replace the control board.	Applied for VRF
47	Discharge temperature too high fault	1. The refrigerant of the unit is not enough; 2.The refrigerant of the unit is not enough due to add the length of the installation pipe 3.Throttling service is failure; 4.The outdoor ambient temperature is too high	1.Check the welding point to confirm whether the unit has exist leakage point, and then add some refrigerant. 2.Add some refrigerant refer to the installation user manual; 3.Replace the throttling service(such	

7. TROUBLE SHOOTING

Fault code	Fault Description	Possible Reason of Abnormality	How to Deal With	REMARKS
			as capillary, expansion valve) 4. Normally protection.	
48	the outdoor DC fan motor fault (upper fan motor)	1.The wiring of the up DC fan motor connect loose; 2. The cord of the up DC fan motor is failure; 3.The up DC fan motor is failure; 4. The drive circuit of the up DC fan motor is failure; 5. The outdoor fan has been blocked.	1.Reconnect the wiring of the up DC fan motor; 2.Replace the up DC fan motor; 3. Replace the up DC fan motor; 4.Replace the driver board of the fan motor; 5. Check the outdoor fan and ensure the outdoor fan can run normally.	
48-1	the outdoor upper DC fan motor Locked rotor fault	1.The fan motor motor rotation blockage; 2. The fan motor is failure; 3.The outdoor control board is failure; 4. The driver board is failure;	1. Remove the fan motor locked-rotor sundry, recover motor operating conditions; 2. Replace the upper DC fan motor; 3. Replace the outdoor control board ; 4 .Replace the driver board .	VRF
48-2	the outdoor upper DC fan motor stall fault	1. The fan motor is failure; 2.The outdoor control board is failure; 3. The driver board is failure;	1. Replace the upper fan motor; 2. Replace the outdoor control board ; 3 .Replace the driver board .	VRF
49	the outdoor DC fan motor fault (down fan motor)	1.The wiring of the down DC fan motor connect loose; 2.The cord of the down DC fan motor is failure; 3. The down DC fan motor is failure; 4. The drive circuit of the down DCfan motor is failure; 5. The outdoor fan has been blocked.	1. Reconnect the wiring of the down DC fan motor; 2. Replace the down DC fan motor; 3.Replace the down DC fan motor; 4.Replace the driver board of the fan motor; 5. Check the outdoor fan and ensurethe outdoor fan can run normally.	
49-1	the outdoor lower DC fan motor Locked rotor fault	1.The fan motor motor rotation blockage; 2. The fan motor is failure; 3.The outdoor control board is failure; 4. The driver board is failure;	1. Remove the fan motor locked-rotor sundry, recover motor operating conditions; 2. Replace the lower DC fan motor; 3. Replace the outdoor control board ; 4 .Replace the driver board .	VRF
49-2	he outdoor lower DC fan motor stall fault	1. The fan motor is failure; 2.The outdoor control board is failure; 3. The driver board is failure;	1. Replace the lower fan motor; 2. Replace the outdoor control board ; 3 .Replace the driver board .	VRF

7. TROUBLE SHOOTING

Fault code	Fault Description	Possible Reason of Abnormality	How to Deal With	REMARKS
50	Expansion valve E temperature sensor fault	1. The wiring of the sensor connect loose; 2. The sensor of the expansion valve E is failure; 3. The sampling circuit is abnormally	1. Reconnect the wiring of the sensor; 2. Replace the sensor for the expansion valve E; 3. Replace the outdoor control board.	FOR Branch Box
63	Current sensor fault	1. The wiring of the current sensor connect loose; 2. The current sensor is failure; 3. The sampling circuit is abnormally	1. Reconnect the wiring of the sensor; 2. Replace the current sensor; 3. Replace the outdoor control board.	Application of three-phase power supply ON/OFF unitary models
66	Radiator temperature sensor fault	1. The sensor connect is loose; 2. The current sensor is failure; 3. The sampling circuit is abnormally	1. Reconnect the wiring ; 2. Replace the temperature sensor; 3. Replace the outdoor control board.	
67	Radiator temperature protect			
91	The unit turn off due to the IPM board over heating fault	1. The outdoor ambient is too high; 2. The speed of the out fan motor is too low if the fan motor is AC fan motor; 3. The outdoor unit has been installed without standard; 4. The supply power is too low.	1. Normally protection; 2. Check the fan capacitor, and replace the fan capacitor if it is failure; 3. Reinstalled the outdoor unit refer to the installation user manual; 4. Normally protection.	
92	the ratio of the discharge pressure than the suction pressure is too large	1. The filter of the expansion valve is dirty; 2. The difference between the indoor room temperature and the outdoor ambient temperature is too large; 3. The refrigerant of the unit is not enough; 4. The expansion is failure or the capillary is failure 5. The outdoor ambient temperature is too low in heating mode	1. Replace the expansion valve; 2. Normally protection; 3. Check the welding point of the unit to confirm whether it exist leakage point, and then add some refrigerant; 4. Replace the expansion valve or the capillary; 5. Please let the unit operates within the allowable temperature range.	VRF
93-1	The quantity of the indoor unit is more than the set.	1. Indoor unit quantity set is incorrect ; 2. New indoor unit is added in the system.	Reset the number of the indoor units.	VRF
93-2	The quantity of the indoor unit is less than the set.	1. Not all of the indoor unit s are power on; 2. The set quantity of the indoor unit is incorrect; 3. Add or remove some indoor units	1. Put all the indoor units power on; 2. Reset the quantity of the indoor units; 3. Reset the quantity of the indoor units	VRF
94	outdoor address conflict	1. Put all the indoor units power on; 2. Reset the quantity of the indoor units; 3. Reset the quantity of the indoor units	Change the setting address of the outdoor unit	VRF
95	the refrigerant of the unit is excessive fault	The refrigerant of the unit is excessive	Discharge the refrigerant and charge the refrigerant refer to the rating label	VRF

7. TROUBLE SHOOTING

Fault code	Fault Description	Possible Reason of Abnormality	How to Deal With	REMARKS
96	the refrigerant of the unit is not enough fault	The refrigerant of the unit is not enough	Discharge the refrigerant and charge the refrigerant refer to the rating label	VRF
97	4-way valve commutation failure fault	1.The wiring of the 4-way valve coil connect loose; 2.The 4-way valve coil is failure; 3.The 4-way valve is failure; 4.The driver board of the 4-way valve is failure	1. Reconnect the wiring of the 4-way valve; 2. Replace the 4-way valve coil; 3. Replace the 4-way valve; 4.Replace the driver board of the 4-way valve.	FOR VRF&inverter unitary types

7. TROUBLE SHOOTING

The following is the fault code table of indoor.

Sheet 2 Indoor Error Code List

Fault code	Fault Description	Possible Reason of Abnormality	How to Deal With	REMARKS
31	The buttons of the front panel AD fault	<ol style="list-style-type: none"> 1. The buttons are failure; 2. The cable of the display board is failure; 3. The display board is failure; 4. The indoor control board is failure. 	<ol style="list-style-type: none"> 1. Replace the display board; 2. Replace the cable of the display board; 3. Replace the display board; 4. Replace the indoor control board. 	Only for MUTI-SPLIT
32	The front panel fault is not in place	<ol style="list-style-type: none"> 1. The front panel has been blocked; 2. The connection cable of the switch and the motor connect loose; 3. The switch is failure; 4. The motor of the front panel is failure; 5. The indoor control board is failure. 	<ol style="list-style-type: none"> 1. Reassembly the front panel; 2. Reconnect the cable of the switch and panel motor. 3. Replace the switch; 4. Replace the motor of the front panel; 5. Replace the indoor control board. 	Only for MUTI-SPLIT
33	Room temperature sensor fault	<ol style="list-style-type: none"> 1. The cable of the indoor room temperature sensor connect loose; 2. The indoor room temperature sensor is failure; 3. The sampling circuit is abnormal. 	<ol style="list-style-type: none"> 1. Reconnect the cable of the indoor room temperature sensor; 2. Replace the indoor room temperature sensor; 3. Replace the indoor control board. 	Only for MUTI-SPLIT
34	Coil temperature sensor fault	<ol style="list-style-type: none"> 1. The cable of the indoor coil temperature sensor connect loose; 2. The indoor coil temperature sensor is failure; 3. The sampling circuit is abnormal. 	<ol style="list-style-type: none"> 1. Reconnect the cable of the indoor room temperature sensor; 2. Replace the indoor room temperature sensor; 3. Replace the indoor control board. 	Only for MUTI-SPLIT
35	Panel drive fault (two upper and lower panel position detection switch is not in accordance with the reservation timing action)	<ol style="list-style-type: none"> 1. The front panel has been blocked; 2. The connection cable of the switch and the motor connect loose; 3. The switch is failure; 4. The motor of the front panel is failure; 5. The indoor control board is failure. 	<ol style="list-style-type: none"> 1. Reassembly the front panel; 2. Reconnect the cable of the switch and panel motor. 3. Replace the switch; 4. Replace the motor of the front panel; 5. Replace the indoor control board. 	Only for MUTI-SPLIT

7. TROUBLE SHOOTING

Fault code	Fault Description	Possible Reason of Abnormality	How to Deal With	REMARKS
36	Communication between Indoor and outdoor fault	1. The connection cable between the indoor unit and the outdoor unit connect wrong; 2. The communication cable between the indoor unit and the outdoor unit connect loose or the cable between the indoor control board to terminal connect loose or the cable between the outdoor control board to the terminal connect loose; 3. The indoor control board is failure; 4. The outdoor control board is failure;	1. Reconnect the connection cable refer to the indoor and outdoor wiring diagram; 2. Reconnect the communication cable refer to the indoor and outdoor wiring diagram; 3. Replace the communication cable refer to the indoor and outdoor wiring diagram; 4. Replace the indoor control board; 5. Replace the outdoor control board.	Only for MUTI-SPLIT
37	Humidity sensor failure	1. The cable of the humidity sensor connect loose; 2. The humidity sensor is failure; 3. The indoor control board is failure.	1. Reconnect the cable of the humidity sensor; 2. Replace the humidity sensor; 3. Replace the indoor control board.	Only for MUTI-SPLIT
38	EEPROM Data error	1. EE components is failure; 2. The EE control circuit of the control board is failure; 3. The EE components has been inserted with opposite direction.	1. Replace the EE components; 2. Replace the control board; 3. Reinsert the EE components.	Only for MUTI-SPLIT
39	The indoor DC fan motor fault	1. The cable of the DC fan motor connect loose; 2. The indoor control board is failure; 3. The indoor fan motor is failure.	1. The cable of the DC fan motor connect loose; 2. The indoor control board is failure; 3. The indoor fan motor is failure.	Only for MUTI-SPLIT
40	The grill protection	1. The grill has not been installed in right place; 2. The protection switch is failure; 3. The indoor control board is failure.	1. Adjust the grill and put it in right place; 2. Replace the switch components; 3. Replace the indoor control board.	Only for MUTI-SPLIT
41	Zero check fault	Control board is failure.	Replace the indoor control board.	PG motor

7. TROUBLE SHOOTING

Fault code	Fault Description	Possible Reason of Abnormality	How to Deal With	REMARKS
51	Drainage protection	<ol style="list-style-type: none"> 1. The water level of the drain pan exceed safe level; 2. The cable of the water level switch connect loose; 3. The water level switch is failure; 4. The control board is failure. 	<ol style="list-style-type: none"> 1. Check whether there are something to block the drain hose or the height of the drain hose is too high; 1.2 Check the water pump and replace the water pump if the water pump is failure; 2. Reconnect the cable of the water level switch refer to the wiring diagram; 3. Replace the water level switch; 4. Replace the control board. 	
52	The grill protection	<ol style="list-style-type: none"> 1. The grill has not been installed in right place; 2. The protection switch is failure; 3. The control board is failure. 	<ol style="list-style-type: none"> 1. Adjust the grill and put it in right place; 2. Replace the switch components; 3. Replace the indoor control board. 	
53	The upper panel is not in place to protection	<ol style="list-style-type: none"> 1. The front panel has been blocked; 2. The cable of the switch and the motor connect loose; 3. The switch is failure; 4. The panel motor is failure; 5. The indoor control board is failure. 	<ol style="list-style-type: none"> 1. Reassembly the front panel; 2. Reconnect the cable of the switch and the panel motor; 3. Replace the switch components; 4. Replace the panel motor; 5. Replace the indoor control board. 	
54	The lower panel is not in place to protection	<ol style="list-style-type: none"> 1. The front panel has been blocked; 2. The cable of the switch and the motor connect loose; 3. The switch is failure; 4. The panel motor is failure; 5. The indoor control board is failure. 	<ol style="list-style-type: none"> 1. Reassembly the front panel; 2. Reconnect the cable of the switch and the panel motor; 3. Replace the switch components; 4. Replace the panel motor; 5. Replace the indoor control board. 	
55	Mode Conflict Fault	The user set the conflicting mode for more than two indoor units	Reset the operate mode for the indoor unit, for the one outdoor unit, the user should avoid to set the conflicting operate mode with the indoor units	ONLY FOR MULTI-SPLIT & VRF TYPES
56	Water tank water temperature sensor 1 fault	<ol style="list-style-type: none"> 1. The cable of the water tank water temperature sensor 1 connect loose; 2. The cable of the water tank water temperature sensor 1 circuit is abnormal; 3. The cable of the water tank water temperature sensor 1 is failure. 	<ol style="list-style-type: none"> 1. Reconnect the cable of the water temperature sensor 1; 2. Change the cable . 3. Replace the water temperature sensor 1 . 4. Replace indoor control board . 	Only for heat pump water heater

7. TROUBLE SHOOTING

Fault code	Fault Description	Possible Reason of Abnormality	How to Deal With	REMARKS
		4.Indoor control board is failure.		
57	Water tank water temperature sensor 2fault	1. The cable of the water tank water temperature sensor 2 connect loose; 2. The cable of the water tank water temperature sensor 2 circuit is abnormal; 3. The cable of the water tank water temperature sensor 2 is failure. 4.Indoor control board is failure.	1. Reconnect the cable of the water temperature sensor 2; 2. Change the cable . 3. Replace the water temperature sensor 2 . 4.Repalce indoor control board .	Only for heat pump water heater
58	Coil temperature sensor (liquid tube)fault	1.The coil temperature sensor (liquid tube)connect loose; 2.The coil temperature sensor(liquid tube) is failure; 3.The control board is failure	1.Reconnect the coil temperature sensor; 2.Replace the coil temperature sensor components; 3.Replace the control board components.	Only for heat pump water heater
59	Liquid tube temperature protect	1.The resistance of temperature sensor is abnormal. 2.Control board circuit is abnormal. 3.Water temperature in tank is too high(over 70°C) ; 4.No water in tank.	1.Change temperature sensor. 2.Change Control board . 3.Normally protection,should lower water temperature ; 4.Open fill pump to supply water;Check whether there is leakage occur.	Only for heat pump water heater
60	water shortage protect	1.Water shortage in tank; 2.Water temperature sensor in tank is abnormal. 3.Control board is abnormal.	1.Open fill pump to supply water;Check whether there is leakage occur. 2.Change temperature sensor. 3.Change Control board .	Only for heat pump water heater
61	Indoor address repeat fault	Two or more two indoor units has set with the same address	Reset the address of the indoor unit and it should avoid the address repeat.	For VRF
62	Remote address repeat fault	When the same indoor unit with more than one wiring controller, a number of the address of the wiring controller is same	Reset the address of the wiring controller and avoid the address of the wiring controller repeat.	For VRF
64	Communication between Indoor & Outdoor unit Fault	1. The connection cable between the indoor unit and the outdoor unit connect wrong; 2.The communication cableconnect loose; 3.The communication cable between the	1. Reconnect the connection cable refer to the indoor and outdoor wiring diagram; 2. Reconnect the communication cable refer to the indoor and outdoor wiring diagram; 3. Replace the communication cable refer to the indoor and outdoor	

7. TROUBLE SHOOTING

Fault code	Fault Description	Possible Reason of Abnormality	How to Deal With	REMARKS
		indoor unit and the outdoor unit is failure or the cable between the indoor control board to terminal is failure or the cable between the outdoor control board to the terminal is failure; 4. The indoor control board is failure; 5. The outdoor control board is failure.	wiring diagram; 4. Replace the indoor control board; 5. Replace the outdoor control board.	
65	The indoor unit can not receive the sign of the wiring controller	1.The cable of the wiring controller connect loose; 2.The cable of the wiring controller is failure; 3.The wiring controller is failure; 4. The indoor control board is failure.	1.Reconnect the cable of the wiring controller; 2. Replace the cable of the wiring controller; 3. Replace the wiring controller; 4. Replace the indoor control board.	
72	Indoor fan motor fault	1. The cable of the indoor fan motor connect loose; 2. The cable of the indoor fan motor is failure; 3.The indoor fan motor is failure; 4. The indoor control board is failure	1. Reconnect the cable of the fan motor; 2. Replace the cable of the fan motor; 3. Replace the fan motor; 4. Replace the indoor control board; 5. Check the indoor fan and ensure the indoor fan can run normally.	
73	Indoor EEPROM Data 1 fault	1.Indoor EE components is failure; 2.The control circuit of the EE components is failure; 3.The EE components has been inserted with opposite direction	1. Replace the EE components; 2. Replace the indoor control board; 3. Reassembly the EE components of the indoor control board	
74	IndoorEEPROM Data 2 error	EE in MCU is failure,the unit can run ,but the function user has set is eneffective.	Replace EE data in MCU.	
80	Panel key fault	1. The button is failure; 2. The cable of the display board is failure; 3. The display board is failure; 4. The indoor control board is failure	1. Replace the display board; 2. Replace the cable of the display board; 3. Replace the display board; 4. Replace the indoor control board.	

7. TROUBLE SHOOTING

Fault code	Fault Description	Possible Reason of Abnormality	How to Deal With	REMARKS
81	Indoor ambient Temperature Sensor Fault	1. The cable of the room temperature sensor connect loose; 2. The room temperature sensor is failure; 3. The sampling circuit is abnormally	1.Reconnect the cable of the room temperature sensor; 2. Replace the room temperature sensor; 3. Replace the indoor control board.	
82	Evaporator Inlet Temperature Sensor Fault	1.The cable of the coil temperature sensor of the evaporator is failure; 2. The coil temperature sensor of the evaporator is failure; 3. The sampling circuit is abnormally	1.The cable of the coil temperature sensor of the evaporator is failure; 2. The coil temperature sensor of the evaporator is failure; 3. The sampling circuit is abnormally	
83	Evaporator Middle Temperature Sensor Fault	1.The cable of the coil temperature sensor of the evaporator is failure; 2. The coil temperature sensor of the evaporator is failure; 3. The sampling circuit is abnormally	1. Reconnect the cable of the coil temperature sensor of the evaporator; 2. Replace the coil temperature sensor of the evaporator; 3. Replace the indoor control board.	
84	Evaporator outlet Temperature Sensor Fault	1.The cable of the coil temperature sensor of the evaporator is failure; 2. The coil temperature sensor of the evaporator is failure; 3. The sampling circuit is abnormally	1. Reconnect the cable of the coil temperature sensor of the evaporator; 2. Replace the coil temperature sensor of the evaporator; 3. Replace the indoor control board.	
85	Wiring Remote Controller Sensor Fault	1. The temperature sensor of the wiring controller is failure; 2. The sampling circuit of the wiring controller is failure	1. Replace the wiring controller; 2. Replace the wiring controller	
86	Air outlet temperature sensor fault	1. The cable of the temperature sensor of the air outlet connect loose; 2. The temperature sensor of the air outlet is failure; 3. The sampling circuit is abnormally	1.Reconnect the cable of the temperature sensor of the air outlet; 2. Replace the temperature sensor of the air outlet; 3. Replace the indoor control board.	
87	The inlet of water side entrance temperature sensor fault	1. The cable of the temperature sensor of the inlet of water side is failure; 2. The temperature sensor of the inlet of water side is failure; 3.The sampling circuit is abnormally	1. Reconnect the cable of the temperature sensor of the inlet of water side; 2. Replace the temperature sensor of the inlet of water side; 3. Replace the indoor control board.	

7. TROUBLE SHOOTING

Fault code	Fault Description	Possible Reason of Abnormality	How to Deal With	REMARKS
88	The outlet of water side entrance temperature sensor fault	1. The cable of the temperature sensor of the outlet of water side is failure; 2. The temperature sensor of the outlet of water side is failure; 3.The sampling circuit is abnormally	1. Reconnect the cable of the temperature sensor of the outlet of water side; 2. Replace the temperature sensor of the outlet of water side; 3. Replace the indoor control board.	
89	Humidity sensor failure	1.The humidity sensor is failure; 2. The indoor control board is abnormally	1. Replace the humidity sensor components; 2. Replace the indoor control board.	
98	Water module DIP switch function select fault	1.DIP switch select failure; 2.DIP is abnormal; 3.Control board is abnormal.	1.Repalce DIP switch; 2.Change DIP switch; 3.Change control board.	
F0(240)	Wire remote controller EEPROM failure	1.EE of wire remote controller is abnormal; 2.Wire remote controller control board is abnormal.	Change wire remote controller .	
F1(241)	Wire remote controller temperature sensor failure	1.Temperature sensor of wire remote controller is abnormal; 2.Wire remote controller control board is abnormal.	Change wire remote controller .	
F2(242)	Wire remote controller clock IC failure	Wire remote controller control board is abnormal.	Change wire remote controller .	
F3(243)	Wire remote controller humidity sensor failure	1.Temperature /humidity sensor of wire remote controller is abnormal; 2.Wire remote controller control board is abnormal.	Change wire remote controller .	
FE(254)	Communication between main control board &Wiring remote controller Fault (display on wiring remote controller)	1. The wiring between the wiring controller to the indoor control board connect loose; 2. The sequence of the wiring between the wiring controller to the indoor control board is wrong; 3. The wiring between the wiring controller to the indoor control board is failure; 4.The wiring controller is failure; 5. The indoor control board is abnormally	1.Reconnect the wiring between the wiring controller to the indoor control board; 2.Replace the wiring between the wiring controller to the indoor control board; 3.Replace the wiring between the wiring controller to the indoor control board; 4. Replace the wiring controller; 5. Replace the indoor control board	

7. TROUBLE SHOOTING

Fault code	Fault Description	Possible Reason of Abnormality	How to Deal With	REMARKS
ER	Communication between main control board & display board Fault (displays on display board)	1.The wiring between the display board to the indoor control board connect loose; 2.The sequence of the wiring between the display board to the indoor control board is wrong; 3.The wiring between the display board to the indoor control board is failure; 4. The display board is failure; 5. The indoor control board is failure.	1. Reconnect the between the display board to the indoor control board; 2. Replace the wiring between the display board to the indoor control board; 3. Replace the wiring between the display board to the indoor control board; 4. Replace the display board; 5. Replace the indoor control board.	

NOTE 1:

If the indoor unit can not turn on or the indoor unit turn off itself after 30s, at the same time the unit do not display the error code, please check the fire and the socket of the control board.

Note 2:

If the indoor unit display the 75,76,77,78 error code after you turn on the unit, please check the TEST seat of the indoor control board or the TEST detection circuit whether exists short circuit.

Note 3:Overload in cooling mode

overload in cooling mode		
sr.	The root cause	Corrective measure
1	The refrigerant is excessive	Discharge the refrigerant, and recharge the refrigerant refer to the rating label
2	The outdoor ambient temperature is too high	Please use within allowable temperature range
3	The air outlet and air inlet of the outdoor unit is short-circuit	Adjust the installation of the outdoor unit refer to the user manual
4	The outdoor heat exchanger is dirty, such as condenser	Clean the heat exchanger of the outdoor unit, such as condenser
5	The speed of the outdoor fan motor is too low	Check the outdoor fan motor and fan capacitor
6	The outdoor fan is broken or the outdoor fan is blocked	Check the outdoor fan
7	The air inlet and outlet has been blocked	Remove the blocked thing

7. TROUBLE SHOOTING

8	The expansion valve or the capillary is failure	Replace the expansion valve or the capillary
---	---	--

Note 4:Over load in heating mode

Overload in heating mode		
sr.	The root cause	Corrective measure
1	The refrigerant is excessive	Discharge the refrigerant, and recharge the refrigerant refer to the rating label
2	The indoor ambient temperature is too high	Please use within allowable temperature range
3	The air outlet and air inlet of the indoor unit is short-circuit	Adjust the installation of the indoor unit refer to the user manual
4	The indoor filter is dirty	Clean the indoor filter
5	The speed of the indoor fan motor is too low	Check the indoor fan motor and fan capacitor
6	The indoor fan is broken or the outdoor fan is blocked	Check the indoor fan
7	The air inlet and outlet has been blocked	Remove the blocked thing
8	The expansion valve or the capillary is failure	Replace the expansion valve or the capillary

7. TROUBLE SHOOTING

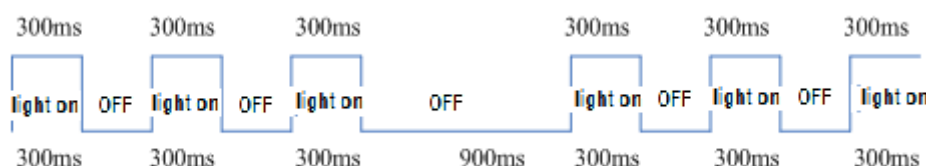
The following is the fault code table of driver board.

Analysis of the Driving Board Fault

Driver board fault codes trouble shooting (*Except Free-match 20K&16K DUAL TYPES*), details see sheet 5.

I . Driver fault code display by indicate lamps of driver board flashing. The times that the lamp flashes equal to fault code. Flashing Intervals for a period of time again .Indicator light off when no fault.

For example , fault code 3 : Indicator light flash 3 times and Flashing Intervals for a period of time again, reports No. 3 fault.



Sheet 5 Driver Error Code -----Except 20K&16 Dual types

Fault code	Fault Description	Possible Reason of Abnormality	How to Deal With
1	Q axis current detection, step out of failure	1, compressor wire connect not well; 2, Bad driver board components; 3, Compressor start load is too large; 4, Compressor demagnetization; 5, Compressor oil shortage, serious wear of crankshaft; 6. The compressor insulation fault	1, Check compressor wire; 2, Change driver board ; 3, Turn on the machine after pressure balance again; 4, Change Compressor; 5, Change the Compressor; 6, Change the Compressor.
2	Phase current detection, out of step	1. Compressor voltage default phase; 2. Bad driver board components; 3. The compressor insulation fault	1, Check compressor wire connection; 2, Change the driver board; 3, Change the Compressor.
3	Initialization, phase current imbalance	Bad driver board components.	Change driver board .
4	Speed estimation, step out of failure	1, Bad driver board components; 2, Compressor shaft clamping; 3. The compressor insulation fault.	1, Change driver board ; 2, Change the Compressor ; 3, Change the Compressor .
5	IPM FO output fault	1. System overload or current overload. 2, Driver board fault; 3, Compressor oil shortage, serious wear of crankshaft; 4, The compressor insulation fault.	1, Check the air-conditioner system; 2, Change the driver board; 3, Change the Compressor; 4, Change the Compressor.

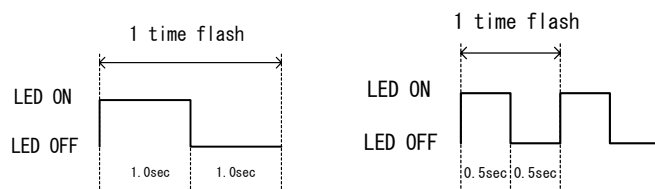
7. TROUBLE SHOOTING

Fault code	Fault Description	Possible Reason of Abnormality	How to Deal With
6	Communication between driver board and control board fault	1,Communication wire connect not well; 2,Driver board fault; 3,Control board fault;	1, Check compressor wire connect. 2,Change the driver board; 3,Change the control board ;
7	AC voltage,overload voltage	1,Supply voltage input too high or too low; 2,Driver board fault;	1,Check power supply; 2,Change the driver board;
8	DC voltage,overload voltage	1,Supply voltage input too high ; 2,Driver board fault;	1,Check power supply; 2,Change the driver board;
9	AC voltage imbalance	Driver board fault;	Change the driver board;
10	The current detection circuit fault	Bad driver board components;	Change the driver board
11	AC voltage supply in	1,Power supply abnormal, power frequency out of range; 2,Driver board fault;	1,Check the system; 2,Change the driver board;
12	Products of single-phase PFC over-current, FO output low level	1,System overload, current too large; 2,Driver board fault; 3,PFC fault.	1,Check the system; 2,Change the driver board; 3,Change PFC.
13	Inverter over current (3-phase power supply air conditioners)	1,System overload, current too large; 2,Driver board fault; 3 , Compressor oil shortage, serious wear of crankshaft; 4,The compressor insulation fault.	1,Check the system; 2,Change the driver board; 3, Change the Compressor; 4, Change the Compressor.
14	Inverter over current	1,System overload, current too large; 2,Driver board fault; 3,Compressor oil shortage,serious wear of crankshaft; 4,The compressor insulation fault.	1,Check the system; 2,Change the driver board; 3, Change the Compressor; 4, Change the Compressor.
15	PFC over current(single-phase air-conditioner)	1,System overload, current too large; 2,Driver board fault; 3,PFC fault..	1,Check the system; 2,Change the driver board; 3,Change PFC.
16	Phase imbalance or phase lacks or the instantaneous power failure (only for 3-phase power supply air conditioners)	1,3-Phase voltage imbalance; 2,The 3-phase power supply phase lost; 3,Power supply wiring wrong; 4,Driver board fault.	1,Check the power supply; 2,Check the power supply; 3,Check the power supply wiring connect; 4,Change the driver board.
17	The instantaneous power failure detection	1,The power supply is not stable ; 2.The instantaneous power failure ; 3,Driver board fault;	1,Check the power supply. 2,Not fault. 3,Change the driver board;
18	Low DC voltage 200V	1,Voltage input too low ; 2,Driver board fault.	1,Check the power supply. 2,Change the driver board.

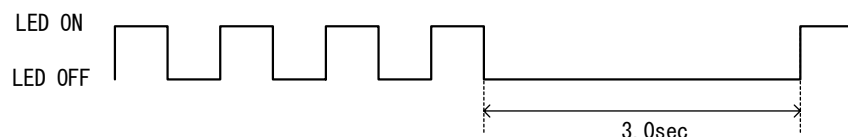
li : Driver board fault codes trouble shooting (*ONLY FOR 20K&16K DUAL TYPES*),details see sheet6.

2-seconds long LED flash on/off in means number 5 , 1 -second short LED flash on/off means number 1.

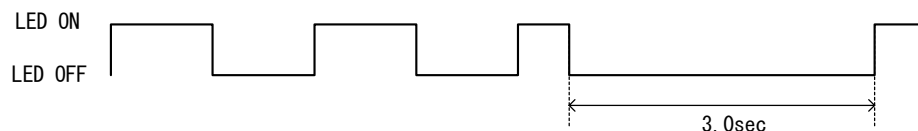
7. TROUBLE SHOOTING



For example , fault code 4 : Indicator light flash 4 times 1-second short LED on/off Intervals for a period of time again, reports No. 4 fault.



For example , fault code 11 : Indicator light flash 2 times 2-seconds long LED on/off and 1 time 1-second long LED on/off Intervals for a period of time again, reports No. 11 fault.



Sheet 6 Driver Error Code -----Only for 20K&16 Dual types

Fault code	Fault Description	Possible Reason of Abnormality	How to Deal With
1	Inverter DC voltage overload fault	1、 Power supply input too high or too low; 2、 Driver board fault.	1,Check power supply 2,Change driver board.
2	Inverter DC low voltage fault		
3	Inverter AC current overload fault		
4	Out-of-step detection	1、 Compressor phase lost ; 2、 Bad driver board components ; 3、 The compressor insulation fault	1,Check compressor wire connect ; 2,Change driver board ; 3,Change compressor.
5	Loss phase detection fault (speed pulsation)		
6	Loss phase detection fault (current imbalance)		
7	Inverter IPM fault (edge)	1、 System overload or current overload; 2,Driver board fault. 3,Compressor oil shortage, serious wear of crankshaft 4、 The compressor insulation fault	1、 Check the system . 2、 Change driver board; 3、 Change the compressor; 4、 Change the compressor.
8	Inverter IPM fault (level)		
9	PFC_IPM IPM fault (edge)		
10	PFC_IPM IPM fault (level)		
11	PFC power detection of failure	1、 The power supply is not stable ; 2、 The instantaneous power failure ; 3、 Driver board failure.	1、 Check the power supply. 2、 Not abnormal. 3、 Change the driver board.
12	PFC overload current detection of failure.	1、 System overload, current too high ;	1、 Check the system; 2、 Change the driver

7. TROUBLE SHOOTING

Fault code	Fault Description	Possible Reason of Abnormality	How to Deal With
		2、 Driver board failure ; 3、 PFC failure ;	board; 3、 Change the PFC.
13	DC voltage detected abnormal .	1、 Input voltage is too high or too low; 2,Driver board failure ;	1,Check the power supply. 2,Change the driver board;
14	PFC LOW voltage detected failure.		
15	AD offset abnormal detected failure.	Driver board failure.	Change the driver board.
16	Inverter PWM logic set fault.		
17	Inverter PWM initialization failure		
18	PFC_PWM logic set fault.		
19	PFC_PWM initialization fault.		
20	Temperature abnormal.		
21	Shunt resistance unbalance adjustment fault		
22	Communication failure.	1、 Communication wire connect not well. 2、 Driver board failure. 3、 Control board failure.	1、 Check the wiring. 2、 Change the driver board. 3、 Change the control board.
23	Motor parameters setting of failure	Initialization abnormal.	Reset the power supply.

7. TROUBLE SHOOTING

7.2 Limited Codes

When the air conditioner is running, some three-digit codes maybe displayed on the digital display, these codes are all limited codes, not abnormal. The air conditioner will deals these limited codes automatically, and the limited codes will disappear when meet an all-clear condition.

Sheet 7 Limited Codes

Codes	Protection Mode Description	Root cause Description	Action Plan By The System Itself	Note
101	Not allow to increase frequency by electric current	Electric current overload and reach the preset value (EE value)	Maintains the present frequency until the condition recovery.	
102	Reduce frequency by electric current	Electric current overload and reach the preset value (EE value)	Reduce frequency by 1Hz/S until the condition recovery.	
103	Not allow to increase frequency by IPM module	IPM requests to prevent increasing frequency	Maintains the present frequency until the condition recovery.	Reserved
104	Reduce frequency by IPM module	IPM requests to reduce frequency	Reduce frequency by 1Hz/S until the condition recovery.	Reserved
105	Not allow to increase frequency by discharge temp.	Discharge temp. overload and reach the preset value (EE value)	Maintains the present frequency until the condition recovery.	
106	Reduce frequency by discharge temp.	Discharge temp. overload and reach the preset value (EE value)	Reduce frequency by 5Hz/5min until the condition recovery.	
107	Not allow to increase frequency by overload in cooling	Coil pipe temp. of outdoor over lower and reach the preset value(EE value)	Maintains the present frequency until the condition recovery.	
108	Reduce frequency by overload in cooling	Coil pipe temp. of outdoor over lower and reach the preset value(EE value)	Reduce frequency by 5Hz/5min until the condition recovery.	
109	Not allow to increase frequency by high pressure	High pressure overhigh and reach the preset value(EE value)	Maintains the present frequency until the condition recovery.	
110	Reduce frequency by high pressure	High pressure overhigh and reach the preset value(EE value)	Reduce frequency by 1Hz/2s until the condition recovery.	
111	Not allow to increase frequency by lower pressure	Low pressure overlower and reach the preset value(EE value)	Maintains the present frequency until the condition recovery.	
112	Reduce frequency by lower pressure	Low pressure overlower and reach the preset value(EE value)	Reduce frequency by 1Hz/S until the condition recovery.	
113	Not allow to increase frequency by preventing indoor overfreezing or overhigh temp.	Coil pipe temp. of indoor over lower and reach the preset value(EE value)	Maintains the present frequency until the condition recovery.	
114	Reduce frequency by preventing indoor	Coil pipe temp. of indoor over lower and reach the preset value(EE value)	Reduce frequency by 5Hz/5min until the condition recovery.	

7. TROUBLE SHOOTING

Codes	Protection Mode Description	Root cause Description	Action Plan By The System Itself	Note
	overfreezing or overhigh temp.			
115	Not allow to increase frequency by saving power	While saving power operation requests and the system would not allow to increase frequency.	Maintains the present frequency until the condition recovery.	Reserved
116	Reduce frequency by saving power	While saving power operation requests and the system would reduce frequency.	Reduce frequency by power saving requests	Reserved
117	Not allow to increase frequency by compression ratio	The ratio between high pressure and low pressure overtop and reach the preset value (EE value)	Maintains the present frequency until the condition recovery.	
118	Reduce frequency by compression ratio	The ratio between high pressure and low pressure overtop and reach the preset value (EE value)	Reduce frequency by 0.5Hz/s until the condition recovery.	
119	Force to open expansion valve by DSH	The discharge temp. too high to force expansion valve to open	Expansion valve opens 3 steps/mins until the condition recovery.	
120	Force to close expansion valve by DSH	The discharge temp. too low to force expansion valve to close	Expansion valve closes 3 steps/mins until the condition recovery.	
121	Not allow to close expansion valve by DSH	The discharge temp. too high to reach the preset temp. value of closing	Expansion valve maintains previous state until the condition recovery.	
122	Not allow to open expansion valve by DSH	The discharge temp. too low to reach the preset temp. value of opening	Expansion valve maintains previous state until the condition recovery.	
123	Not allow to increase frequency by IPM temp. rising	IPM temp. rising too high to reach the preset temp. value	Maintains the present frequency until the condition recovery.	
124	Reduce frequency by by IPM temp. rising	IPM temp. rising too high to reach the preset temp. value	Reduce frequency by 0.5Hz/s until the condition recovery.	

Note : EE is internal parameter, such as temp., current, frequency, which are written in data memory chip.

8. CHECKING COMPONENTS

8-1. Check refrigerant system

TEST SYSTEM FLOW

Conditions: ① Compressor is running.

② The air condition should be installed in good ventilation.

Tool: Pressure Gauge

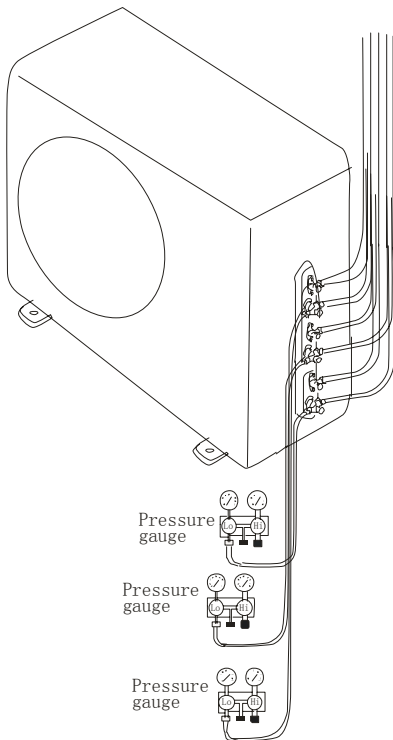
Technique: ① see ② feel ③ test

SEE ----- Tube defrost.

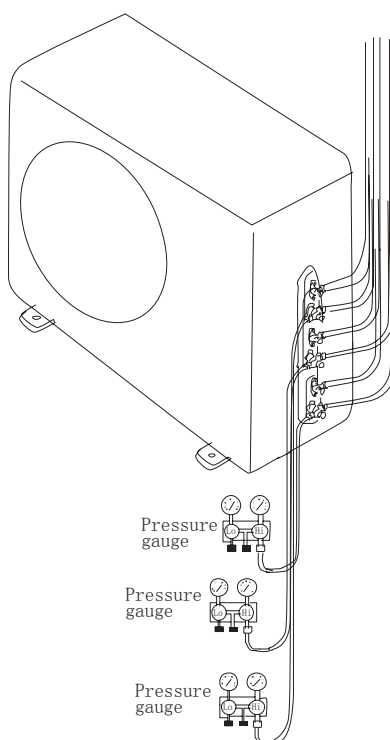
FEEL ----- The difference between tube's temperature.

TEST ----- Test pressure.

cooling run

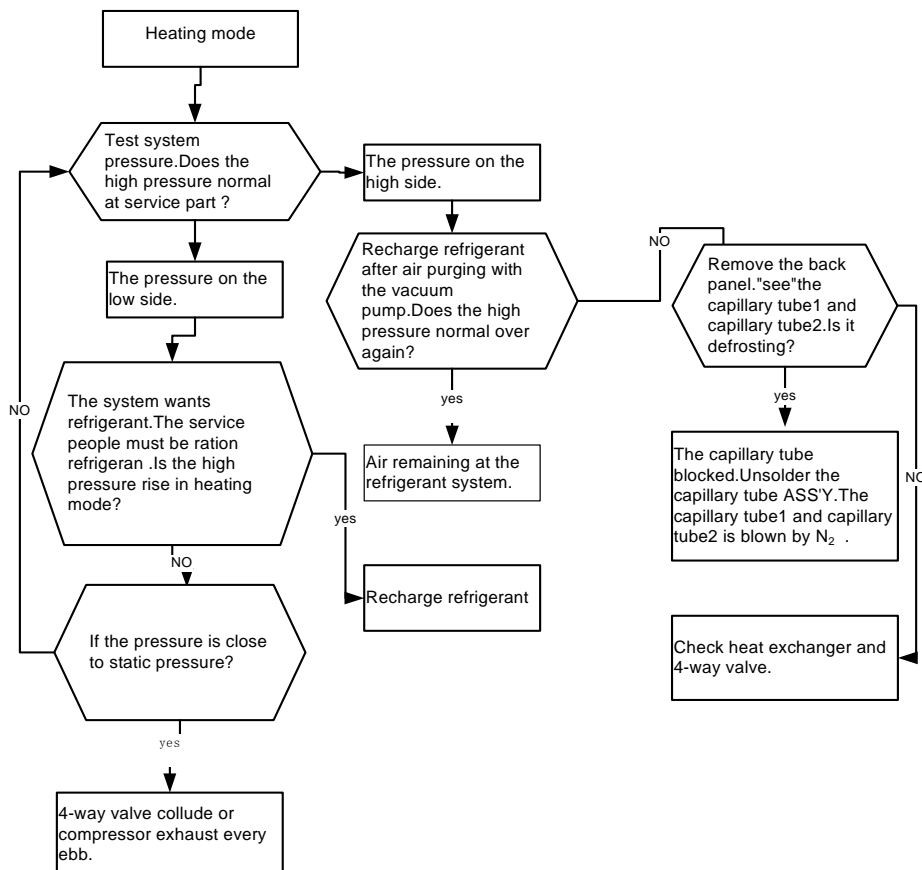
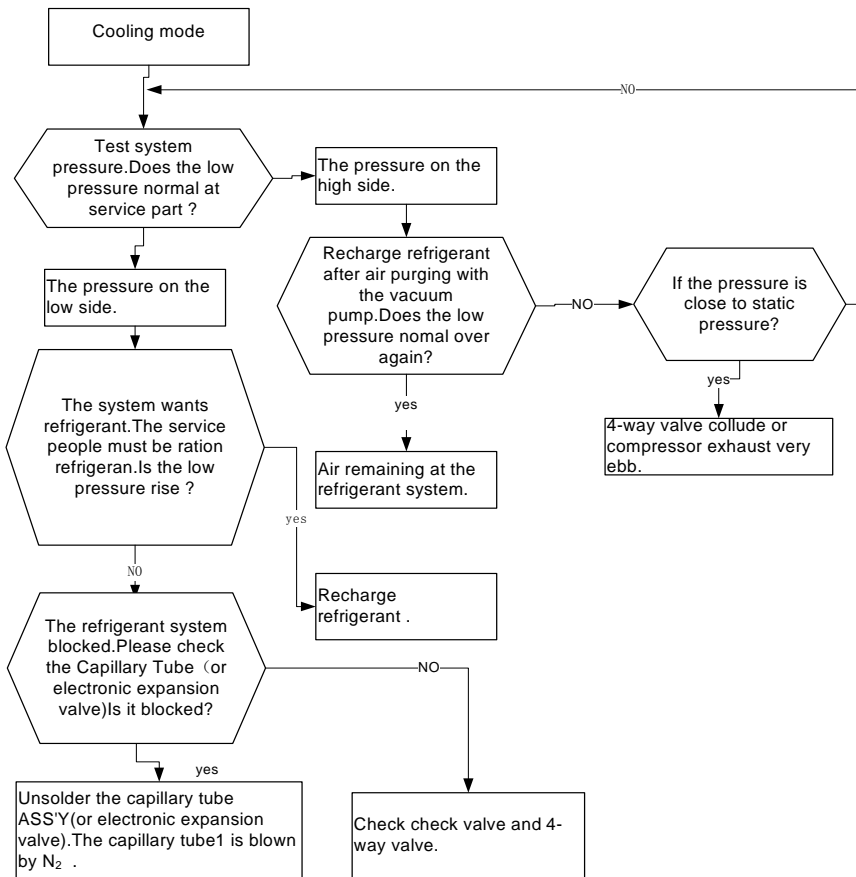


heating run



8. CHECKING COMPONENTS

Test system flow



8. CHECKING COMPONENTS

8-2. Check parts unit

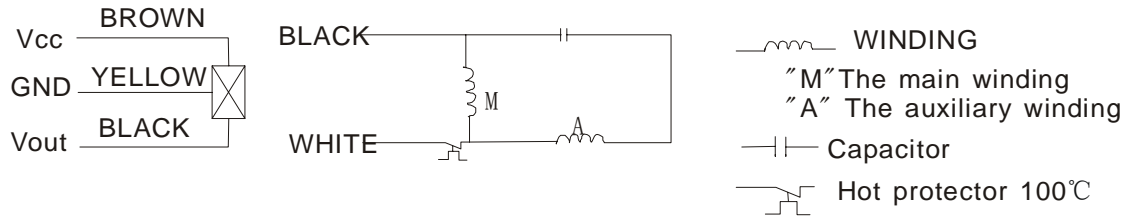
1. INDOOR FAN MOTOR

MOTOR EXAMINE AND REPAIR

Circuit diagram:

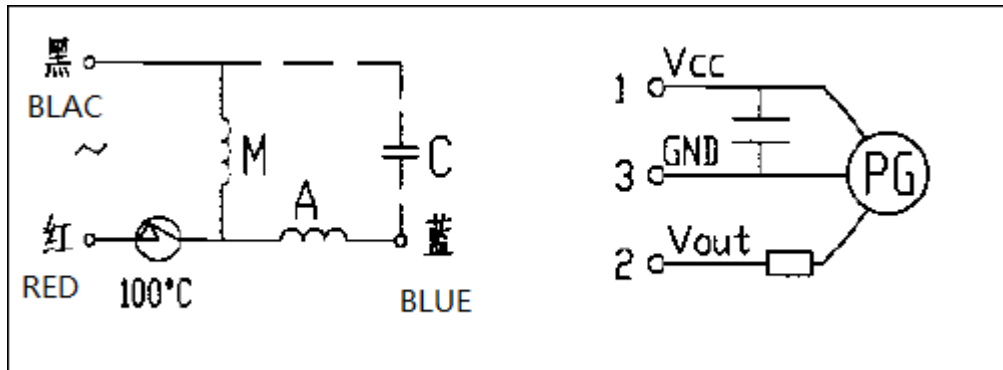
AMS-07/09/12UR4SN (VG4/VT4/VL4/VQ4/UP4/UL4/UQ4/NS4/ZC4/ZA4/NT4/NK4/NM4/VM4)

1) YYW16-4-532:



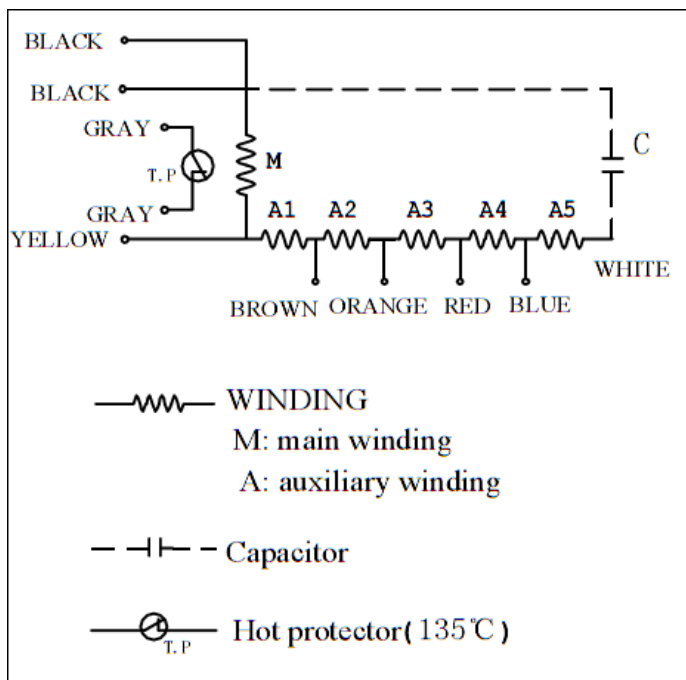
AMS-18UR4SV (VG4/VL4/VT4/UP4/UL4/UQ4/VQ4/NT4/NK4/NM4)

2) RPG25A-6



AMD-09/12UX4SJD

3) YSK95-25-4HS10

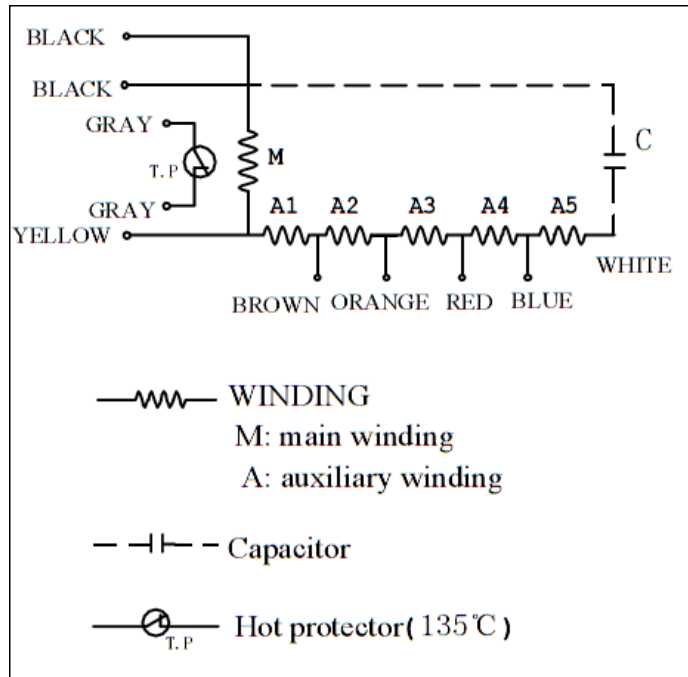


M: 329 Ω A1: 36.5 Ω A2: 31 Ω A3: 30.5 Ω A4: 34.2 Ω A5: 91 Ω

8. CHECKING COMPONENTS

AMD-18UX4SJD

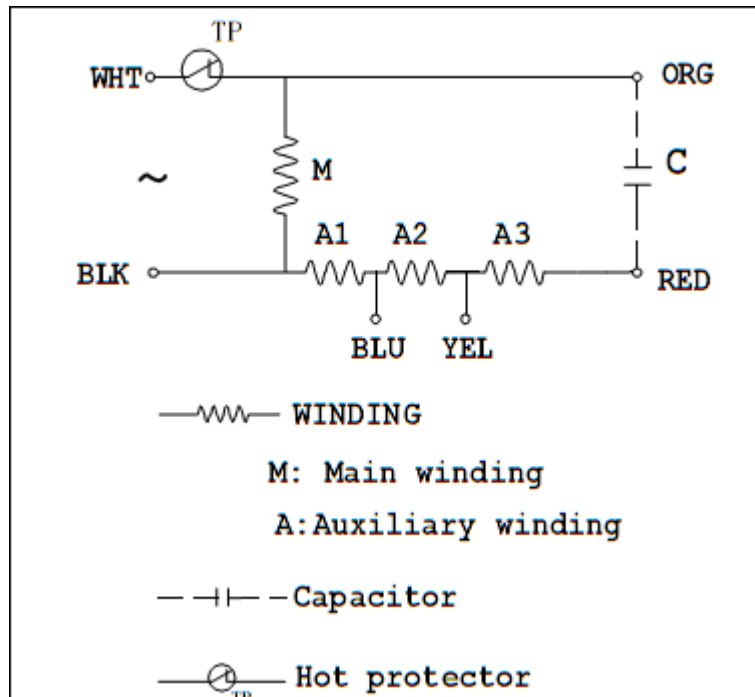
4) YSK95-40-4HS11



M:138 Ω A1: 42.5 Ω A2:22 Ω A3:17.6 Ω A4:14.6 Ω A5:81.4 Ω

AMC-12/18UX4SAA

5) YDK95-28-4-B

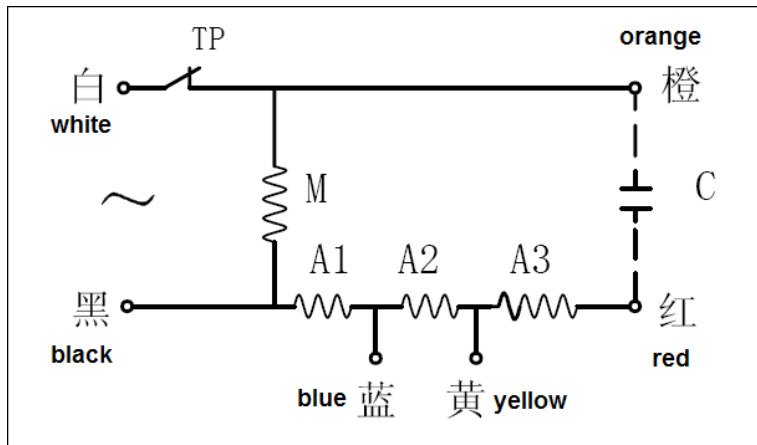


M:240 Ω A1:60 Ω A2:33 Ω A3:143 Ω

8. CHECKING COMPONENTS

AMV-12UR4SA, AMV-18UR4SA

6) YSK110-22-4-A(HS24)



M: 187 Ω A1: 37.5 Ω A2: 27.8 Ω A3: 146 Ω

Test in resistance.

TOOL: Multimeter.

Test the resistance of the main winding. The indoor fan motor is fault if the resistance of main winding 0(short circuit) or ∞ (open circuit) .

Test in voltage

TOOL: Multimeter.

Insert screwdriver into to rotate indoor fan motor slowly for 1 revolution or over, and measure voltage "YELLOW" and "GND" on motor. The voltage repeat 0V DC and 5V DC.

Notes:

- 1) Please don't hold motor by lead wires.
- 2) Please don't plug IN/OUT the motor connector while power ON.
- 3) Please don't drop hurl or dump motor against hard material. Malfunction may not be observed at early stage after such shock. But it may be found later, this type of mishandling void our warranty.

8. CHECKING COMPONENTS

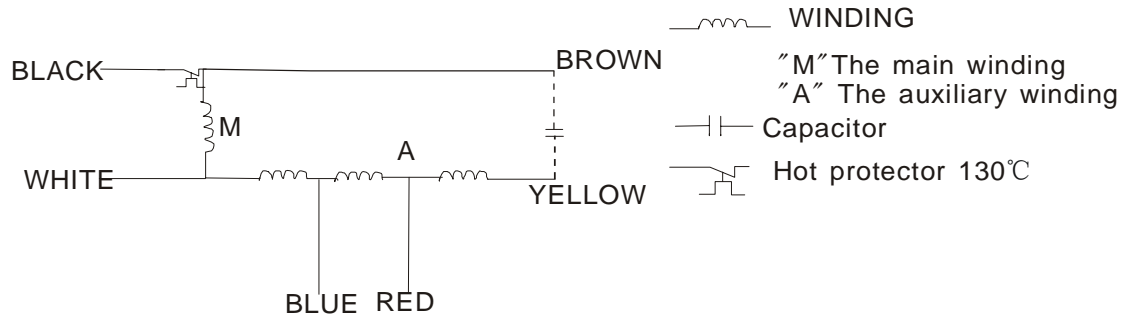
2. OUTDOOR FAN MOTOR

MOTOR EXAMINE AND REPAIR

Circuit diagram

AMW4-28U4SKC、AMW3-24U4SKC、AMD-24U4SZD

1) YDK70-6H-3:

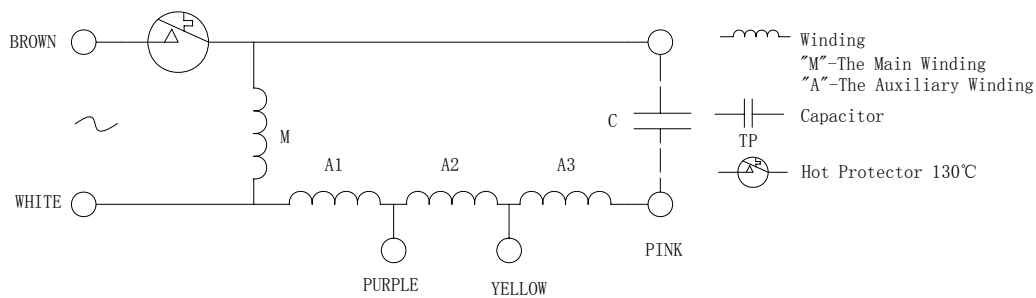


Winding resistance (at 20°C)

M: 78 Ω A: 80 Ω

AMW2-20U4SNC1 AMW3-20U4SZD

2) YDK55-6I-8:

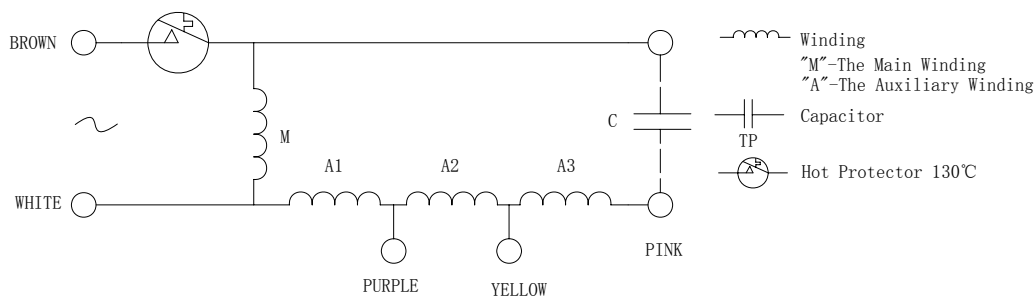


Winding resistance (at 20°C)

M: 185 Ω A: 200 Ω

AMW2-16U4SGC1

3) YDK29-6I-22:



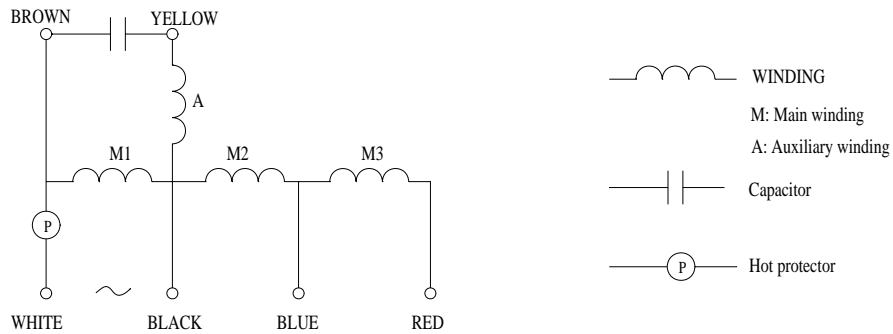
Winding resistance (at 20°C)

M: 283.5 Ω A: 180 Ω

8. CHECKING COMPONENTS

AMW4-36U4SAC

4) YDK95-6-9043

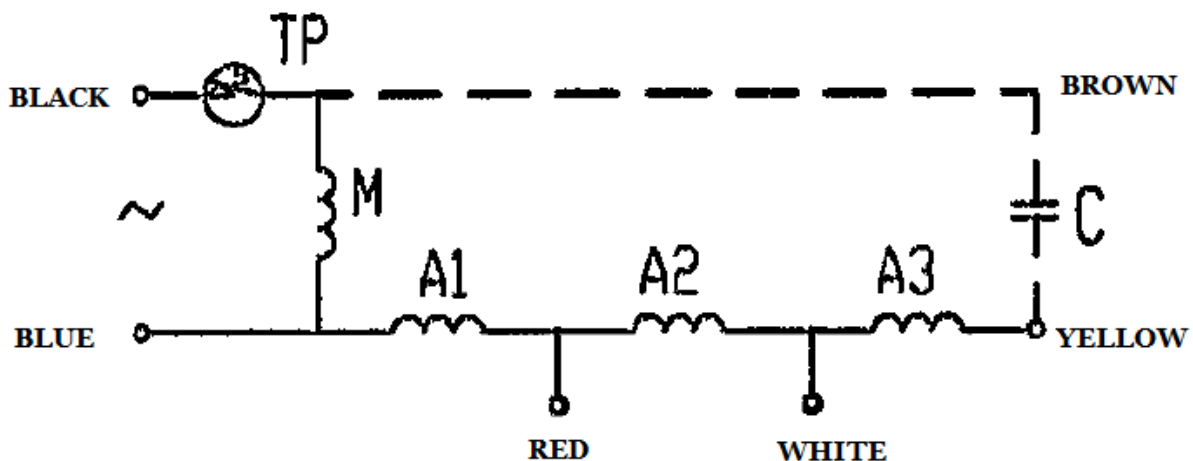


Winding resistance (at 20°C)

M1:59.1 Ω M2:20.3 Ω M3:15.3 Ω A: 85.8 Ω

5)AMW-42U4SE

YDK-6I-39



Winding resistance (at 20°C)

M: 187 Ω

A(BLUE-RED-WHITE-YELLOW): 50/21/106 Ω

Test in resistance.

TOOL: Multimeter.

Test the resistance of the main winding. The outdoor fan motor is fault if the resistance of main winding 0(short circuit)or ∞ (open circuit) .

Notes:

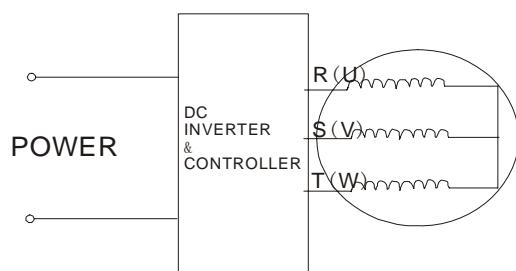
- 1) Please don't hold motor by lead wires.
- 2) Please don't plug IN/OUT the motor connector while power ON.
- 3) Please don't drop hurl or dump motor against hard material. Malfunction may not be observed at

8. CHECKING COMPONENTS

early stage after such shock. But it may be found later, this type of mishandling void our warranty.

3. COMPRESSOR

COMPRESSOR EXAMINE AND REPAIR



Test in resistance.

TOOL: Multimeter.

Test the resistance of the winding. The compressor is fault if the resistance of winding 0(short circuit) or ∞ (open circuit)

Familiar error:

- 1) Compressor motor lock.
- 2) Discharge pressure value approaches static pressure value .
- 3) Compressor motor winding abnormality.

Notes:

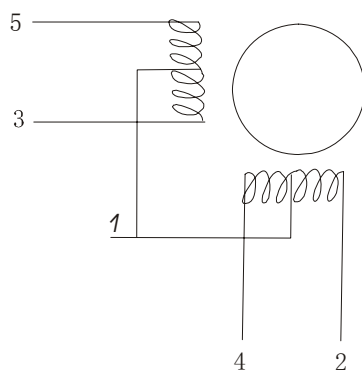
- 1) Don't put a compressor on its side or turn over.
- 2) Please assembly the compressor in your air conditioner rapidly after removing the plugs.
Don't place the comp. In air for along time.
- 3) Avoiding compressor running in reverse caused by connecting electrical wire incorrectly.
- 4) Warning! In case AC voltage is impressed to compressor, the compressor performance will below because of its rotor magnetic force decreasing.

4. INDUCTANCE

Familiar error:

- 1) Sound abnormality
- 2) Insulation resistance disqualification.

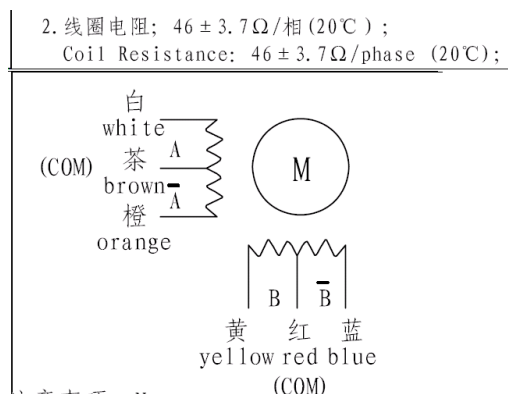
5. STEP MOTOR



Test in resistance.

TOOL: Multimeter.

Test the resistance of winding. The stepper motor is fault if the resistance of winding 0(short circuit) or ∞ (open circuit) .



8. CHECKING COMPONENTS

6. FUSE

Checking continuity of fuse on PCB ASS'Y.

- 1) Remove the PCB ASS'Y from the electrical component box. Then pull out the fuse from the PCB ASS'Y (Fig.1)

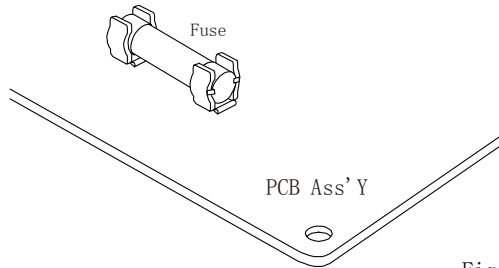


Fig. 1

- 2) Check for continuity by a multimeter as shown in Fig.2.

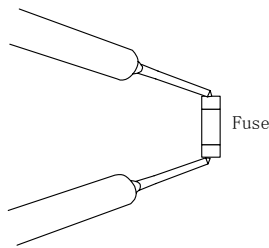


Fig. 2

7. CAPACITOR

- 1) Remove the lead wires from the capacitor terminals, and then place a probe on the capacitor terminals as shown in Fig.3.
 - 2) Observe the deflection of the pointer, setting the resistance measuring range of the multimeter to the maximum value.
- * The capacitor is "good" if the pointer bounces to a great extent and then gradually returns to its original position.
 - * The range of deflection and deflection time differ according to the capacity of the capacitor.

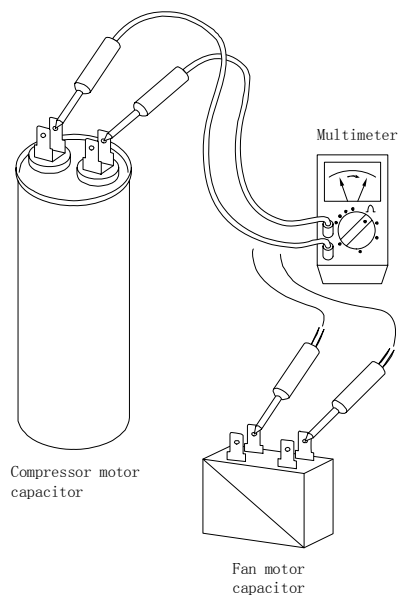


Fig. 3

9. APPENDIX

For indoor unit

AS Series Wall Mounted Type

AS-09/12UR4SVETD5(TG5/TC5/TE5/TF5)

AS-18UR4SFATD5(TD5/TG5/TC5)

Service manual separately attached.

The content is solely intended for the general indoor units.

If some information are not included, please read the pages before in the service manual.

Hisense

SPLIT TYPE AIR CONDITIONER

SERVICE MANUAL

AS-09UR4SVETD5(TG5/TC5)

AS-12UR4SVETD5(TG5/TC5)

AS-18UR4SFATD5(TG5/TC5)

AS-24UR4SDBTD5(TG5 /TC5)

Hisense Corporation

Type of contents

1. OPERATION RANGE
2. INSTALLATION
3. REFRIGERANT FLOW DIAGRAM
4. ELECTRICAL DATA
5. CONTROL MODE
6. TROUBLE SHOOTING
7. CHECKING COMPONENTS

NOTE: The figure、size and parameter of the product may not be identical with the service manual, please take the actual product as the standard.

2. INSTALLATION

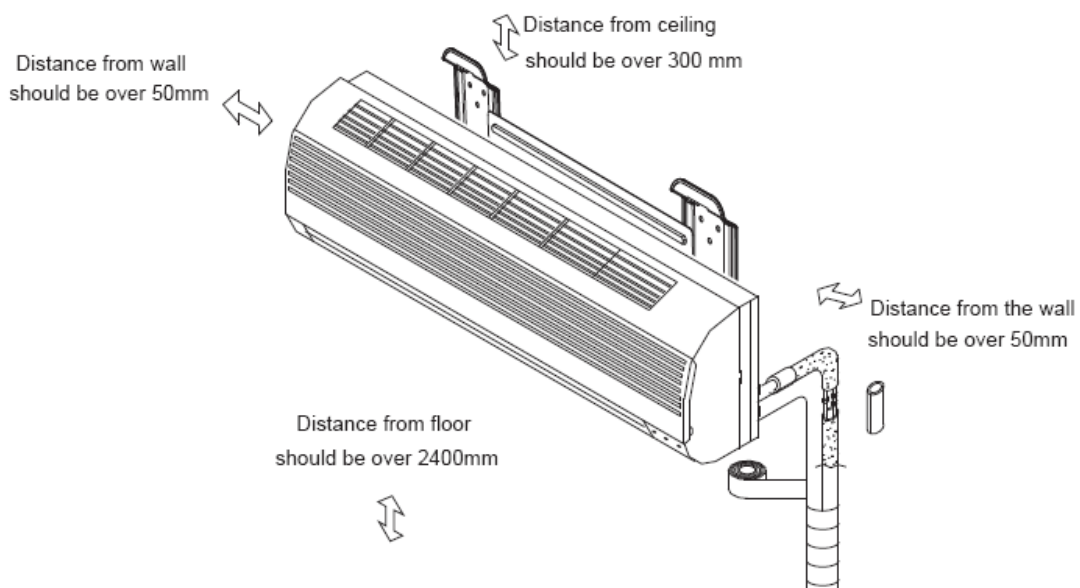
1、 How to choose an air conditioner (only for reference):

- a. Choice for reference: 170W/m² for average rooms;
- b. Choice for reference: 160-200W/m² for small size offices;
- c. Choice for reference: 220-350W/m² for restaurants;
- d. Choice for reference: 200-300W/m² for entertaining venues;
- e. Choice for reference: 220-280W/m² for the top floor.

Note: 1W = 3.412btu.

2、 Indoor Unit:

2.1. Distance for the indoor unit:

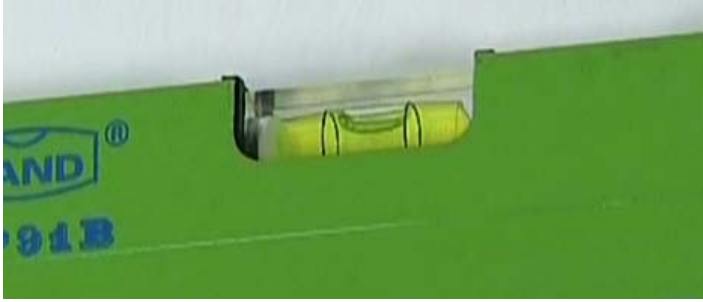


Note: a. The wallboard must be smooth and straight, with its supporting force of not less than 60 kg.

2.1 Install for the installation template:

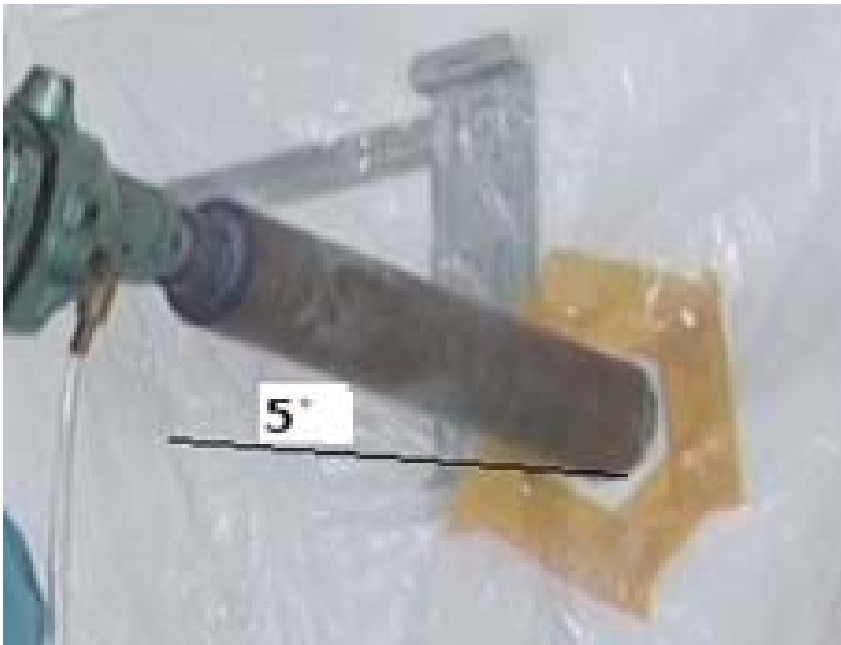


2. INSTALLATION



Note: The installation template should be installed level.

2.3. Drilling:



Note: The tool need to raise 5 degrees when drilling, so that the hole of the indoor side will be higher than the outdoor side, the water can drain smoothly.

2.4 Bend the evaporator pipe:

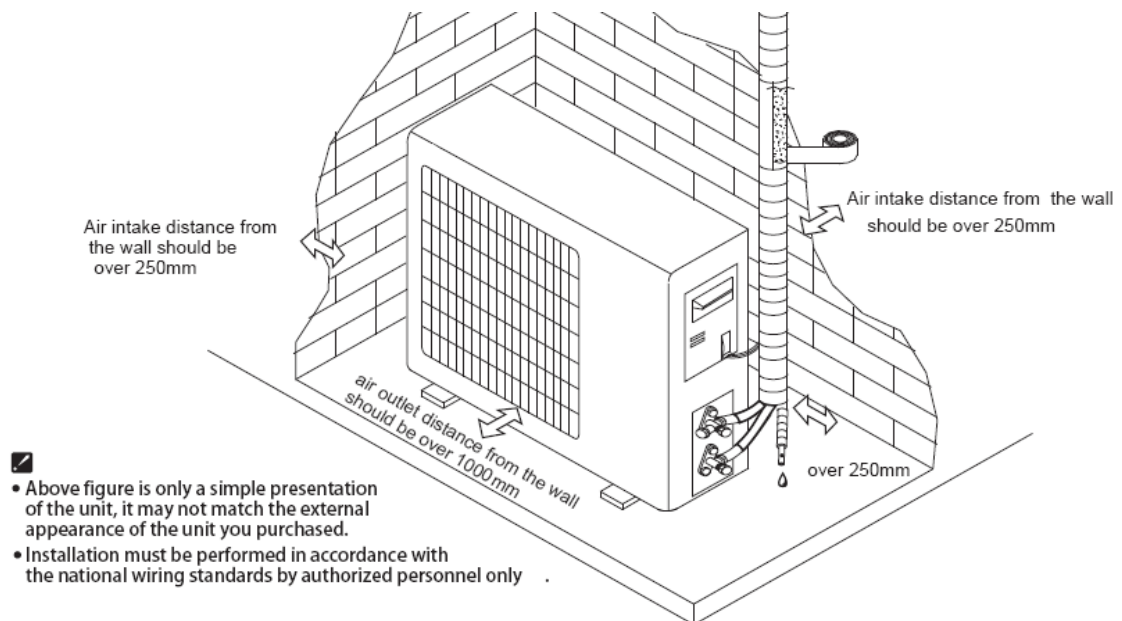


Note: When you bend the evaporator pipe, you should use your right hand hold the pipe tightly at bends, and then use the left hand bend the pipe slowly.

2. INSTALLATION

3. Outdoor Unit:

3.1. The distance of the outdoor unit:



Note: The wallboard supporting force should be able to withstand four times the weight of the outdoor unit, and not less than 180 kg.

3.2. Fix for the outdoor unit:



Shock pad



bolt

Note: The outdoor unit base must be fixed with the bolts to reduce vibration and noise, if necessary the shock pad can be used.

4. The height difference and the connection pipe length:

2. INSTALLATION

When install the unit, please follow the following principle:

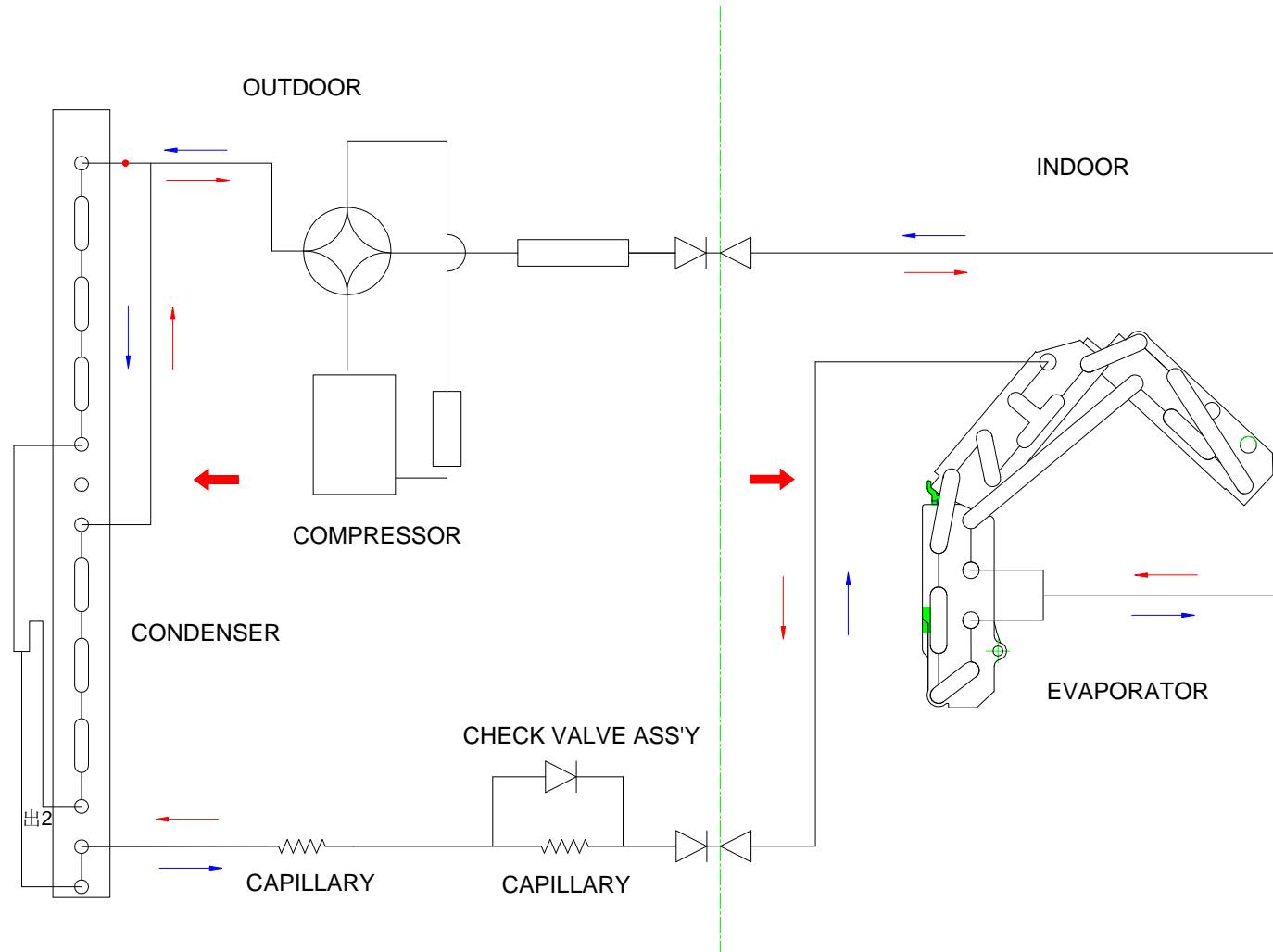
4.1.The height difference between the indoor unit and the outdoor unit should not exceed 5m;

4.2.The connection pipe length should be not less than 1m;

4.3.The longest connection pipe is 15m for the unit(Recommendation:
The longest connection pipe is 10m for 9K and 12K unit and 15m for 18K,24K
and 30K unit);

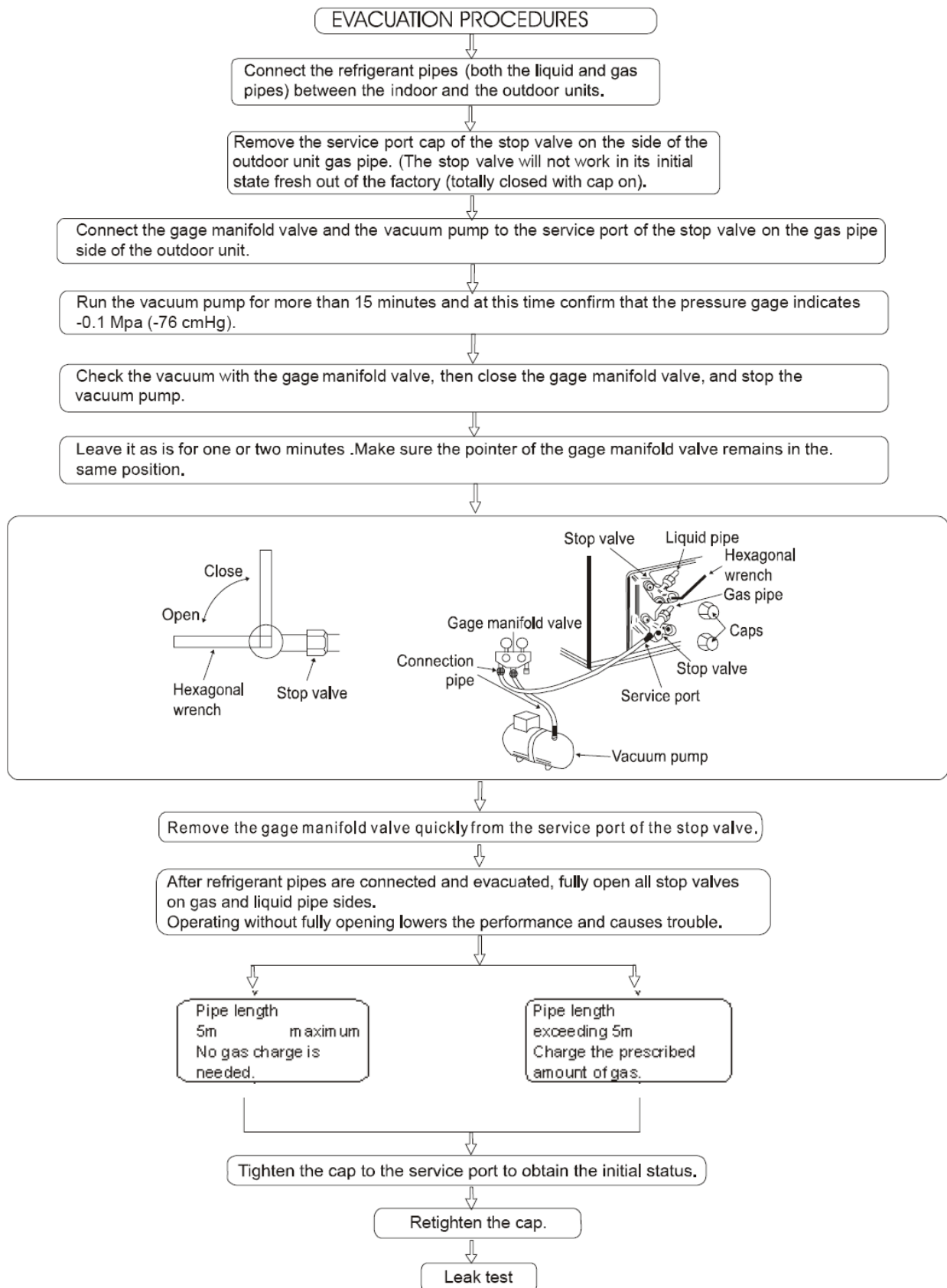
3. REFRIGERANT FLOW DIAGRAM

3-1. Refrigerant flow diagram :



3. REFRIGERANT FLOW DIAGRAM

3 -2. Evacuation procedures:



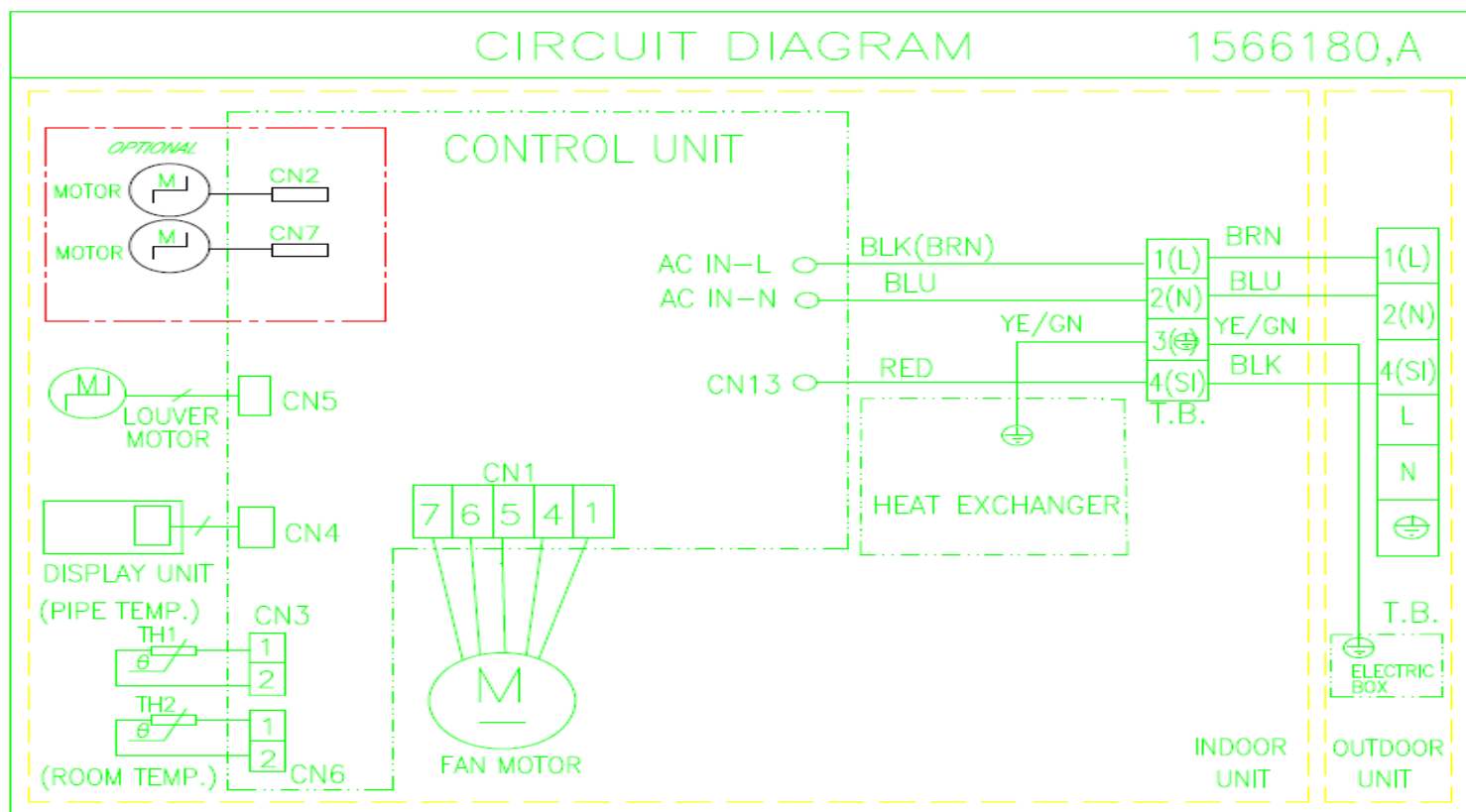
4. ELECTRICAL DATA

4-1. Electrical wiring diagrams

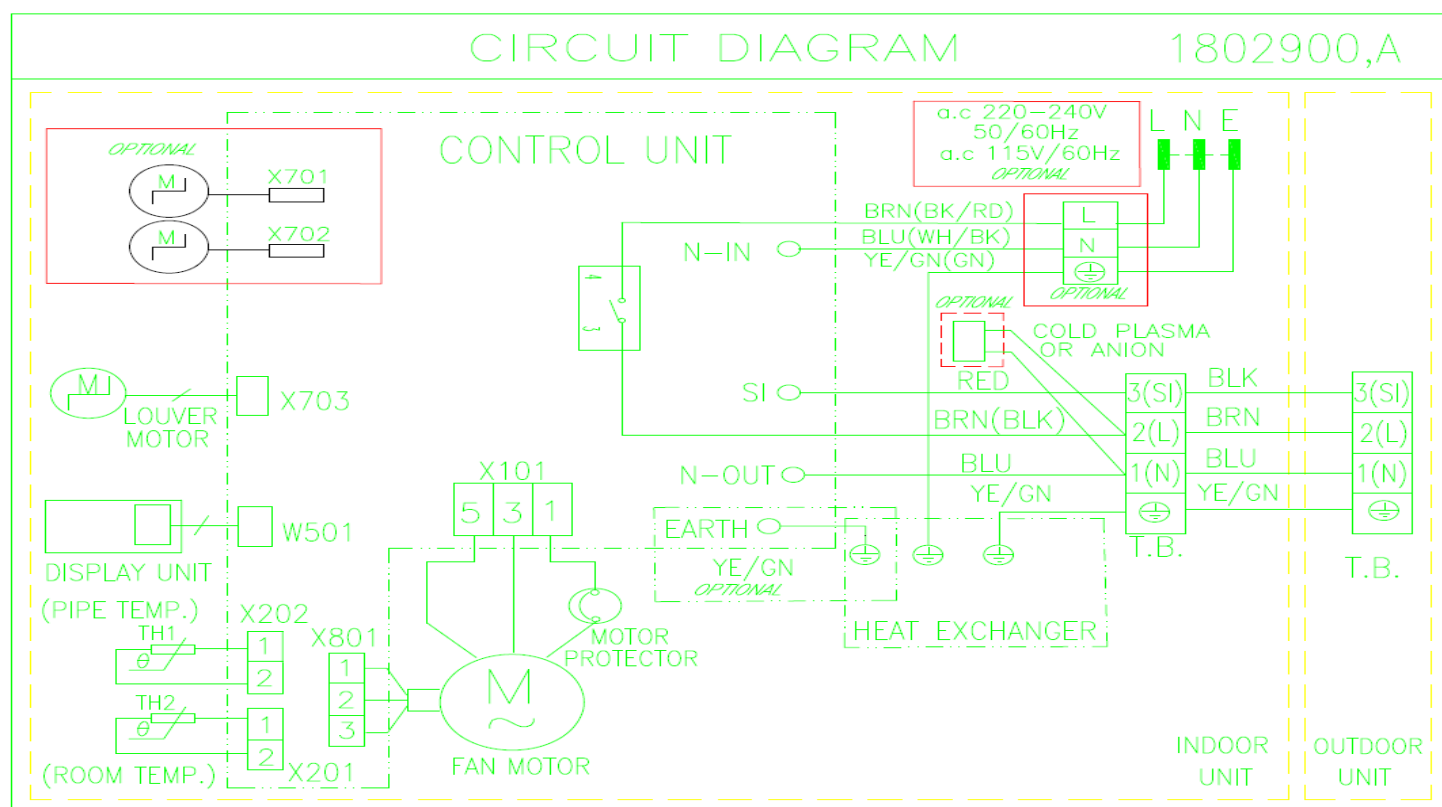
NOTE: YE/GN=YELLOW/GREEN, BU=BLUE, BN=BROWN, WH=WHITE, BK=BLACK, VT=VIOLET, OG=ORANGE, RD=RED, BRN=BROWN, BLU=BLUE, BLK=BLACK, WHT=WHITE

INDOOR:

(1) AS-09UR4SVETD5(TG5/ TC5) AS-12UR4SVETD5(TG5/ TC5) (indoor) :

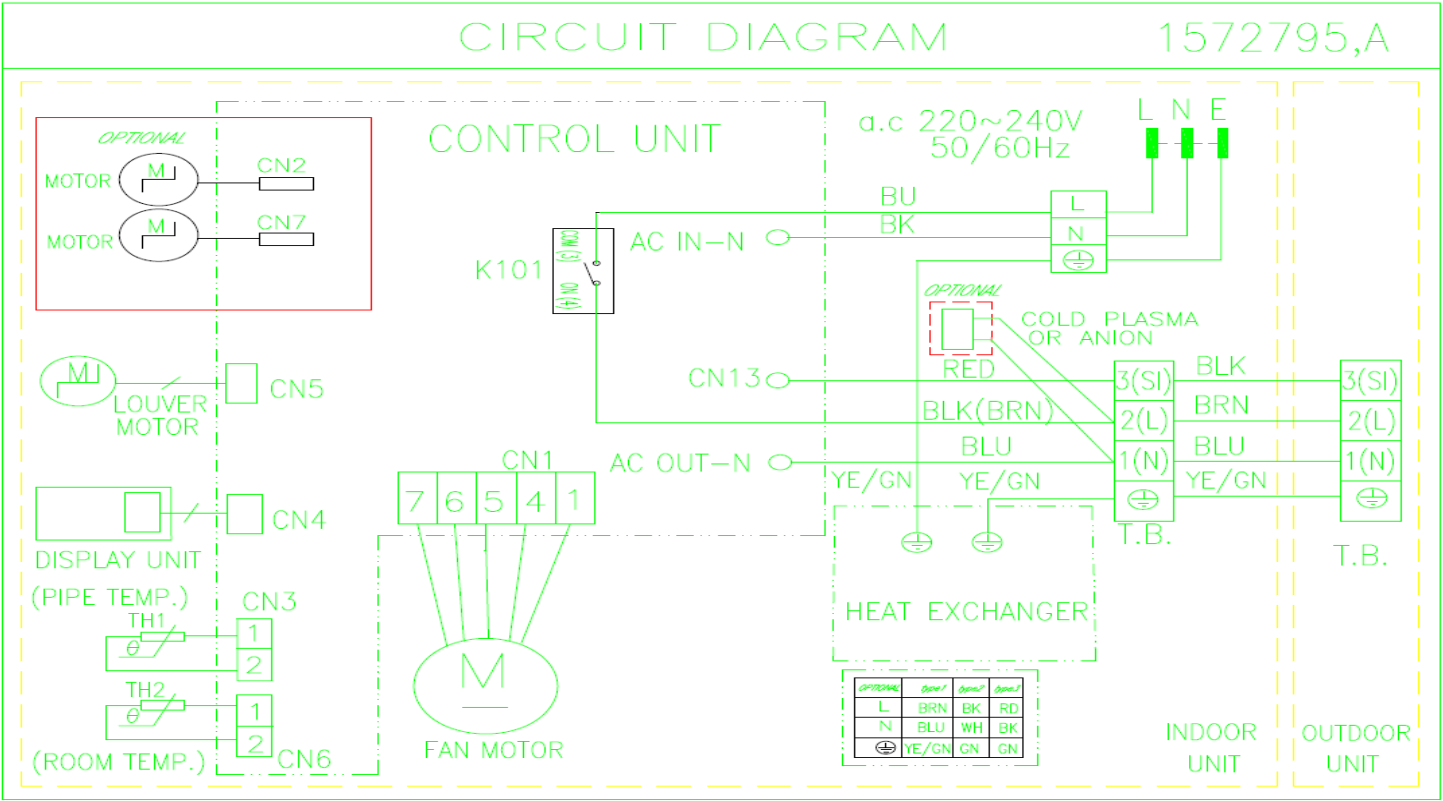


(2) AS-18UR4SFATD5(TG5/ TC5) (indoor) :



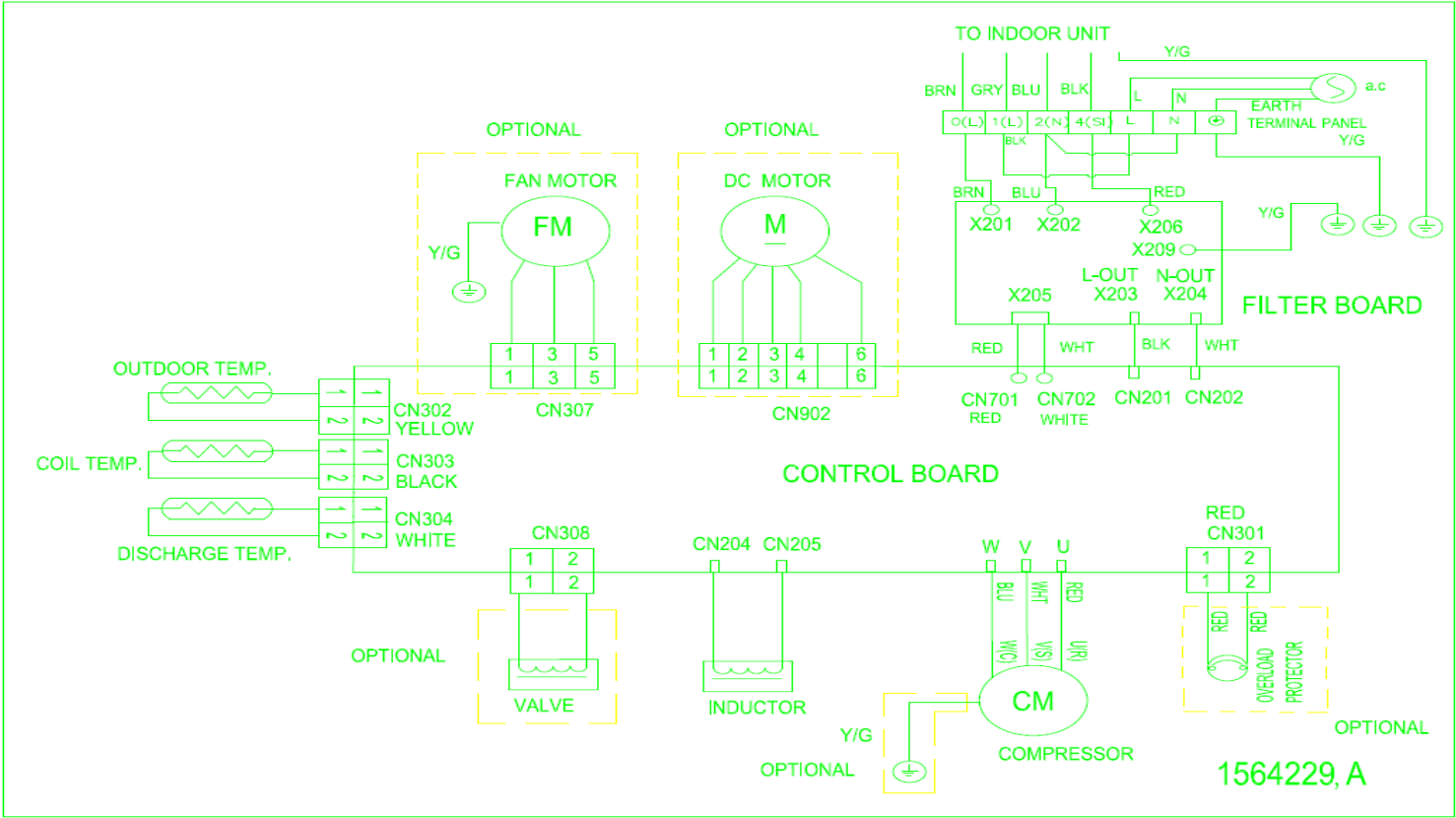
4. ELECTRICAL DATA

(3) AS-24UR4SDBTD5(TG5/ TC5) (indoor) :



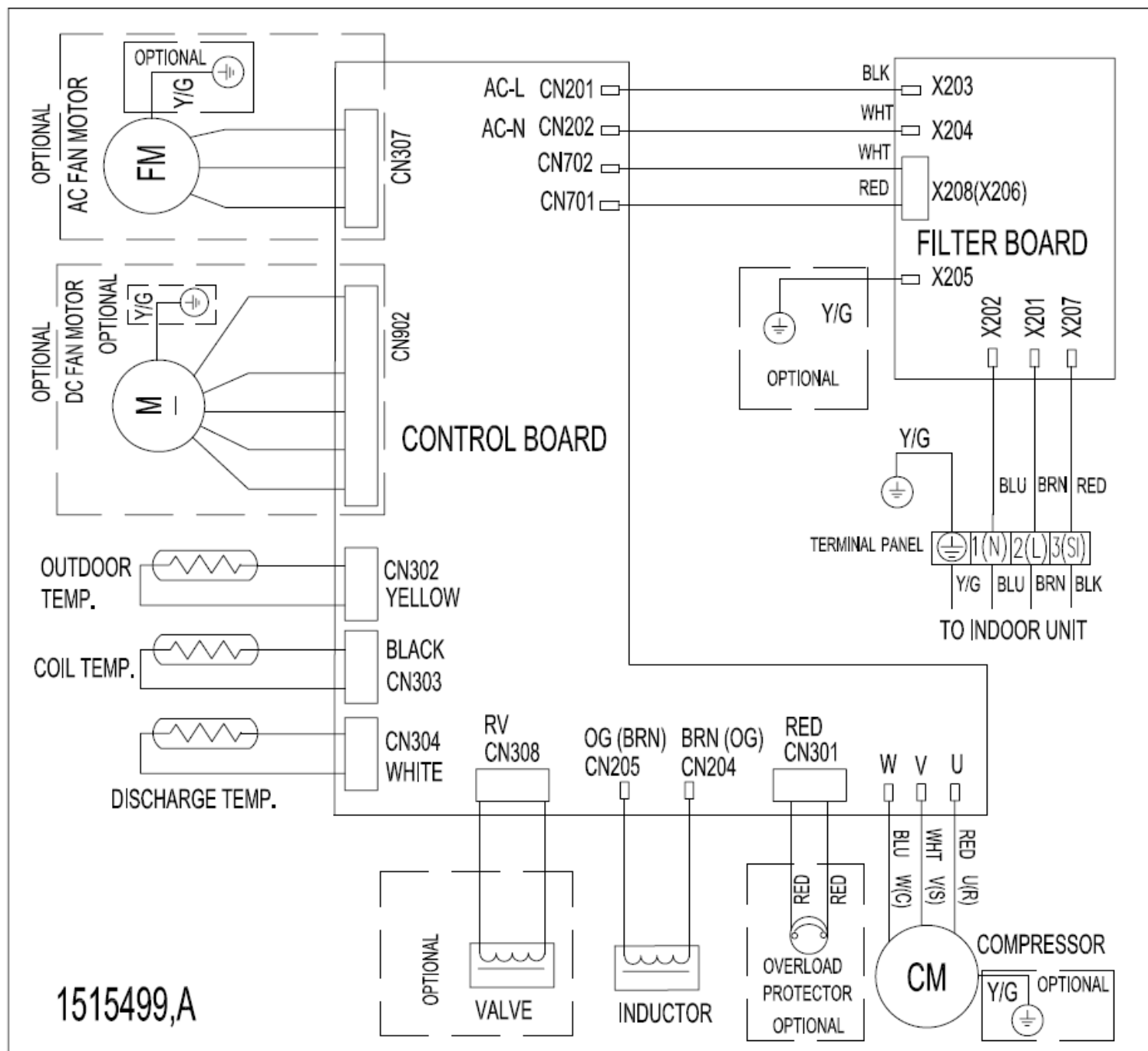
OUTDOOR

(1)AS-09UR4SVETD5(TG5/ TC5) AS-12UR4SVETD5(TG5/ TC5) (OUTDOOR)



4. ELECTRICAL DATA

(2) AS-18UR4SFATD5(TG5/ TC5) AS-24UR4SDBTD5(TG5/ TC5) (OUTDOOR)



4. ELECTRICAL DATA

4-2. Sensor parameter

1. THE PARAMETER OF OUTDOOR DISCHARGE TEMPERATURE SENSOR FOR COMPRESSOR::
(R₀=187.25K±6.3%; R₁₀₀=3.77K±2.5K; B=3979±1%)

T(℃)	R(K Ω)	V(v)	DEC	HEX	T(℃)	R(K Ω)	V(v)	DEC	HEX	T(℃)	R(K Ω)	V(v)	DEC	HEX
-30	966.1	0.1014	5	5	26	55.46	1.3252	68	44	82	6.662	3.7507	191	BF
-29	910.3	0.1075	5	5	27	53.11	1.3678	70	46	83	6.446	3.7813	193	C1
-28	858	0.1139	6	6	28	50.86	1.4112	72	48	84	6.239	3.8111	194	C2
-27	809	0.1206	6	6	29	48.72	1.4552	74	4A	85	6.039	3.8404	196	C4
-26	763.1	0.1277	7	7	30	46.68	1.4997	76	4C	86	5.846	3.8691	197	C5
-25	720	0.1351	7	7	31	44.74	1.5446	79	4F	87	5.661	3.8970	199	C7
-24	679.6	0.1429	7	7	32	42.89	1.5901	81	51	88	5.482	3.9243	200	C8
-23	641.7	0.1511	8	8	33	41.13	1.6359	83	53	89	5.309	3.9512	202	CA
-22	606.1	0.1597	8	8	34	39.44	1.6824	86	56	90	5.143	3.9773	203	CB
-21	572.7	0.1687	9	9	35	37.84	1.7289	88	58	91	4.982	4.0029	204	CC
-20	541.3	0.1782	9	9	36	36.3	1.7762	91	5B	92	4.827	4.0279	205	CD
-19	511.7	0.1881	10	A	37	34.84	1.8235	93	5E	93	4.678	4.0522	207	CF
-18	484	0.1984	10	A	38	33.44	1.8713	95	5F	94	4.534	4.0760	208	D0
-17	457.9	0.2092	11	B	39	32.11	1.9190	98	62	95	4.395	4.0992	209	D1
-16	433.3	0.2206	11	B	40	30.83	1.9673	100	64	96	4.261	4.1218	210	D2
-15	410.2	0.2325	12	C	41	29.61	2.0157	103	67	97	4.132	4.1439	211	D3
-14	388.5	0.2448	12	C	42	28.45	2.0640	105	69	98	4.007	4.1655	212	D4
-13	368	0.2577	13	D	43	27.34	2.1124	108	6C	99	3.886	4.1866	214	D6
-12	348.7	0.2712	14	E	44	26.27	2.1612	110	6E	100	3.77	4.2070	215	D7
-11	330.5	0.2853	15	F	45	25.25	2.2099	113	71	101	3.658	4.2269	216	D8
-10	313.4	0.2999	15	F	46	24.28	2.2584	115	73	102	3.549	4.2465	217	D9
-9	297.2	0.3153	16	10	47	23.35	2.3068	118	76	103	3.444	4.2655	218	DA
-8	281.9	0.3312	17	11	48	22.46	2.3552	120	78	104	3.343	4.2839	218	DA
-7	267.5	0.3478	18	12	49	21.6	2.4038	123	7B	105	3.15	4.3197	220	DC
-6	253.9	0.3651	19	13	50	20.79	2.4516	125	7D	106	3.059	4.3367	221	DD
-5	241.1	0.3830	20	14	51	20.01	2.4994	127	7F	107	2.97	4.3535	222	DE
-4	229	0.4016	20	14	52	19.26	2.5471	130	82	108	2.884	4.3699	223	DF
-3	217.6	0.4209	21	15	53	18.54	2.5947	132	84	109	2.802	4.3856	224	E0
-2	206.8	0.4409	22	16	54	17.85	2.6420	135	87	110	2.721	4.4012	224	E0
-1	196.6	0.4617	24	17	55	17.19	2.6889	137	89	111	2.721	4.4012	224	E0
0	186.9	0.4833	25	18	56	16.56	2.7352	139	8B	112	2.644	4.4162	225	E1
1	177.8	0.5056	26	19	57	15.96	2.7809	142	8E	113	2.569	4.4309	226	E2
2	169.2	0.5285	27	1A	58	15.38	2.8265	144	90	114	2.496	4.4452	227	E3
3	161	0.5525	28	1B	59	14.82	2.8719	146	92	115	2.426	4.4591	227	E3
4	153.3	0.5770	29	1C	60	14.29	2.9163	149	95	116	2.358	4.4727	228	E4
5	146	0.6024	31	1E	61	13.78	2.9603	151	97	117	2.292	4.4859	229	E5
6	139	0.6289	32	1F	62	13.28	3.0048	153	99	118	2.228	4.4988	229	E5
7	132.5	0.6557	33	21	63	12.81	3.0479	155	9B	119	2.167	4.5112	230	E6
8	126.3	0.6835	35	23	64	12.36	3.0902	158	9E	120	2.107	4.5235	231	E7
9	120.4	0.7123	36	24	65	11.93	3.1319	160	A0	121	2.049	4.5354	231	E7
10	114.8	0.7418	38	26	66	11.51	3.1736	162	A2	122	2.049	4.5354	231	E7
11	109.5	0.7722	39	27	67	11.11	3.2144	164	A4	123	1.994	4.5467	232	E8
12	104.4	0.8039	41	29	68	10.73	3.2541	166	A6	124	1.887	4.5689	233	E9
13	99.66	0.8357	43	2B	69	10.36	3.2938	168	A8	125	1.836	4.5796	234	EA
14	95.13	0.8686	44	2D	70	10	3.3333	170	AA	126	1.787	4.5899	234	EA
15	90.82	0.9024	46	2C	71	9.659	3.3717	172	AC	127	1.739	4.6000	235	EB
16	86.74	0.9369	48	2E	72	9.331	3.4094	174	AE	128	1.693	4.6098	235	EB
17	82.85	0.9723	50	32	73	9.016	3.4464	176	B0	129	1.649	4.6192	236	EC
18	79.16	1.0085	51	33	74	8.712	3.4829	178	B2	130	1.605	4.6286	236	EC
19	75.65	1.0455	53	35	75	8.421	3.5185	179	B3					
20	72.32	1.0832	55	37	76	8.14	3.5537	181	B5					
21	69.15	1.1217	57	39	77	7.869	3.5882	183	B7					
22	66.13	1.1610	59	3B	78	7.609	3.6220	185	B9					
23	63.27	1.2009	61	3D	79	7.359	3.6551	186	BA					
24	60.54	1.2416	63	3F	80	7.118	3.6876	188	BC					
25	57.94	1.2830	65	41	81	6.885	3.7195	190	BE					

4. ELECTRICAL DATA

2. THE PARAMETER OF THE OUTDOOR COIL AND OUTDOOR AMBIENT AND INDOOR TEMPERATURE SENSOR: (R₀=15K±2%; B=3450±2%)

T(℃)	R(KΩ)	V(v)	DEC	HEX	T(℃)	R(KΩ)	V(v)	DEC	HEX	T(℃)	R(KΩ)	V(v)	DEC	HEX
-30	67.94	0.3235	16	10	18	6.962	2.0151	103	67	66	1.297	3.9186	200	C8
-29	64.25	0.3408	17	11	19	6.688	2.0636	105	69	67	1.258	3.9443	201	C9
-28	60.79	0.3588	18	12	20	6.427	2.1120	108	6C	68	1.22	3.9696	202	CA
-27	57.53	0.3776	19	13	21	6.178	2.1603	110	6E	69	1.184	3.9939	204	CC
-26	54.48	0.3971	20	14	22	5.939	2.2089	113	71	70	1.149	4.0178	205	CD
-25	51.6	0.4174	21	15	23	5.712	2.2570	115	73	71	1.116	4.0406	206	CE
-24	48.9	0.4384	22	16	24	5.494	2.3053	118	76	72	1.083	4.0636	207	CF
-23	46.35	0.4603	23	17	25	5.286	2.3533	120	78	73	1.051	4.0862	208	D0
-22	43.96	0.4829	25	19	26	5.086	2.4014	122	7A	74	1.021	4.1077	209	D1
-21	41.7	0.5065	26	1A	27	4.896	2.4489	125	7D	75	0.9914	4.1290	211	D3
-20	39.58	0.5307	27	1B	28	4.714	2.4963	127	7F	76	0.963	4.1497	212	D4
-19	37.58	0.5558	28	1C	29	4.539	2.5436	130	82	77	0.9354	4.1701	213	D5
-18	35.69	0.5818	30	1E	30	4.372	2.5904	132	84	78	0.9088	4.1898	214	D6
-17	33.91	0.6087	31	1F	31	4.212	2.6369	134	86	79	0.8831	4.2091	215	D7
-16	32.23	0.6363	32	20	32	4.059	2.6830	137	89	80	0.8582	4.2280	216	D8
-15	30.65	0.6648	34	22	33	3.912	2.7288	139	8B	81	0.8342	4.2463	217	D9
-14	29.15	0.6942	35	23	34	3.772	2.7738	141	8D	82	0.8109	4.2643	217	D9
-13	27.74	0.7244	37	25	35	3.637	2.8188	144	90	83	0.7884	4.2818	218	DA
-12	26.4	0.7556	39	27	36	3.508	2.8631	146	92	84	0.7666	4.2988	219	DB
-11	25.14	0.7875	40	28	37	3.384	2.9070	148	94	85	0.7455	4.3155	220	DC
-10	23.95	0.8202	42	2A	38	3.265	2.9504	150	96	86	0.725	4.3318	221	DD
-9	22.82	0.8539	44	2C	39	3.151	2.9932	153	99	87	0.7053	4.3476	222	DE
-8	21.75	0.8885	45	2D	40	3.041	3.0358	155	9B	88	0.6861	4.3631	223	DF
-7	20.74	0.9237	47	2F	41	2.936	3.0775	157	9D	89	0.6676	4.3781	223	DF
-6	19.79	0.9596	49	31	42	2.835	3.1188	159	9F	90	0.6496	4.3929	224	E0
-5	18.88	0.9966	51	33	43	2.739	3.1590	161	A1	91	0.6323	4.4071	225	E1
-4	18.02	1.0343	53	35	44	2.646	3.1990	163	A3	92	0.6156	4.4209	225	E1
-3	17.2	1.0731	55	37	45	2.556	3.2387	165	A5	93	0.5993	4.4345	226	E2
-2	16.43	1.1122	57	39	46	2.471	3.2771	167	A7	94	0.5836	4.4477	227	E3
-1	15.7	1.1520	59	3B	47	2.388	3.3155	169	A9	95	0.5683	4.4606	227	E3
0	15	1.1929	61	3D	48	2.309	3.3528	171	AB	96	0.5535	4.4732	228	E4
1	14.34	1.2342	63	3F	49	2.233	3.3896	173	AD	97	0.5391	4.4855	229	E5
2	13.71	1.2765	65	41	50	2.159	3.4262	175	AF	98	0.5251	4.4975	229	E5
3	13.11	1.3195	67	43	51	2.089	3.4615	177	B1	99	0.5115	4.5093	230	E6
4	12.55	1.3623	69	45	52	2.021	3.4965	178	B2	100	0.4983	4.5207	231	E7
5	12.01	1.4063	72	48	53	1.956	3.5306	180	B4	101	0.4855	4.5319	231	E7
6	11.5	1.4506	74	4A	54	1.893	3.5644	182	B6	102	0.4731	4.5427	232	E8
7	11.01	1.4959	76	4C	55	1.832	3.5977	183	B7	103	0.461	4.5534	232	E8
8	10.55	1.5410	79	4F	56	1.774	3.6299	185	B9	104	0.4492	4.5638	233	E9
9	10.1	1.5878	81	51	57	1.718	3.6616	187	BB	105	0.4378	4.5739	233	E9
10	9.684	1.6338	83	53	58	1.664	3.6926	188	BC	106	0.4268	4.5838	234	EA
11	9.284	1.6805	86	56	59	1.612	3.7231	190	BE	107	0.416	4.5934	234	EA
12	8.903	1.7276	88	58	60	1.562	3.7528	191	BF	108	0.4055	4.6029	235	EB
13	8.54	1.7749	91	5B	61	1.513	3.7824	193	C1	109	0.3953	4.6121	235	EB
14	8.194	1.8226	93	5D	62	1.467	3.8106	194	C2	110	0.3854	4.6211	236	EC
15	7.864	1.8704	95	5F	63	1.422	3.8386	196	C4					
16	7.549	1.9185	98	62	64	1.379	3.8658	197	C5					
17	7.249	1.9667	100	64	65	1.337	3.8927	199	C7					

5. CONTROL MODE

5-1. Major general technical parameters

5-1-1 Conditionings for operation: Ambient temperatures: (-7°C - +43 °C),

5-1-2 Remote receiver distance (front of the air conditioner) : 8 m.

5-1-3 Remote receiver angle: Less than 60 degrees.

5-1-4 Temperature control accuracy: $\pm 1^{\circ}\text{C}$.

5-1-5 Time error: Less than 1%.

5-2. Functions of the controller

5-2-1 Display panel

I. Control functions of the remote controller (See operating and installation manual)

II. Display of the indoor unit

Information on the screen:

Displaying Scheme:

7-segment tube: Display set temperature or indoor temperature , and display fault code in trouble indicating. An error code is displayed according to the signal from the indoor CPU. The error code will flash for 5 seconds while displayed.

Running LED: It is on during operation. It is flashing when the unit defrost.

TIMER LED: When the timer mode works, the LED will be lighted.

Sleep LED: When the sleep mode works, the LED will be lighted, and after 10s, the LED will be off.

Compressor LED: It lights up when compressor is running.

Remote control receiver : This section receives signals from the remote control.

5-3. Control function

5-3-1 Emergency switch

If the appliance under the Stand-by state, all the Operation Mode, Air volume, Temperature Setting , Forced Cooling function will be restored as the last time setting when you press on the "ON/OFF" button, but lost the Air flow direction setting.

If the appliance was connected to the power at first time, it would operate in the auto mode, It will keep in stand-by state if you press the "ON/OFF" button during the normal operation.

When the appliance under the Stand-by state, press and hold the emergency switch for 5 seconds, the buzzer rings for 1 times, and it will operate

5. CONTROL MODE

in cooling mode, and the indoor fan speed is set to high-speed, it running has nothing to do with the room temperature.

When press the emergency switch or receive the signal of the remote control, it will exit this mode, and it will operate with the corresponding order.

5-3-2 Operator-machine communication

If the unit has I feel function, when the I feel function is set by the remote control, the room temperature will depend on the remote control and it will be detected by the sensor of the remote control. Normally the remote control will automatically transmits a signal at an interval of 10 minutes (only for H1 remote control, it is 9 minutes), but if the room temperature changed exceed 1°C in a short period of time, the remote control will transmits a signal within 2 minutes. If the indoor unit has not received a remote signal within 30 minutes, the room temperature will depend on the room temperature sensor of indoor unit.

5-3-3 Timer function

Real time of Timer setting

- (1) The max Timer ranges is 24 hours.
- (2) Timer ON/OFF
- (3) Timer ON/OFF can be set available in turn.
- (4) The Timer accurate more than 97%
- (5) The Timer can be adjusted by 1 min increase.
- (6) The appliance can be set the ON-Timer and OFF-Timer in the same time, but no any timer setting indicated.

5-3-4 Sleep

- (1) The Sleep mode can only be set during Cool, Heat and Dry mode.
- (2) When the appliance run in the Sleep mode, it will stop after 8 hours operation, then it will cancel the Sleep setting. When the appliance operate under the OFF-Timer setting condition, if the OFF-Timer setting less than 8 hours, it will keep the Sleep mode till the OFF-Timer setting; if the OFF-Timer setting more than 8 hours, it will cancel the OFF-Timer setting after the Sleep mode OFF.
- (3) When the Sleep mode is select with Cooling mode, if the room temperature not less than 26°C, the setting temperature will not be adjusted, otherwise, the setting temperature will be raised by 1°C per hour, but the max setting temperature raise is 1°C.
- (4) When the Sleep mode is select with Heat mode, the setting temperature will be decreased by 1°C per hour during the successive 3 hour, but

5. CONTROL MODE

the max setting temperature decrease is 3°C.

(5) When the appliance operate with Sleep mode, the indoor fan run in the LOW setting, and the air flow direction same as the last setting and the temperature and air flow direction can be adjusted by user. The Running indicator will be flashed 10 times per 1 Hz frequency, then all the indicators turn OFF except the Sleep light after 5 min elapse. Those indicators will be recovery when the temperature or Time setting is adjusted, after the setting, the indicators will be lit in 10 sec, then turn OFF.

5-3-5 Automatic run (SMART) mode

When the appliance operates at the smart, the air flow direction can be adjusted.

(1) H/C appliance

a. When the setting temperature is 26°C, the appliance will be ran in the Cool if the room temperature exceeds 26°C.

b. When the room temperature exceeds 23°C, but below 26°C, it will be ran in the Dry mode(It will turn in Automatic setting After 3 min LOW air volume running.).

c. When the room temperature exceeds 21°C, but below 23°C, it will be operated in the Fan only, the air volume is set by LOW and the fan speed can be adjusted

d. When the room temperature is not more than 21°C, it will be operated in Heat mode, and the temperature is set to 22°C.

(2) Cool only appliance

a. When the room temperature exceeds 26°C, it will be ran in Cool mode, and the temperature is set to 26°C.

b. When the room temperature exceeds 23°C, but not more than 26°C, it will be operated in the Dry mode.

c. When the room temperature is not more than 23°C, it will be operated in the Fan only, the air volume is set to LOW and the fan speed can be adjusted

After the appliance start the smart operation, the setting temperature can be adjusted 2°C or 7°C (based on the remote mode)(the min accuracy is 1°C) up and down base on the automatic temperature setting, also the presetting temperature of PCB circuit.

In case of the specific operation selected, it could be re-select the other modes after the compressor ceased for 5 min or the setting temperature changed.

5-3-7 Cooling-run mode

5. CONTROL MODE

4-3-7-1 Outdoor Fan

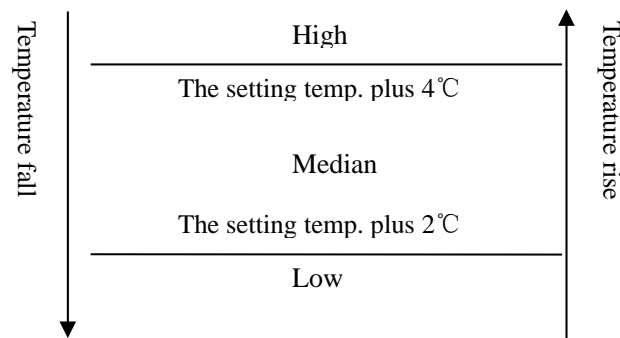
The outdoor fan's speeds except the single speed motor can be changed according to outdoor ambient temperatures.

When operating at a fixed frequency, the outdoor fan is forced to operate at the high speed.

4-3-7-2 Indoor fan operation

(1) When the indoor fan keep in running condition, this operation state could be controlled by the remote control with High, Median, Low and Automatic setting.

(2) When the appliance is set Automatic condition in the Cool mode for the first time, the fan speed will run at Low setting. After that, temperature and fan speed is shown as following.



When the difference between the setting temperature and the room temperature equal to 2°C or 4°C, the indoor fan speed will keep in current speed.

4-3-7-3 Air flow direction control

The louver is derived by a step motor, and it swings the horizontal louver automatically. Press the SWING button to swing or stop the louver.

During the louver swing in normal operation, the current position will be stored. When the appliance turn off and louver swing automatically to the default position, it will position at the close position plus 5°.

4-3-7-4 4-way valve

State: It is interrupted in cooling.

Switchover: When initially powered on for cooling, the 4-way valve is interrupted immediately.

When the heating is changed to the cooling, it needs an interval of 50 seconds

5. CONTROL MODE

for the 4-way valve to change over from being activated to being interrupted.

5-3-8 Heating-run mode

4-3-8-1 Temperature compensation

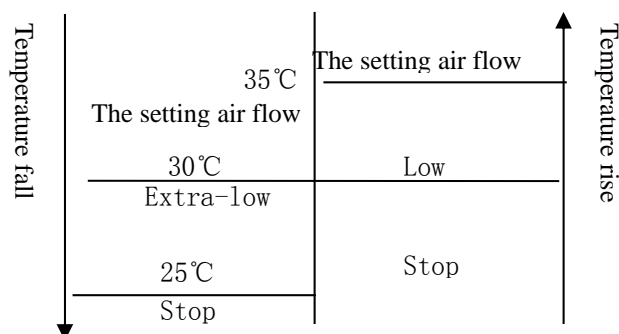
The temperature compensation is 5° in heating mode. For example, if the set temperature is 25°C by the remote control, when the room temperature is detected with 31°C, the compressor will turn off. The main reason is that the hot air is condensed at the top of the house.

Note: The compensation is available only if the room temperature sensor of indoor unit is used and it is not available when it is subject to the sensor on the remote control.

4-3-8-2 Indoor fan motor operation

Anti-cold air system:

When the appliance run in Heat mode condition, the indoor fan motor operation is shown as following to prevent the cooling air come out during the appliance operation.



When the appliance turn in the anti-cold air system in the Extra-LOW (Tapped motor set in LOW, sic passim) during the compressor operation, the louver swang to the Cool air protection position, the louver recovers to the original position after the air volume change to LOW. When the room temperature reach to the setting temperature, the compressor will be turn off, and the air flow change to LOW, the louver swang to the Cool air protective position to prevent the air drop into human body directly; when the indoor pipe coil temperature drop continuously, it will turn in the Cooling air protective system in the Extra-LOW or stop the fan motor.

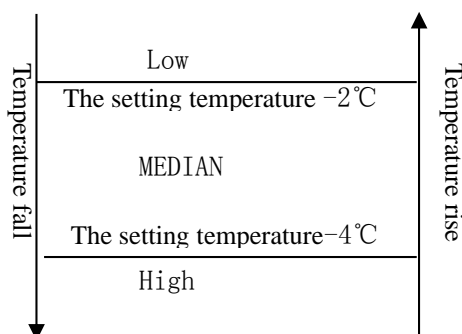
The indoor fan motor is only controlled by the signal of indoor pipe coil temperature, no matter the compressor turn ON/OFF, even the appliance turn in Heat mode at first time.

The indoor fan motor will operate according to the different setting(High,

5. CONTROL MODE

Median, Low and Automatic) by the remote control, but the anti-cold air system is prior.

When the appliance run in the Heat mode with the Automatic setting at first time, the fan speed will be in the LOW setting, and the operation diagram is shown as following



When the difference between the setting temperature and the room temperature equal to 2°C or 4°C, the indoor fan speed will keep in current speed.

5-3-8-3 Air flow direction control

The horizontal louver is controlled by a step motor, press the SWING button to swing or stop the louver.

During the louver run in normal operation, the current position will be stored. When the appliance turn off and louver swing automatically to the default position, it will position at the default position plus 5°.

4-3-8-4 Outdoor fan

The outdoor fan speeds except single speed motor can be changed according to outdoor ambient temperatures.

4-3-8-6 4-way valve

State: It is electrified in heating.

Switchover: When initially powered on for heating, the 4-way valve is activated immediately.

In the change from cooling to heating, it needs an interval of 50 seconds for the 4-way valve to change over from being interrupted to being activated.

5-3-9 The super function (option)

In cooling mode, when you press the SUPER button by remote control, the unit will operate for 15 minutes with the following setting:

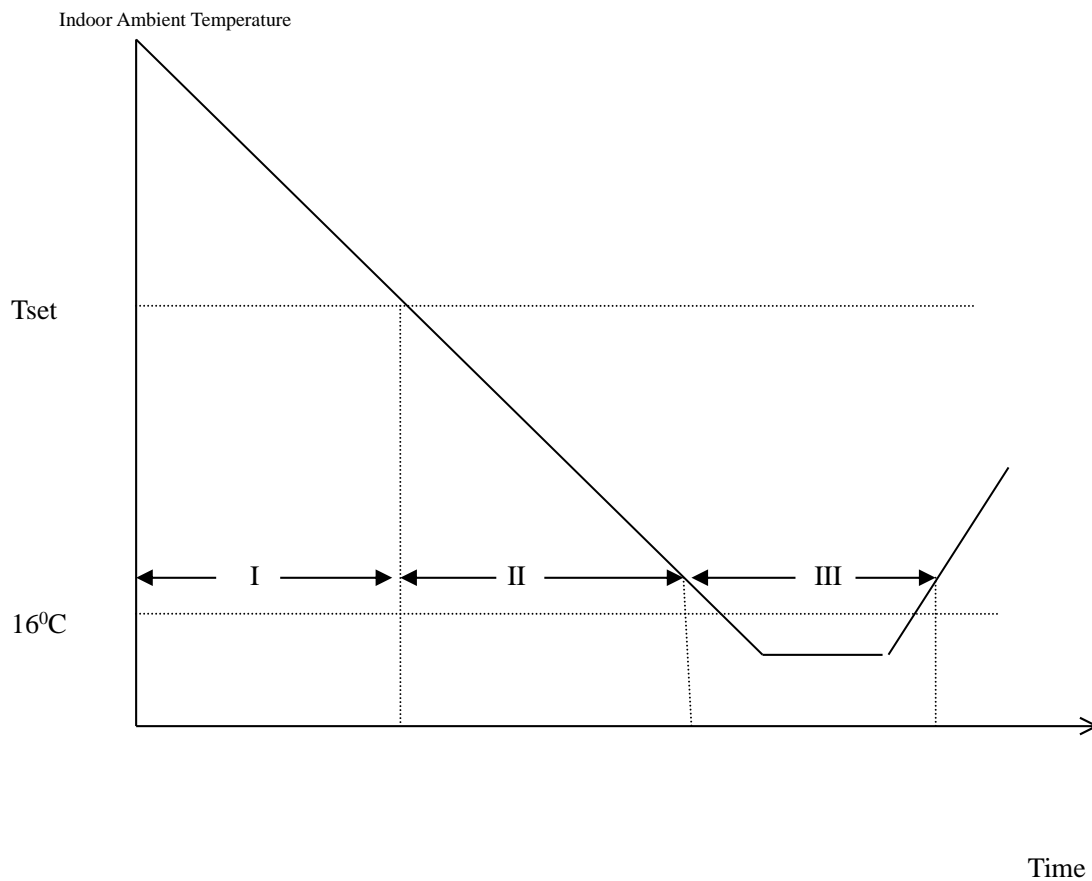
- a. The set temperature is 18°C;

5. CONTROL MODE

- b. The fan speed with highest speed;
- c. The compressor runs with high frequency.

5-3-10 Dehumidifying mode

The dehumidifying mode is illustrated as follows:



Dehumidifying area I: Operation at the frequency in the range (30–60Hz) according to Δt ($T_{indoor\ ambient} - T_{set}$).

$\Delta t(^{\circ}C)$	$f(Hz)$
0	30
0.5	30
1	40
1.5	50
≥ 2	60

Dehumidifying area II: The compressor stops for 5 minutes and operators for 5 minutes at the lowest frequency.

Dehumidifying area III: The compressor stops.

5. CONTROL MODE

5-3-10 Fan Only Mode Operation

During the appliance run in this mode, the compressor and outdoor fan stop, the indoor fan operate under the pre-setting of air volume, and the louver swing, and the indoor fan speed same as the Heating Mode.

6. TROUBLE SHOOTING

1. Indication on the outdoor unit:

When the unit has the following trouble and the compressor stops running, The LED of outdoor control board will show the error sequence automatically:

NOTE: ★: *LIGHT* O: *FLASH* ×: *OFF*

	Outdoor Failure Description	LED1	LED2	LED3	the root cause my be one of the following
	Normal	×	×	×	
	Outdoor coil temperature sensor in trouble	★	×	★	a.the outdoor coil sensor connect loose; b.the outdoor coil temperature sensor is failure; c.the outdoor control board is failure
	Compressor exhaust temperature sensor in trouble	★	×	×	a.the compressor exhaust temperature sensor connect loose; b.the compressor exhaust temperature sensor is failure; c.the outdoor control board is failure
	Communication failure between the indoor unit and outdoor unit	×	×	O	a.the communication cable connect loose; b.the communication cable is failure; c.the connection between the filter board and the outdoor control board is incorrect or loose; d.the connection between the filter board and the terminal is incorrect or loose; e.the indoor control board is failure; f.the PFC board is failure; g.the power board is failure; h.the outdoor control board is failure.
	Current overload protection	★	O	×	a.the fan motor run abnormally; b.the condensor and evaporator is dirty; c.the air inlet and outlet is abnormally
	Maximum current protection	★	O	★	a.the outdoor control board is short circuit; b.the drive board is short circuit; c.the other components is short circuit

6. TROUBLE SHOOTING

	Communication trouble between outdoor unit and driver	×	★	★	a. the connection wires connect loose b. the outdoor board or drive board is failure;
	Outdoor EEPROM in trouble	★	★	★	a. the EEPROM chip is loose; b. the EEPROM chip inserted with opposite direction; c. the EEPROM chip is failure
	Compressor exhaust temperature too high protection	×	○	★	a. the compressor exhaust temperature sensor is failure; b. the refrigerant of the unit is not enough
	Outdoor ambient temperature sensor in trouble	★	★	×	a. the outdoor ambient temperature sensor connect loose; b. the outdoor ambient temperature sensor is failure; c. the outdoor control board is failure
	Compressor shell temperature too high protection	×	★	○	a. the compressor exhaust temperature sensor connect loose b. the refrigerant of the unit is not enough
	Anti-freeze protection with cooling or overload protection with heating in indoor unit	×	○	○	a. the indoor coil temperature sensor connect loose; b. the indoor coil temperature sensor is failure; c. the indoor control board is failure d. the refrigerant system is abnormal.
	Compressor drive in trouble	○	×	○	a. the outdoor drive board is failure; b. the compressor is failure c. the outdoor control board is failure
	Outdoor fan motor locked rotor protection	○	○	★	a. the connection of the outdoor fan motor is loose; b. there are something block the outdoor fan; c. the fan motor is failure; d. the outdoor control board is failure

6. TROUBLE SHOOTING

	Outdoor coil anti-overload protection with cooling	×	★	×	a. the refrigerant is too much; b. the outdoor fan motor is failure; c. the outdoor fan is broken; d. the condensor is dirty; e. the air inlet and air outlet of the indoor unit and the outdoor unit is not normally
	IPM module protection	×	○	×	a. The IPM board is failure; b. The outdoor fan is broken; c. The outdoor fan motor is failure; d. The outdoor fan has been blocked ; e. The condenser is dirty; f. The outdoor unit has been installed without standard.
	PFC protection	○	×	×	a. the PFC is failure; b. the outdoor drive board is failure
	Compressor pre heating process	○	★	○	it is normal mode in cold weather
	Chip in outdoor board in trouble	★	×	○	a. Using the wrong drive board; b. Using the wrong compressor.
	AC voltage higher or lower protection	★	★	○	a. the supply voltage is higher or lower than normal; b. the inner supply voltage of the unit is higher or lower than normal
	DC compressor start failure	○	○	×	a. the outdoor drive board is failure; b. the compressor is failure

6. TROUBLE SHOOTING

2. Indication by the indoor unit:

2.1 The 7-segment tube of the indoor display board will show the error code automatically when the unit has the following trouble:

Error code	description	the root cause is may be one of the following:
E4	Indoor fan motor running in trouble	a. the connection of the indoor fan motor is loose; b. there are something block the indoor fan; c. the fan motor is failure; d. the indoor control board is failure
EA/ER	Communication trouble in the indoor unit between the display board and control board	a. the connection between the display board and the indoor control board is loose; b. the indoor control board is failure c. the wiring of the display board is failure

2.2. When the unit has the following trouble and the compressor stops running, press the **sleep** button on the remote controller for 4 times and the 7-segment tube of the display board will show the error code as the following, if two malfunction happened at the same time, it need press the sleep button for 4 times again, the LED will show the other error code.

Error code	description	the root cause is may be one of the following:
1	Outdoor coil temperature sensor in trouble	a. the outdoor coil sensor connect loose; b. the outdoor coil temperature sensor is failure; c. the outdoor control board is failure
2	Compressor exhaust temperature sensor in trouble	a. the compressor exhaust temperature sensor connect loose; b. the compressor exhaust temperature sensor is failure; c. the outdoor control board is failure
5	IPM module protection	a. The IPM board is failure; b. The outdoor fan is broken; c. The outdoor fan motor is failure; d. The outdoor fan has been blocked ; e. The condenser is dirty; f. The outdoor unit has been installed without standard.
6	AC voltage higher or lower protection	a. the supply voltage is higher or lower than normal; b. the inner supply voltage of the unit is higher or lower than normal
7	Communication failure between the indoor unit and outdoor unit	a. the communication cable connect loose; b. the communication cable is failure; c. the connection between the filter board and the outdoor control board is incorrect or loose; d. the connection between the filter board and the terminal is incorrect or loose; e. the indoor control board is failure; f. the PFC board is failure; g. the power board is failure; h. the outdoor control board is failure.

6. TROUBLE SHOOTING

8	Current overload protection	a. the fan motor run abnormally; b. the condensor and evaporator is dirty; c. the air inlet and outlet is abnormally; d. Out control board is failure; e. Compressor is failure
10	communication in trouble between two chips (control and driver) on outdoor PCB.	a. the connection wires connect loose b. the outdoor board or drive board is failure;
11	Outdoor EEPROM in trouble	a. the EEPROM chip is loose; b. the EEPROM chip inserted with opposite direction; c. the EEPROM chip is failure
12	Protection for the lower outdoor ambient temperature.	a. It is normally protection for the unit when the outdoor ambient temperature is lower than minus 15 degrees; b. The outdoor ambient temperature sensor is failure; c. The outdoor control board is failure.
13	Compressor exhaust temperature too high protection	a. the compressor exhaust temperature sensor is failure; b. the refrigerant of the unit is not enough
14	Outdoor ambient temperature sensor in trouble	a. the outdoor ambient temperature sensor connect loose; b. the outdoor ambient temperature sensor is failure; c. the outdoor control board is failure
15	Compressor shell temperature too high protection	a. the compressor exhaust temperature sensor connect loose b. the refrigerant of the unit is not enough
16	Anti-freeze protection with cooling or overload protection with heating in indoor unit	a. it is normal protection; b. the indoor coil temperature sensor connect loose; c. the indoor coil temperature sensor is failure; d. the indoor control board is failure; e. the refrigerant system is abnormal
17	PFC protection	a. the PFC is failure; b. the outdoor drive board is failure
18	DC compressor start failure	a. the compressor power cord connect loose or incorrect; b. the outdoor drive board(IPM) is failure; c. the outdoor control board is failure d. the compressor is failure
19	Compressor drive in trouble	a. the compressor power cord connect loose or incorrect; b. the outdoor drive board(IPM) is failure; c. the outdoor control board is failure d. the compressor is failure
20	Locked rotor protection for outdoor fan motor	a. the connection of the outdoor fan motor is loose; b. there are something block the outdoor fan; c. the fan motor is failure; d. the outdoor control board is failure

6. TROUBLE SHOOTING

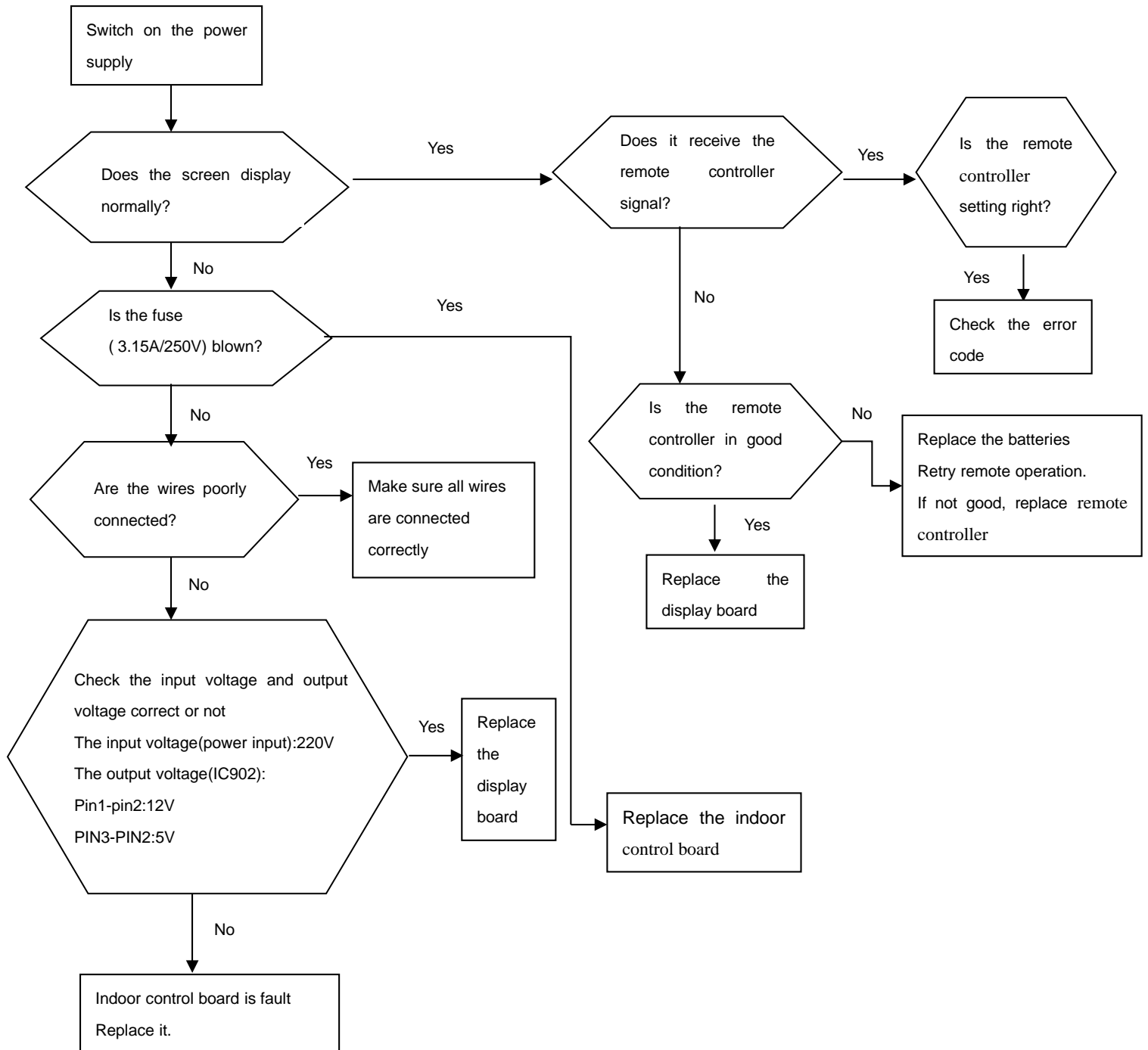
21	Outdoor coil anti-overload protection with cooling	a. the refrigerant is too much; b. the outdoor fan motor is failure; c. the outdoor fan is broken; d. the condensor is dirty; e. the air inlet and air outlet of the indoor unit and the outdoor unit is not normally
33	Indoor ambient temperature sensor in trouble	a. the indoor ambient temperature sensor connect loose; b. the indoor ambient temperature sensor is failure; c. the indoor control board is failure
34	Indoor coil temperature sensor in trouble	a. the indoor coil temperature sensor connect loose; b. the indoor coil temperature sensor is failure; c. the indoor control board is failure
36	Communication in trouble between the outdoor unit and indoor unit	a. the communication cable connect loose; b. the communication cable is failure; c. the connection between the filter board and the outdoor control board is incorrect or loose; d. the connection between the filter board and the terminal is incorrect or loose; e. the indoor control board is failure; f. the PFC board is failure; g. the power board is failure; h. the outdoor control board is failure.
38	Indoor EPROM in trouble	a. the EEPROM chip is loose; b. the EEPROM inserted with opposite direction; c. the EEPROM chip is failure,you should change the indoor control board.
39	Indoor fan motor running in trouble	a. the connection of the indoor fan motor is loose; b. there are something block the indoor fan; c. the fan motor is failure; d. the indoor control board is failure
41	Indoor unit detecting failures by zero-crossing	the indoor control board is failure

Note:

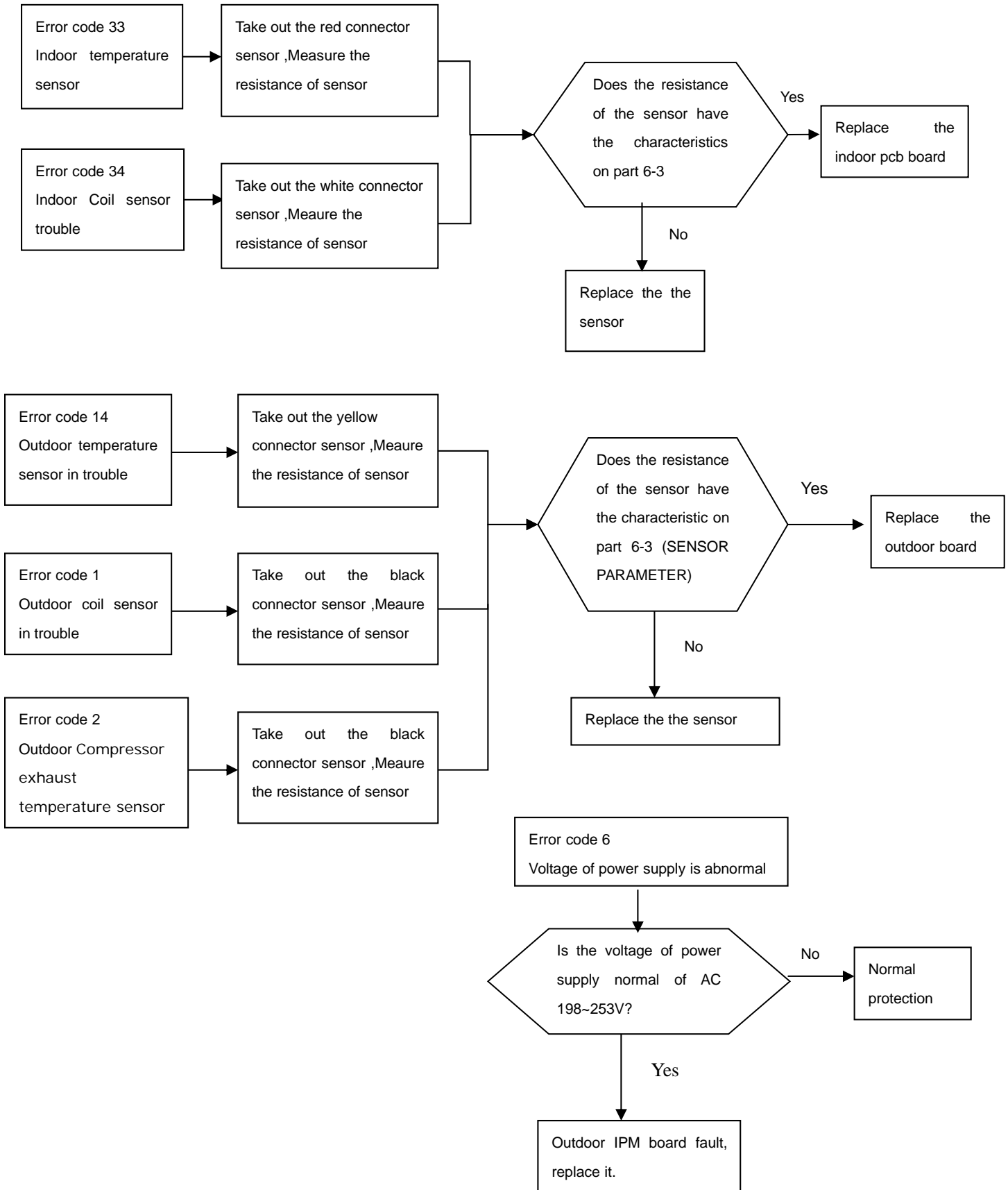
- If indoor unit could not receive the signal from outdoor unit in 12 minutes consecutively, then power to outdoor unit would be cut 1 minute later; after that, 3 minutes later, indoor unit would try to power the outdoor unit again; this procedure which were mentioned before would be done 3 times. If eoutdoor unit could not power, then error code 36 could be shown after "sleep" is pressed 4 times.

6 TROUBLE SHOOTING

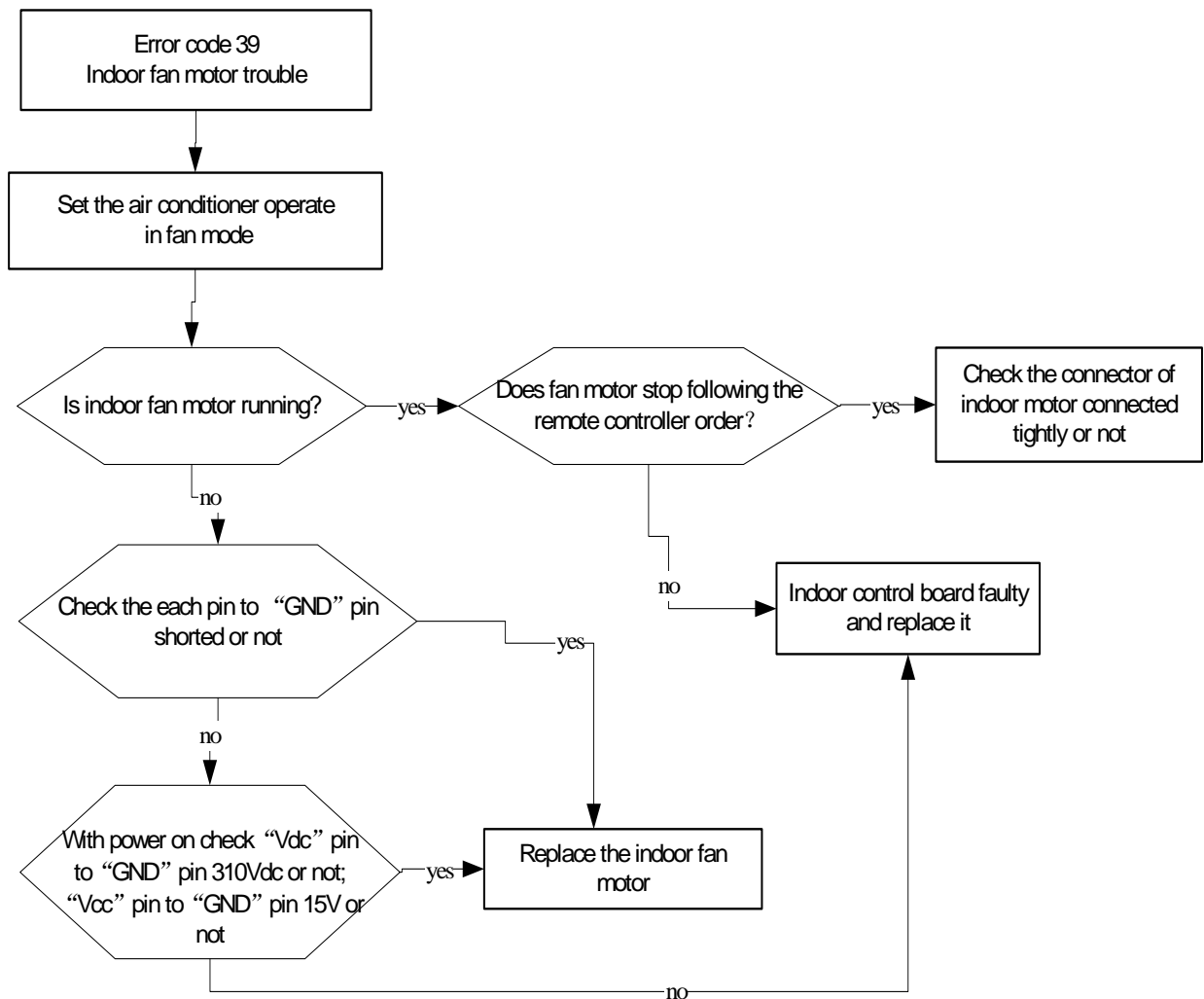
6-1. Service flow chart



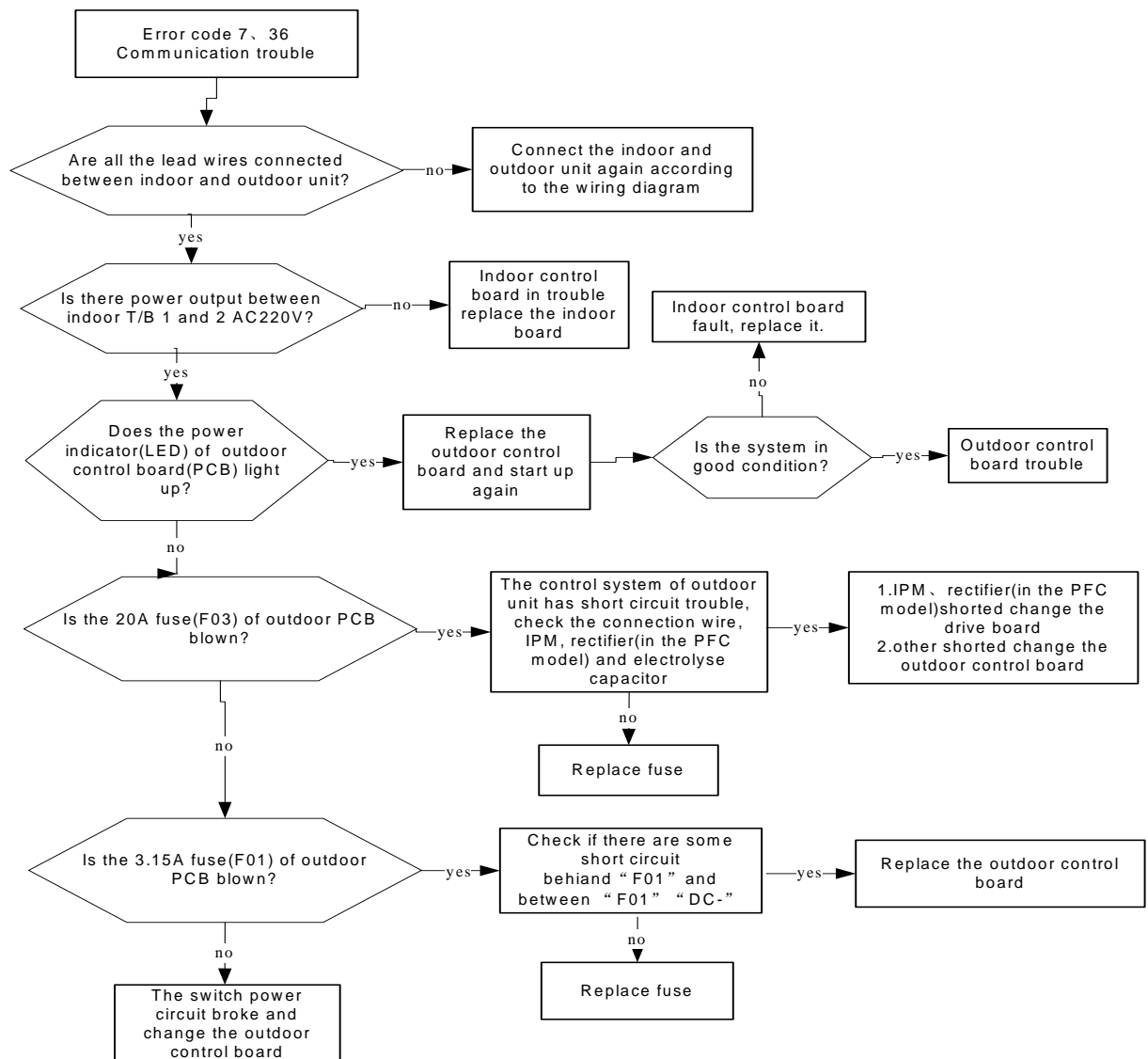
6 TROUBLE SHOOTING



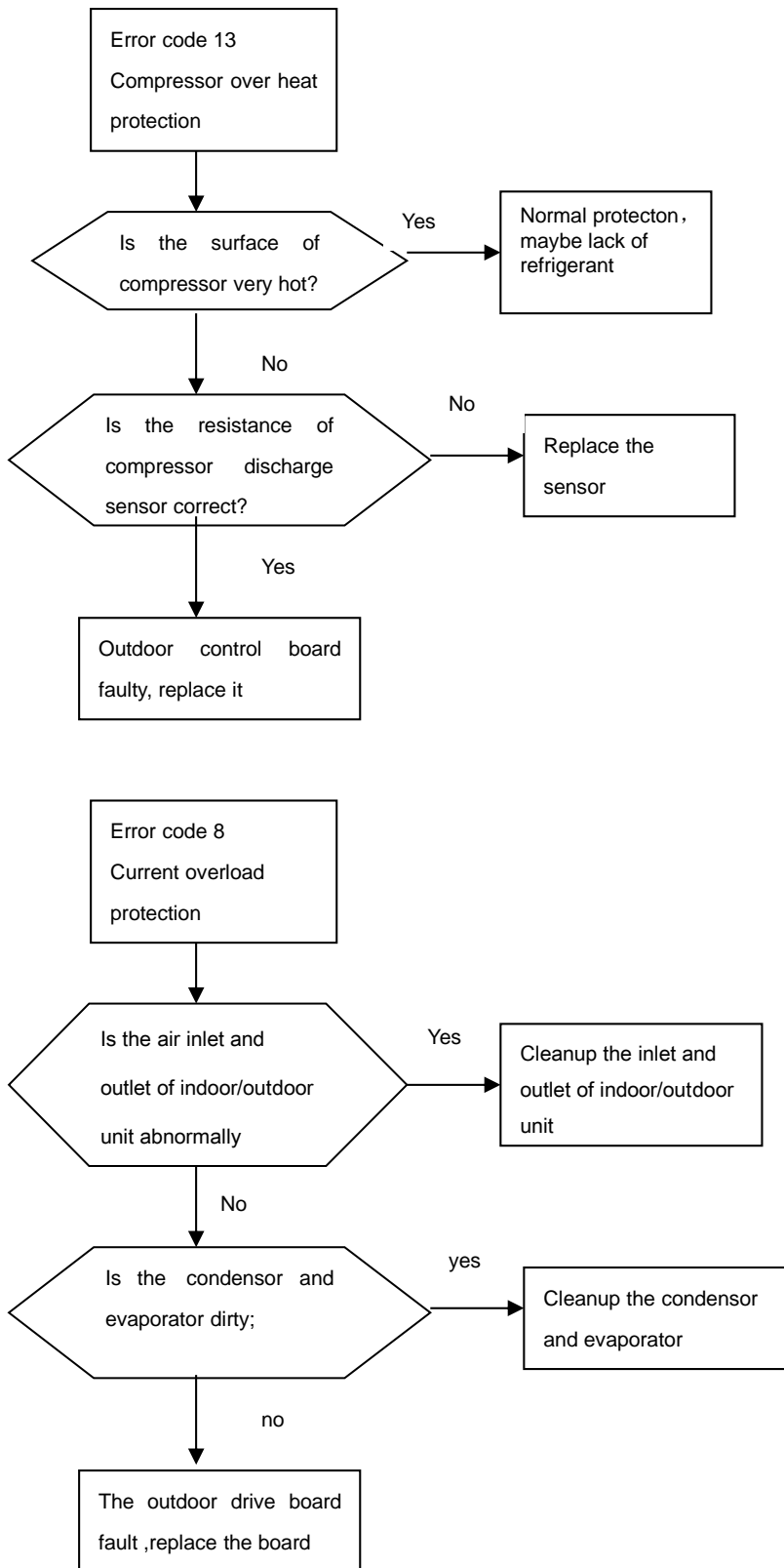
6. TROUBLE SHOOTING



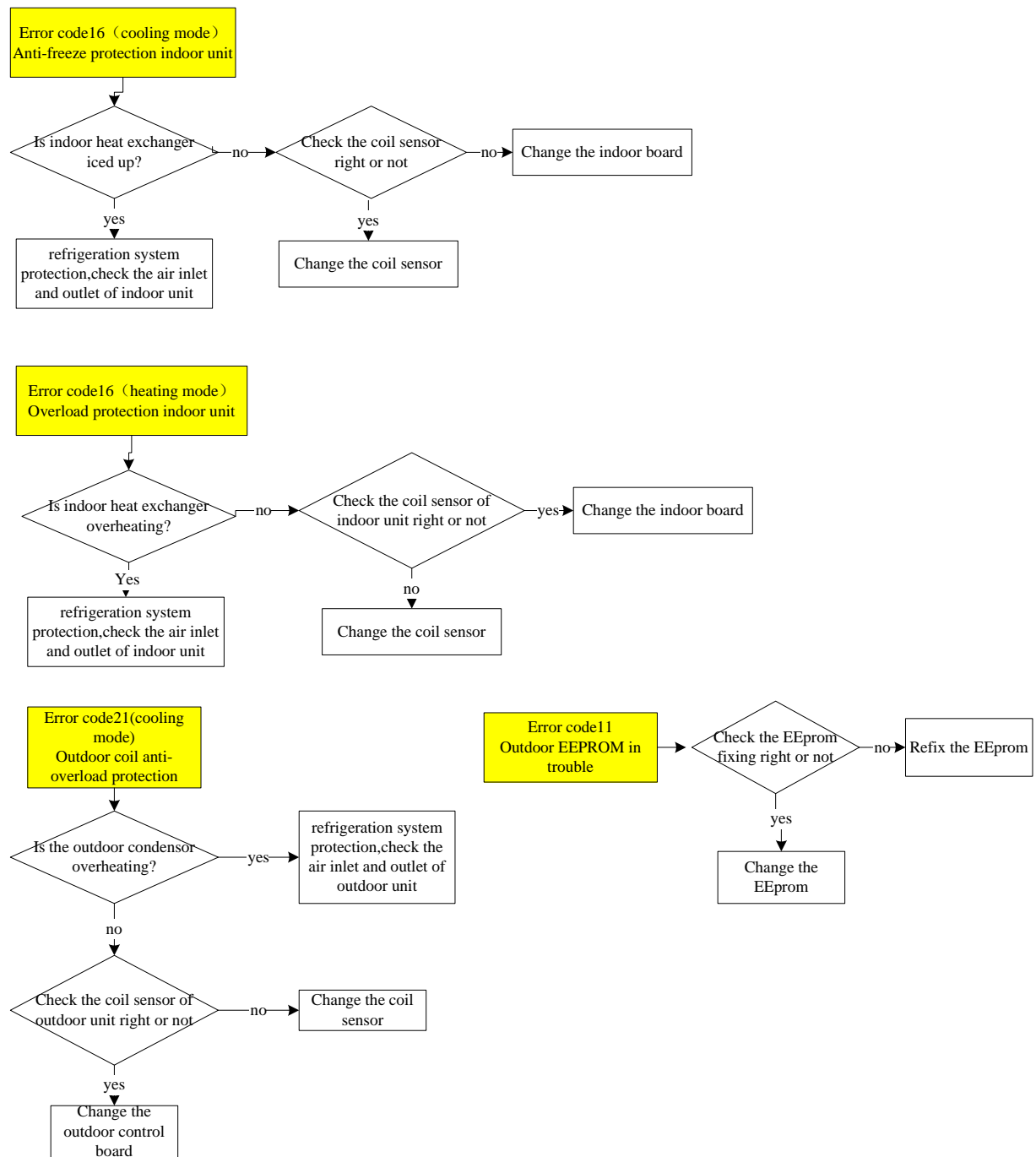
6. TROUBLE SHOOTING



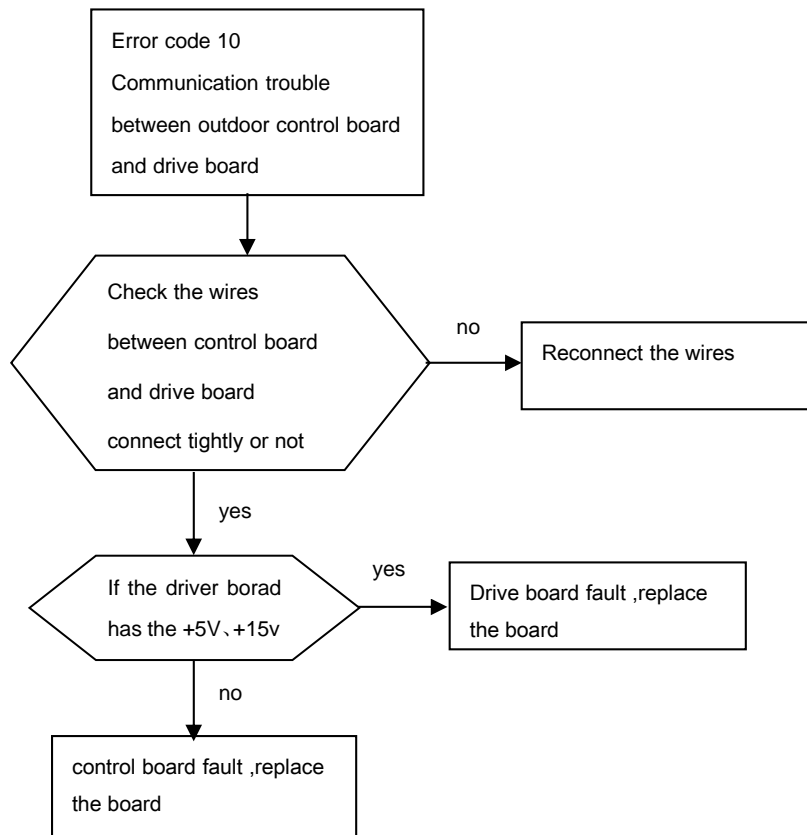
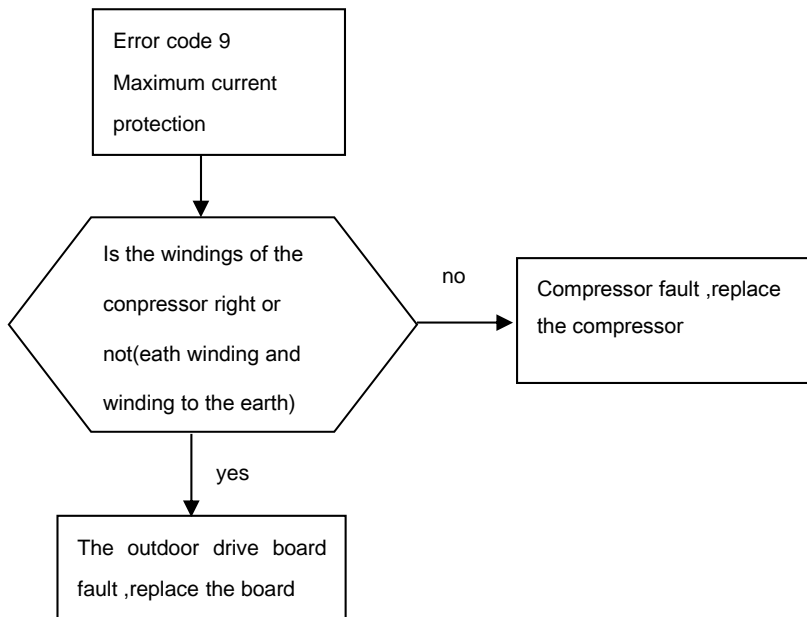
6. TROUBLE SHOOTING



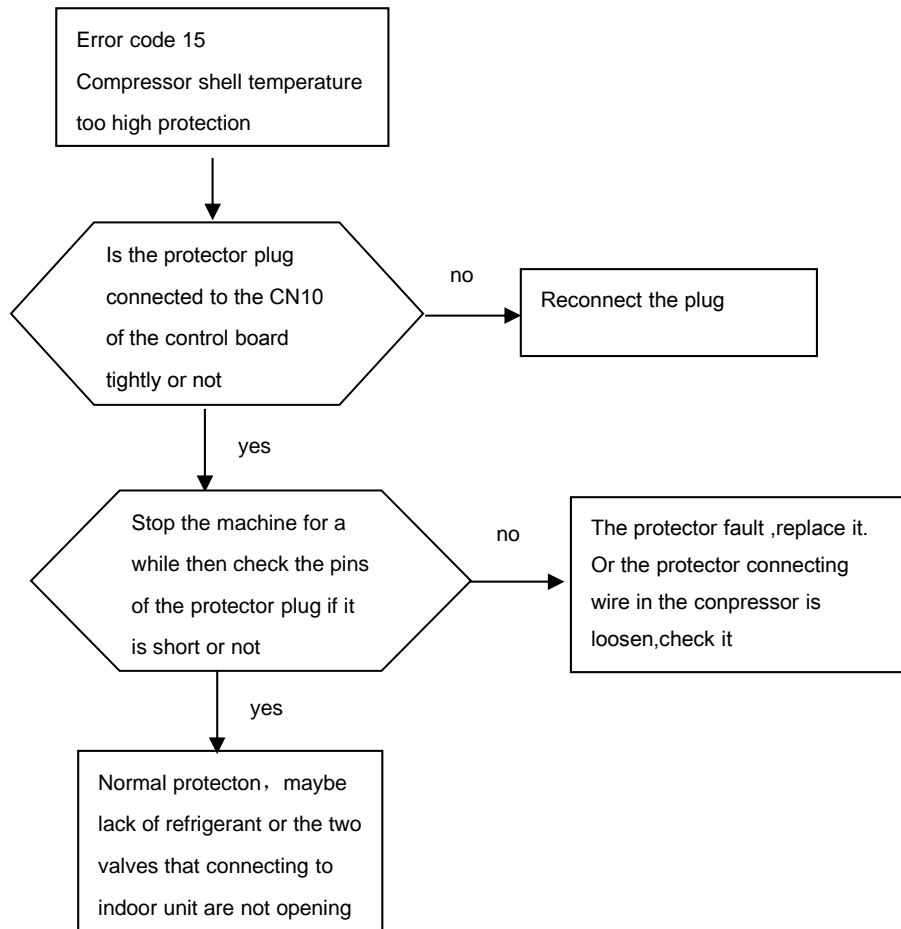
6. TROUBLE SHOOTING



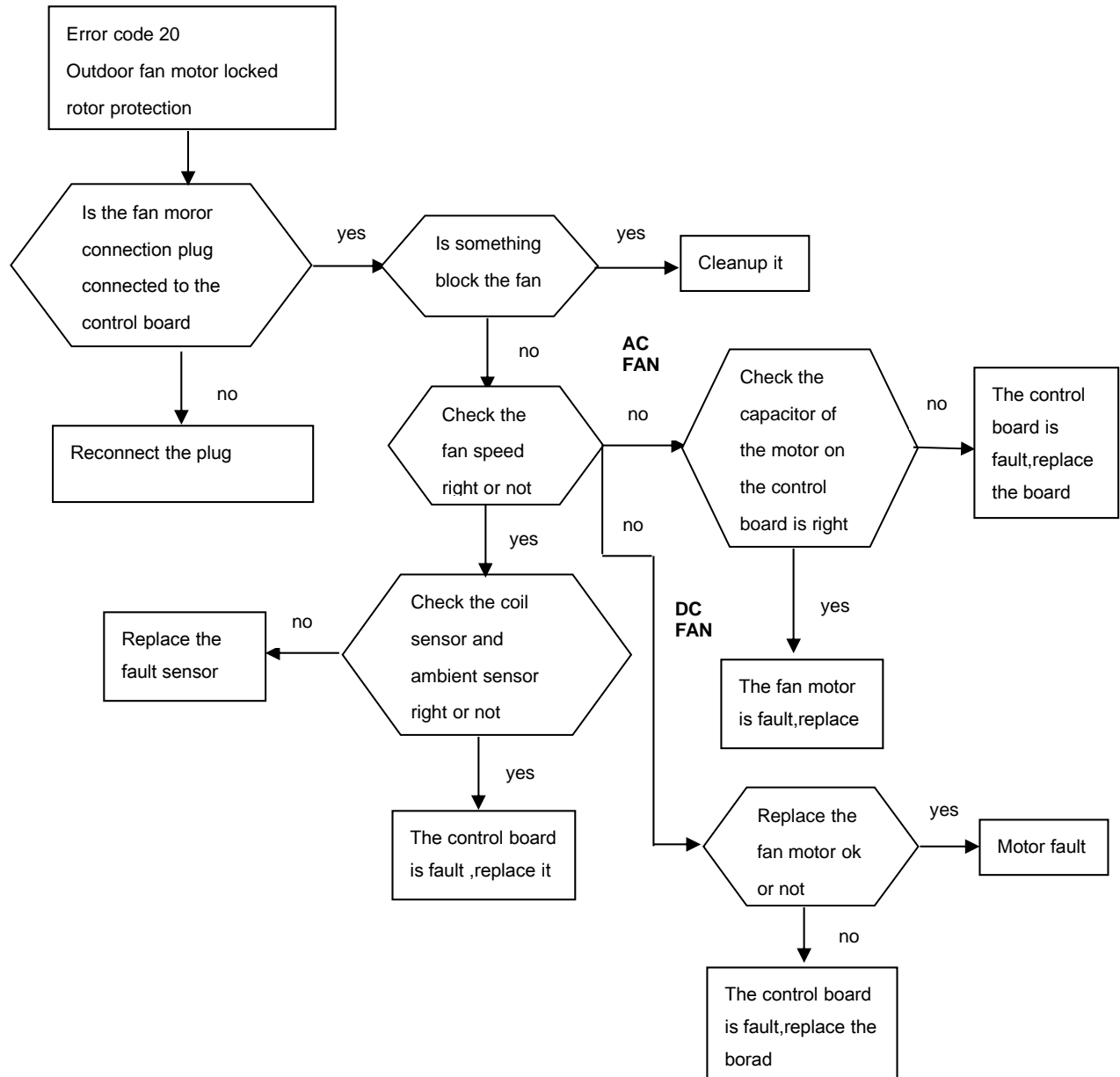
6. TROUBLE SHOOTING



6. TROUBLE SHOOTING



6. TROUBLE SHOOTING



6. TROUBLE SHOOTING

