

# UCV CONDENSING UNITS SPECIFICATIONS

### 1. Specifications

Model			UCV-76C	UCV-96C	
Code			220075900040	220075900020	
Power supply		V- Ph-Hz	380-415~3~50		
Cooling	Capacity	Btu/h	76000	96000	
	Input	W	8100	10000	
	Rated current	A	14.7	16.5	
Max. input consumption		W	12000	12000	
Max. input current		A	21.0	21.0	
Starting current		A	60	70	
Compressor	Model		403DH-64C2-X10(×2)	503DH-80C2(A) (×2)	
	Type		Scroll	Scroll	
	Brand		Hitachi	Hitachi	
	Supplier		Hitachi	Hitachi	
	Capacity	Btu/h	40260	50837	
	Input	W	3600	4400	
	Rated current (RLA)	A	6.8	8.34	
	Locked rotor Amp (LRA)	A	56	66	
	Thermal protector		Inner	Inner	
	Capacitor	uF	20UF/450V	25UF/440-450V	
	Refrigerant oil	ml	1200	1400	
Outdoor fan motor	Model		YDK400-8C	YDK900-6C	
	Type		AC motor	AC motor	
	Brand		Willing	YongAn	
	Input	W	670/550	1000	
	Capacitor	uF	20	20	
	Speed	r/min	670/550	820	
Outdoor coil	Number of rows		3	3	
	Tube pitch(a)x row pitch(b)	mm	25.4x22	25.4x22	
	Fin spacing	mm	1.5	1.5	
	Fin type		hydrophilic arcuate fin alum inurn foil		
	Tube outside dia. and type	mm		φ 9.53	φ 9.53
				innergroove tube	innergroove tube
	Coil length x height x width	mm	1917×710×66	1917×710×66	
Number of circuits		14	14		
Outdoor air flow		m <sup>3</sup> /h	7200	10400	
Outdoor noise level		dB(A)	64	67	
Outdoor unit	Dimension (W×H×D)	mm	980×1160×800	980×1160×800	
	Packing (W×H×D)	mm	1045×865×1260	1045×865×1260	
	Net/ Gross weight	kg	218/228	218/228	
Refrigerant type/Quantity	Type		R22	R22	
	Charged volume	g	6400	7000	
Design pressure		MPa	1.0/2.6	1.0/2.6	

Refrigerant piping	Liquid side/ Gas side	mm(inch)	$\phi$ 9.53/ $\phi$ 19	$\phi$ 9.53/ $\phi$ 19
	Max. pipe length	m	30	30
	Max. difference in level	m	20	20
Connection wiring	Power wiring	mm <sup>2</sup>	5×6.0	5×6.0
	Signal wiring	mm <sup>2</sup>	3×1.0	3×1.0
Operation temp		°C	17°C~30°C	
Ambient temp		°C	Cooling: 17°C~43°C	
Application area		m <sup>2</sup>	80-120	100-150

Model			UCV-76H	UCV-96H	
Code			220075900030	220075900010	
Power supply		V- Ph-Hz	380-415~3~50		
Cooling	Capacity	Btu/h	76000	96000	
	Input	W	8100	10200	
	Rated current	A	14.7	16.7	
Heating	Capacity	Btu/h	83600	105600	
	Input	W	8000	9800	
	Rated current	A	14.5	16.3	
Max. input consumption		W	12500	12500	
Max. input current		A	22.0	22.0	
Starting current		A	60	70	
Compressor	Model		403DH-64C2-X10(×2)	503DH-80C2(A) (×2)	
	Type		Scroll	Scroll	
	Brand		Hitachi	Hitachi	
	Supplier		Hitachi	Hitachi	
	Capacity	Btu/h	40260	50837	
	Input	W	3600	4400	
	Rated current (RLA)	A	6.8	8.34	
	Locked rotor Amp (LRA)	A	56	66	
	Thermal protector		Inner	Inner	
	Capacitor	uF	20UF/450V	25UF/440-450V	
	Refrigerant oil	ml	1200	1400	
Outdoor fan motor	Model		YDK400-8C	YDK900-6C	
	Type		AC motor	AC motor	
	Brand		Willing	YongAn	
	Input	W	670/550	1000	
	Capacitor	uF	20	20	
	Speed	r/min	670/550	820	
Outdoor coil	Number of rows		3	3	
	Tube pitch(a)x row pitch(b)	mm	25.4x22	25.4x22	
	Fin spacing	mm	1.5	1.5	
	Fin type		hydrophilic arcuate fin alum inurn foil		
	Tube outside dia. and type	mm		φ 9.53	φ 9.53
				innergroove tube	innergroove tube
	Coil length x height x width	mm	1917×710×66	1917×710×66	
	Number of circuits		14	14	
Outdoor air flow		m <sup>3</sup> /h	7200	10400	
Outdoor noise level		dB(A)	64	67	
Outdoor unit	Dimension (W×H×D)	mm	980×1160×800	980×1160×800	
	Packing (W×H×D)	mm	1045×865×1260	1045×865×1260	
	Net/ Gross weight	kg	225/235	225/235	

Refrigerant type/Quantity	Type		R22	R22
	Charged volume	g	6400	7000
Design pressure		MPa	1.0/2.6	1.0/2.6
Refrigerant piping	Liquid side/ Gas side	mm(inch)	$\phi$ 9.53/ $\phi$ 19	$\phi$ 9.53/ $\phi$ 19
	Max. pipe length	m	30	30
	Max. difference in level	m	20	20
Connection wiring	Power wiring	mm <sup>2</sup>	5×6.0	5×6.0
	Signal wiring	mm <sup>2</sup>	4×1.0	4×1.0
Operation temp		°C	17°C~30°C	
Ambient temp		°C	Cooling: 17°C~43°C Heating:- 7°C~24°C	
Application area		m <sup>2</sup>	80-120	100-150

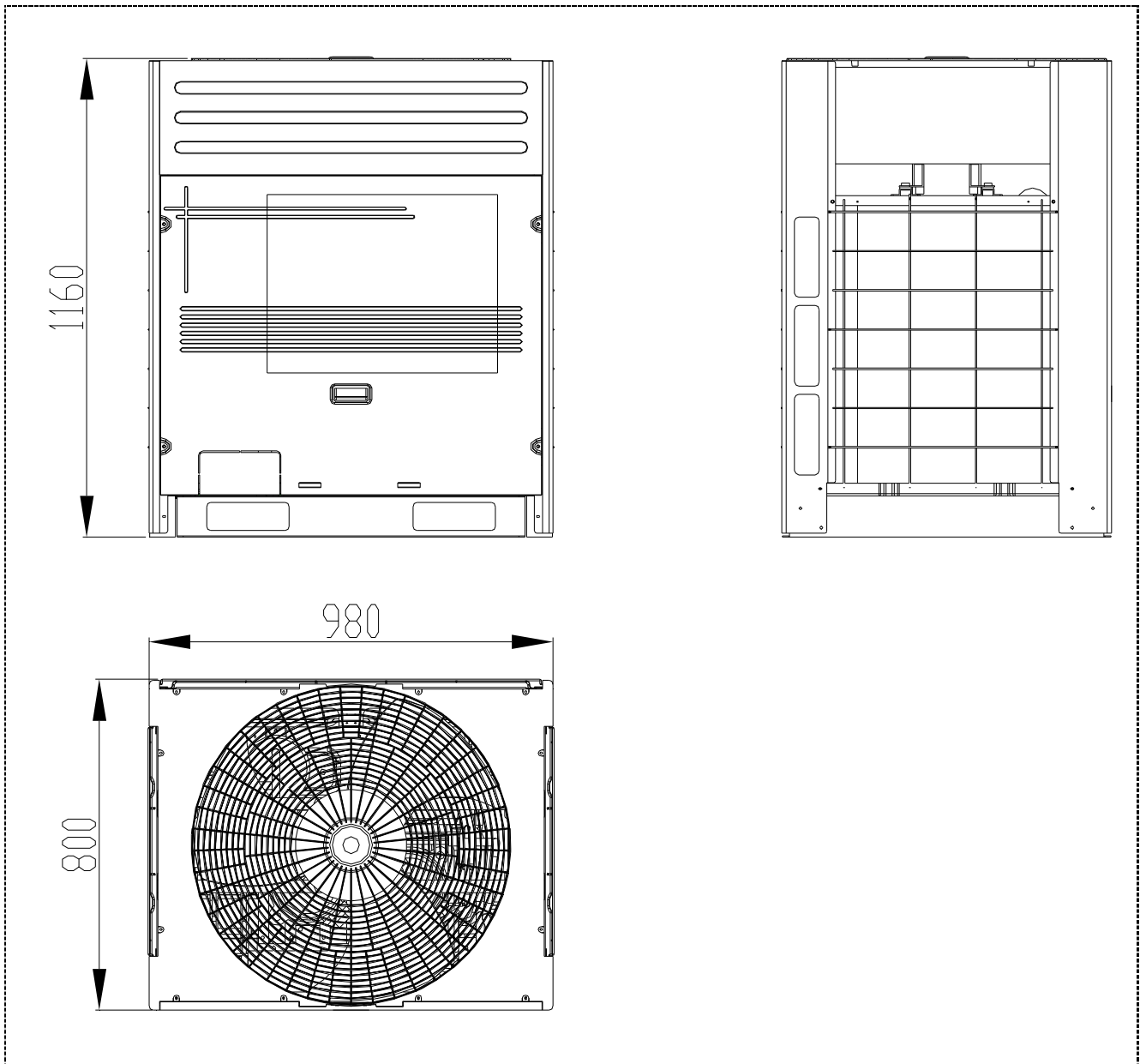
Model		UCV-150H	
Code		220075900000	
Power supply		V- Ph-Hz	380~415-3-50
Supply electricity type		Separated supply electricity	
Cooling	Capacity	Btu/h	150000
	Input	W	16000
	Rated current	A	30
	EER	Btu/W.h	9.38
Heating	Capacity	Btu/h	165000
	Input	W	17000
	Rated current	A	32
	COP	Btu/W.h	9.71
Max. input consumption		W	24000
Max. input current		A	39
Starting current		A	70
Compressor	Model		603DH-90C2Y-X10 (×3)
	Type		Scroll
	Brand		Hitachi
	Supplier		Guangzhou Hitachi
	Capacity	Btu/h	57322(×3)
	Input	W	5000(×3)
	Rated current (RLA)	A	9.5(×3)
	Locked rotor Amp (LRA)	A	70(×3)
	Thermal protector		Overload Protector (Internal)
	Capacitor	uF	20uF/450V(×3)
	Refrigerant oil	ml	SUNISO 4GDI-HT / 1800ml(×3)
Outdoor fan motor	Model		YDK450-6A (×2)
	Type		AC Motor
	Input	W	720/420 (×2)
	Capacitor	uF	20uF/450V (×2)
	Speed	r/min	810/530 (×2)
Outdoor coil	Number of rows		3
	Tube pitch(a)x row pitch(b)	mm	25.4×22
	Fin spacing	mm	1.7
	Fin type		Hydrophilic aluminum
	Tube outside dia. and type	mm	9.53/Innergroove
	Coil length x height x width	mm	2170×1220×66
	Number of circuits		24
Outdoor air flow		m <sup>3</sup> /h	14000
Outdoor noise level		dB(A)	63
Outdoor unit	Dimension (W×H×D)	mm	1380×1630×830
	Packing (W×H×D)	mm	1434×1790×860

	Net/ Gross weight	kg	356/382
Refrigerant type/Quantity	Type		R22
	Charged volume	g	12000
Design pressure		MPa	1.0/2.6
Refrigerant piping	Liquid side/ Gas side	mm(inch)	16/35
	Max. pipe length	m	50
	Max. difference in level	m	20
Connection wiring	Power wiring	mm <sup>2</sup>	5×9.0
	Signal wiring	mm <sup>2</sup>	4×1.0
Operation temp		°C	17~30
Ambient temp		°C	-7~43
Application area		m <sup>2</sup>	180~240

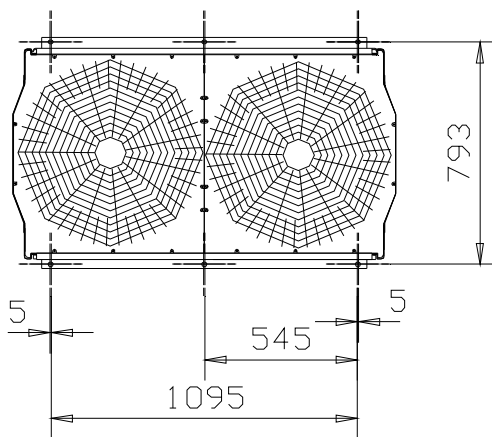
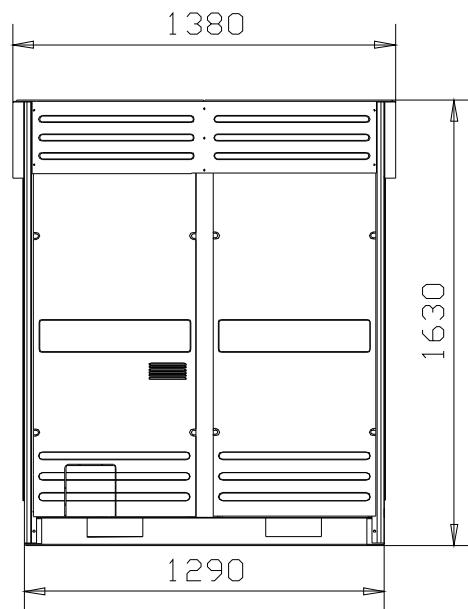
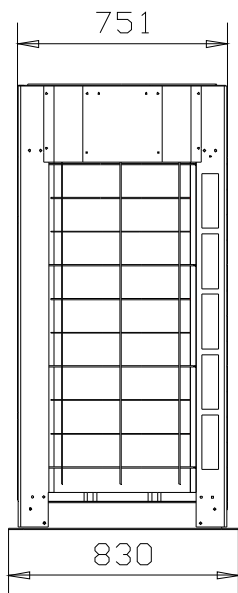
## 2. Dimension

2.1 UCV-76C UCV-96C UCV-76H UCV-96H

Unit: mm

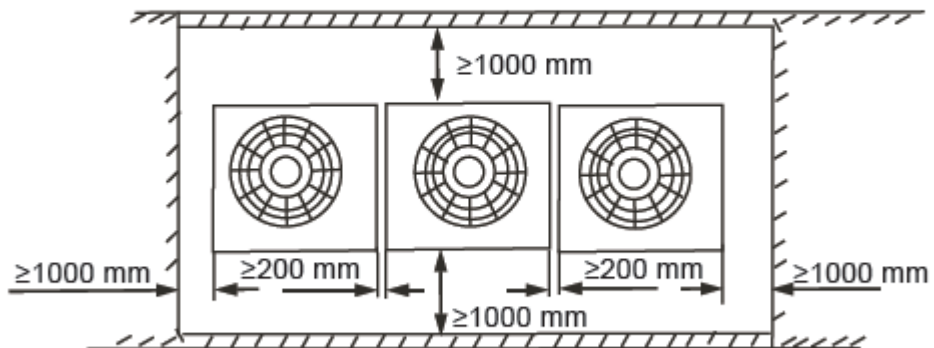
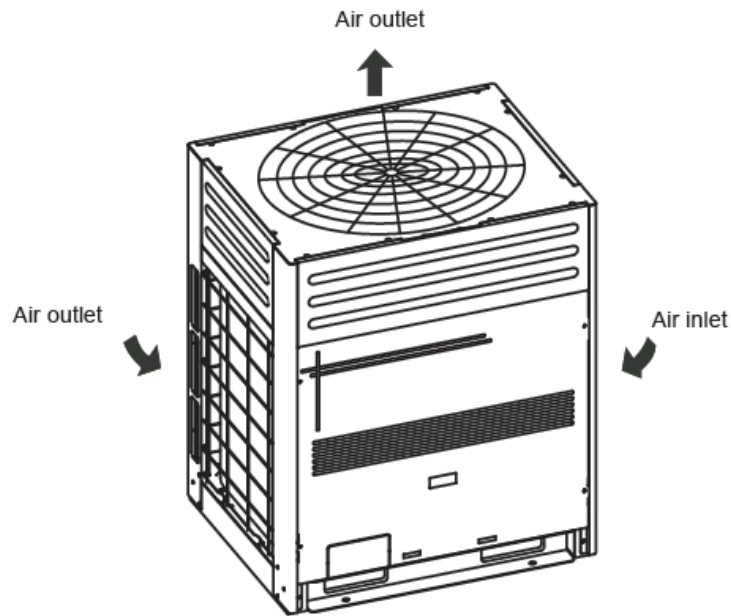


## 2.2 UCV-150H



### 3. Service Space

#### 3.1 UCV-76C UCV-96C UCV-76H UCV-96H



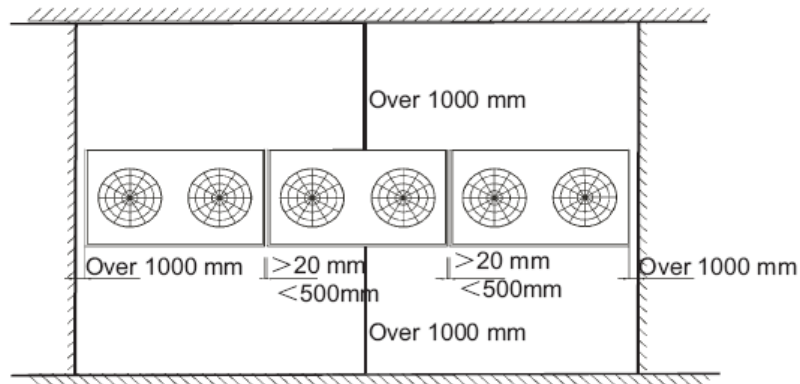
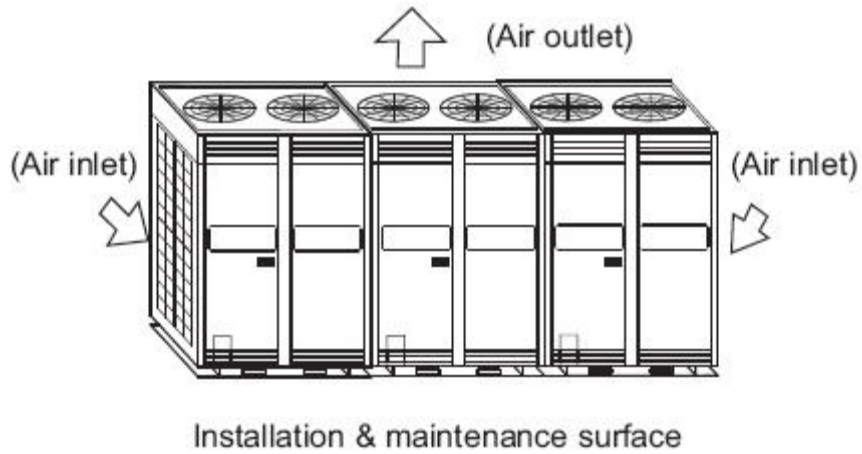
**Top view of the outdoor unit (multiple units installed)**

**Note:**

1. In case any obstacles exist above the outdoor unit, such obstacles must be 2000mm above the outdoor unit.
2. If miscellaneous articles are piled around the outdoor unit, such articles must be 400mm below the top of the outdoor unit.

### 3.2 UCV-150H

- 1). When installing the unit, leave a space for maintenance shown in the following figure. Install the power supply at the side of the outdoor unit. For installation procedure, see the relevant installation manual.
- 2). Ensure enough space for installation and maintenance. (See the following figure)

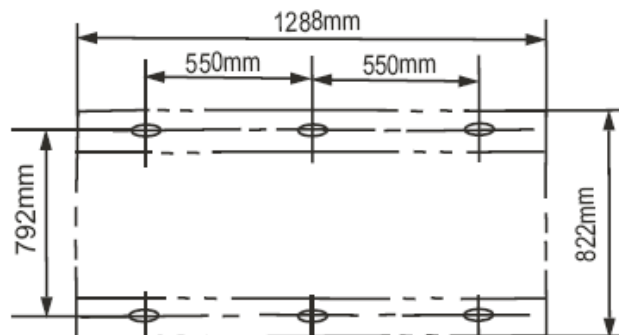


Top view of the outdoor unit (multiple units installed)

**NOTE:**

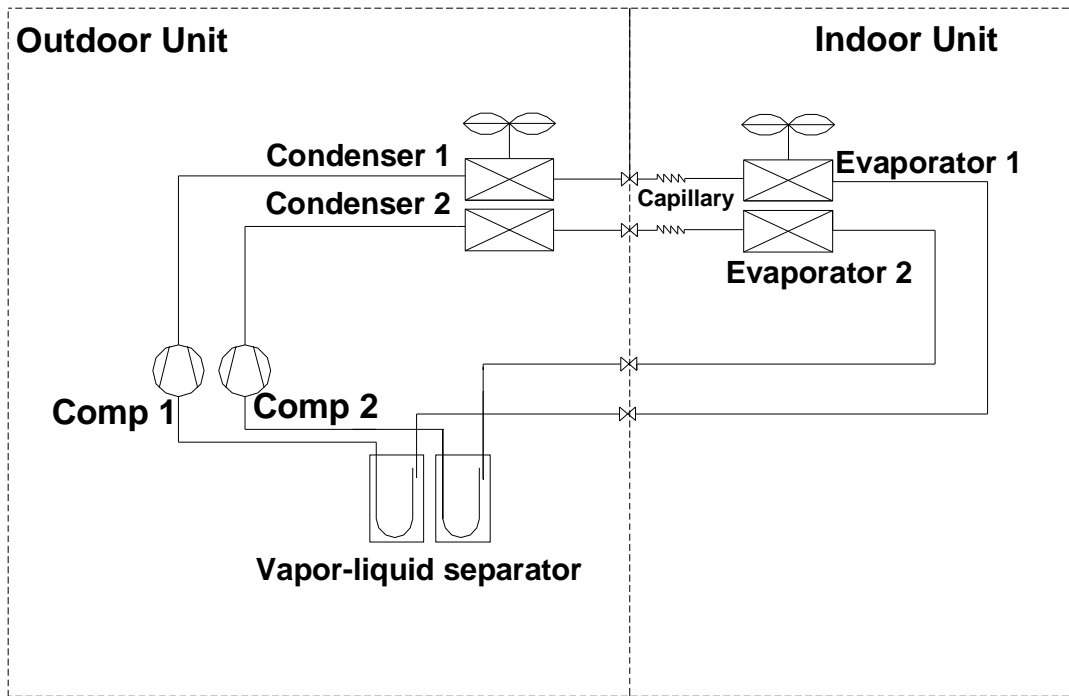
1. In case any obstacles exist above the outdoor unit, such obstacles must be 2000mm above the outdoor unit.
2. If miscellaneous articles are piled around the outdoor unit, such articles must be 400mm below the top of the outdoor unit.

The distance of the foundation bolt is shown in the following figure.

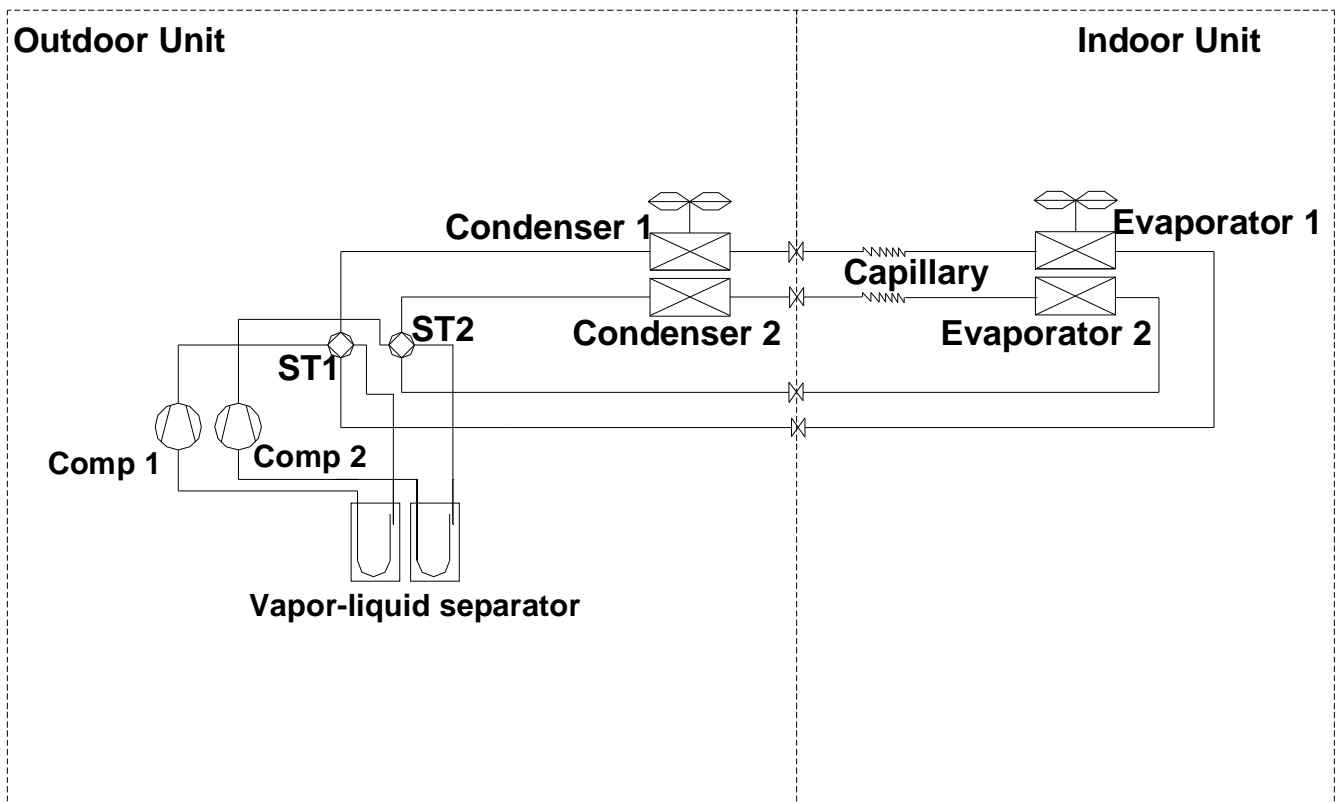


## 4. Piping Diagrams

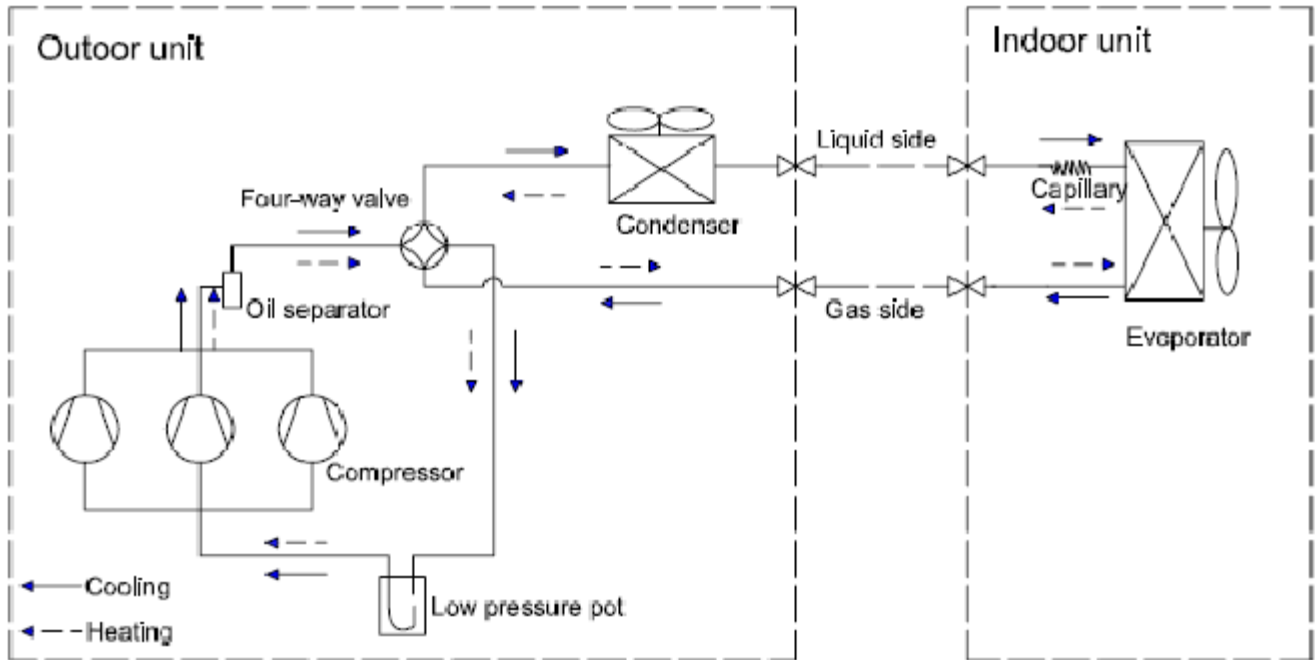
### 4.1 UCV-76C UCV-96C



### 4.2 UCV-76H UCV-96H



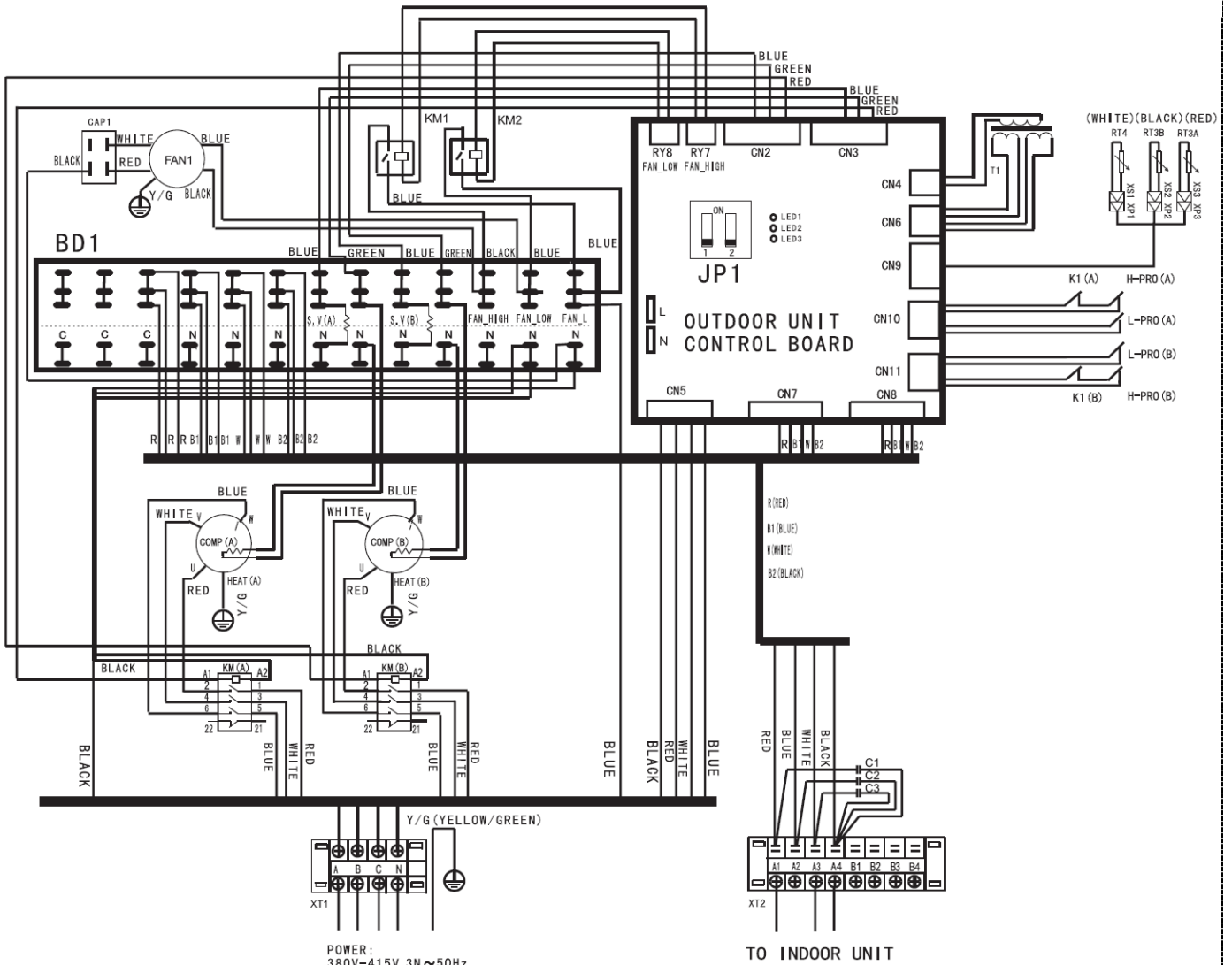
### 4.3 UCV-150H



# 5. Wiring Diagrams

## 5.1 UCV-76C

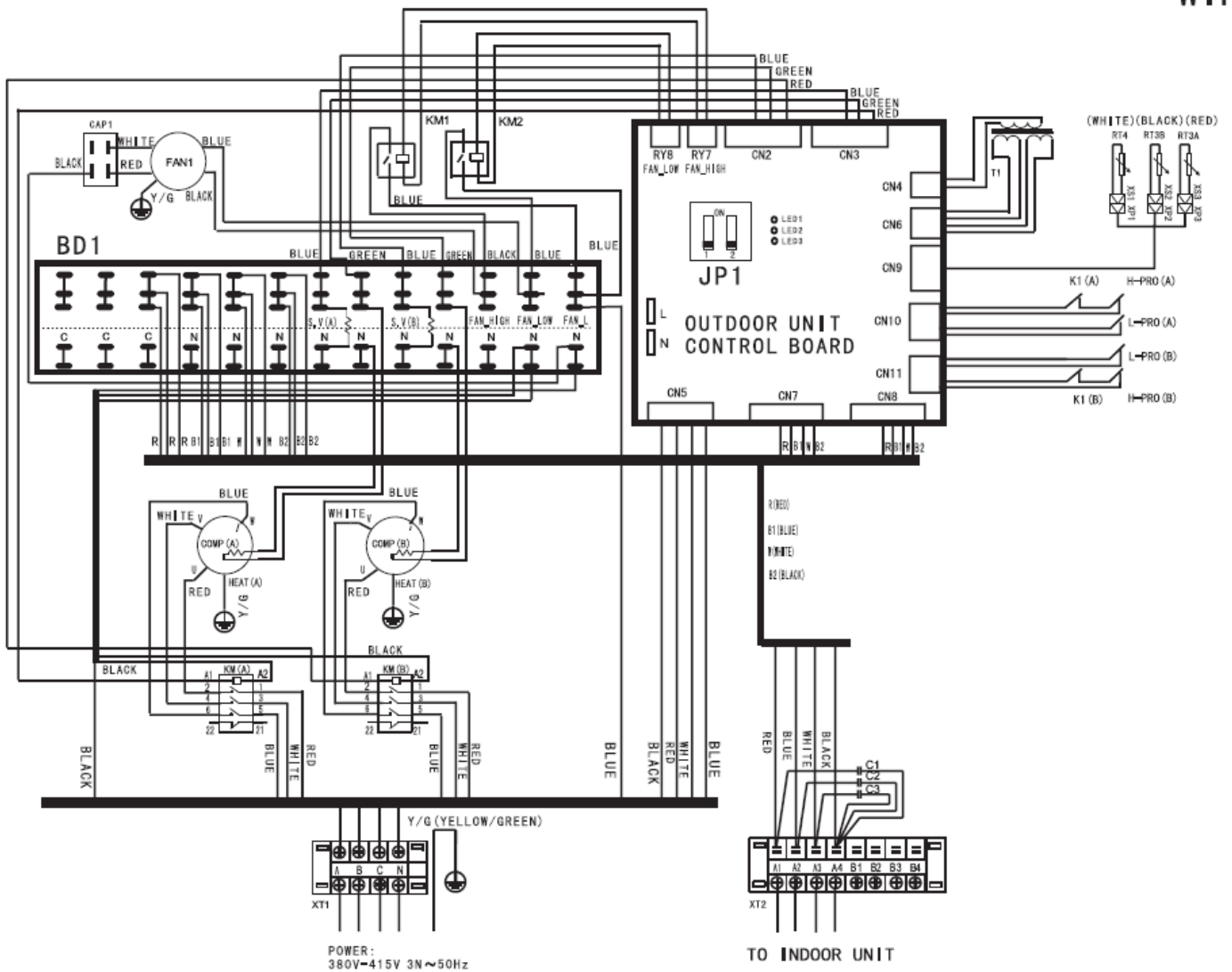
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## 5.2 UCV-76H

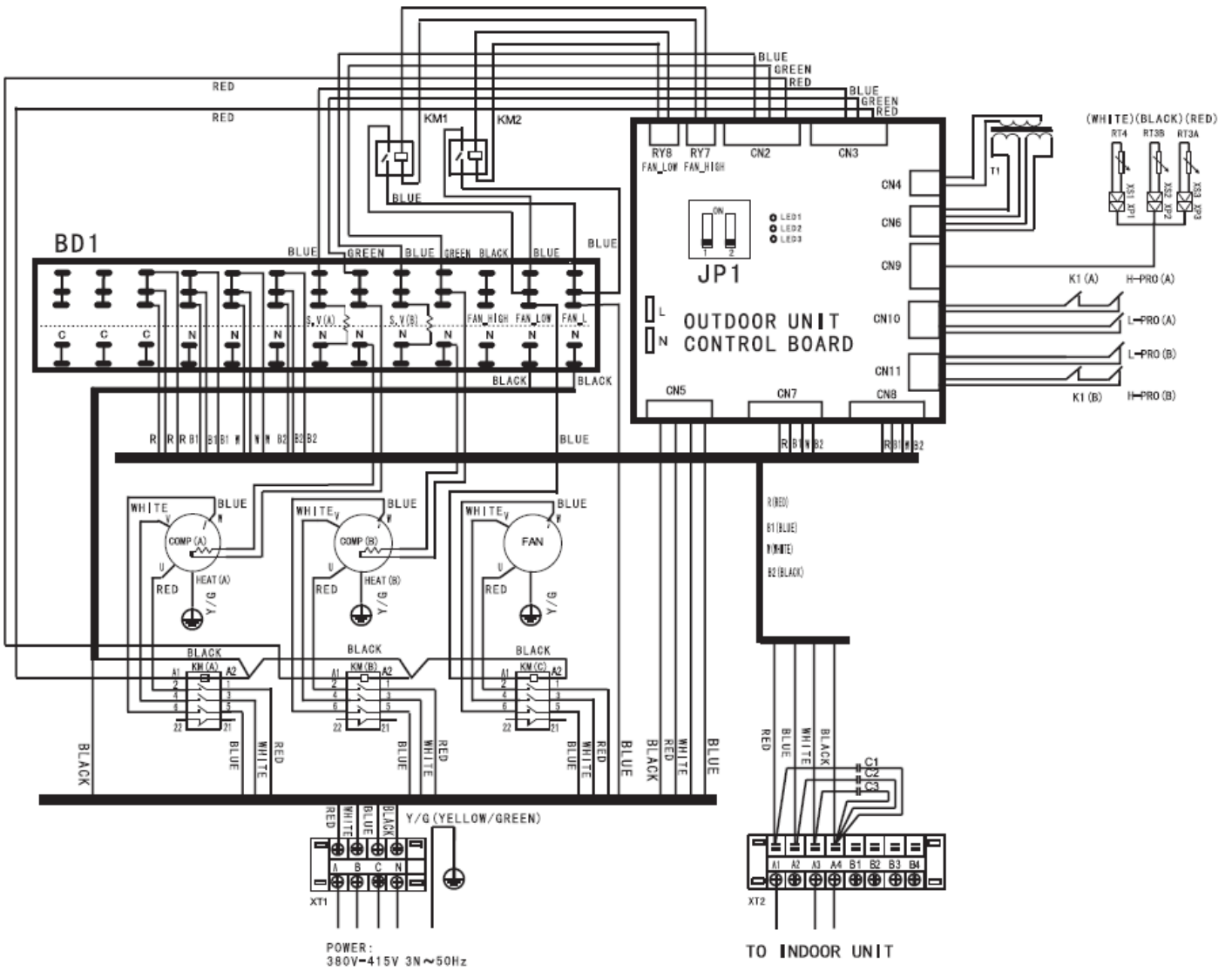
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
### 5.3 UCV-96C

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FUNCTION OF SWITCH JP1

LOCATION & EXPLANATION	
1	 STATE OF NORMAL USE
2	 STATE OF QUICK CHECK
3	 STATE OF SELF-CHECK

LED INDICATION DESCRIPTION

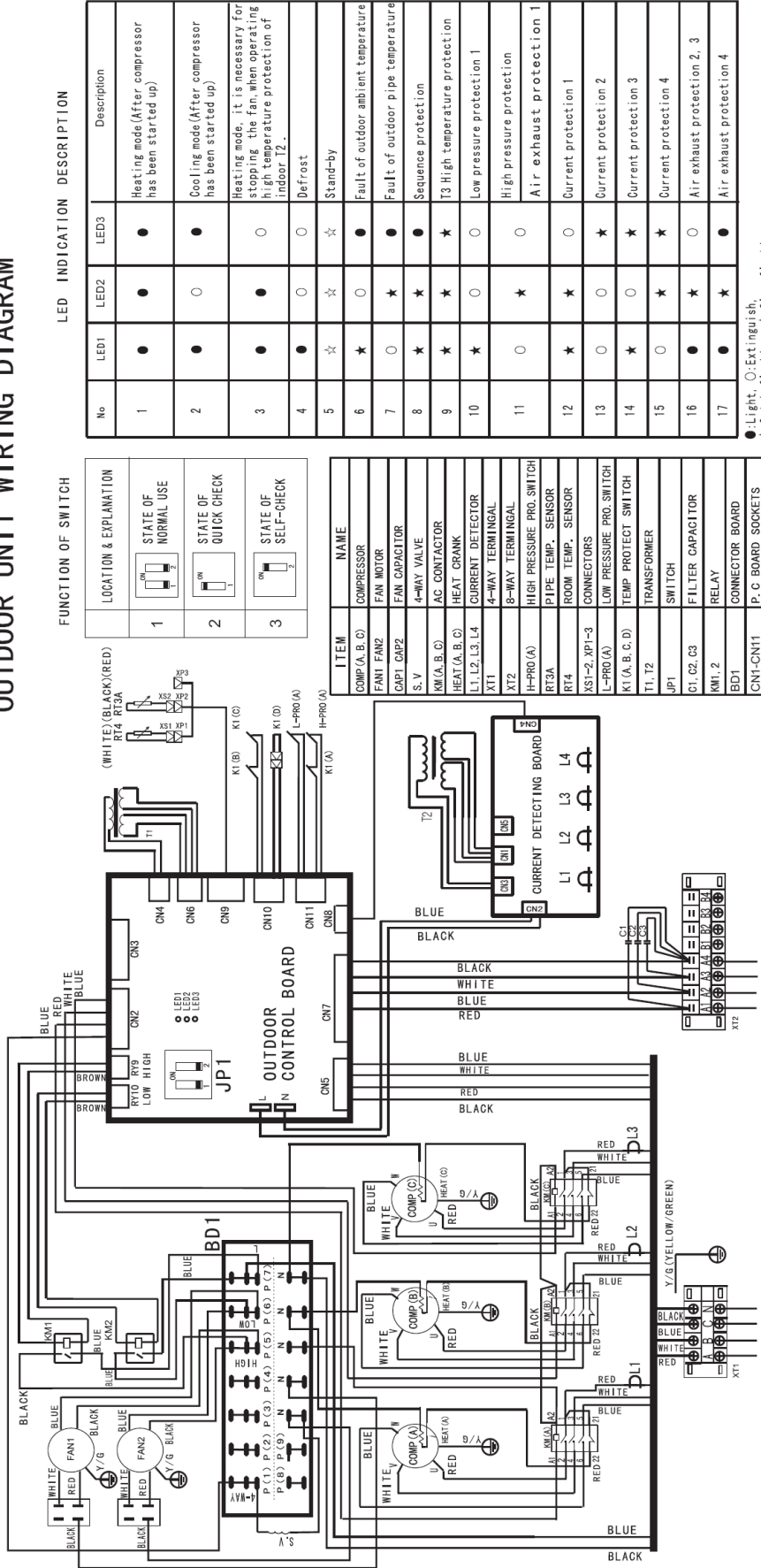
No	LED1	LED2	LED3	Description
1	●	X	X	Heating mode (After compressor has been started up)
2	X	●	X	Cooling mode (After compressor has been started up)
3	☆	☆	☆	Stand-by
4	○	○	★	Fault of outdoor ambient temperature sensor
5	★	○	○	Fault of T3A, High pressure protection A, Or Low pressure protection A
6	○	★	○	Fault of T3B, High pressure protection B, Or Low pressure protection B
7	★	★	●	Sequence protection
8	○	★	★	T3 High temperature protection

ITEM	NAME
COMP (A, B)	COMPRESSOR
FAN	FAN MOTOR
S, V (A, B)	4-WAY VALVE (A, B)
KM (A, B, C)	AC CONTACTOR
HEAT (A, B)	CRANK
L1, L2, L3, L4	CURRENT DETECTOR
XT1	4-WAY TERMINAL
XT2	8-WAY TERMINAL
H-PRO (A, B)	HIGH PRESSURE PRO. SWITCH
RT3A RT3B	PIPE TEMP. SENSOR
RT4	ROOM TEMP. SENSOR
XS1-3, XP1-3	CONNECTORS
L-PRO (A, B)	LOW PRESSURE PRO. SWITCH
K1 (A, B)	TEMP PROTECT SWITCH
T1	TRANSFORMER
JP1	SWITCH
C1, C2, C3	FILTER CAPACITOR
KM1, 2	RELAY
BD1	CONNECTOR BOARD
CN1-CN11	P. C BOARD SOCKETS

●:Light, ○:Extinguish,  
★:Quick-flashing, ☆:Slow-flashing, X:Not consideration

OUTDOOR UNIT WIRING DIAGRAM

202075990006



LED INDICATION DESCRIPTION

No	LED1	LED2	LED3	Description
1	●	●	●	Heating mode(After compressor has been started up)
2	●	○	●	Cooling mode(After compressor has been started up)
3	●	●	○	Heating mode, it is necessary for stopping the fan, when operating high temperature protection of indoor T2.
4	●	○	○	Defrost
5	☆	☆	☆	Stand-by
6	★	○	●	Fault of outdoor ambient temperature
7	○	★	●	Fault of outdoor pipe temperature
8	★	★	●	Sequence protection
9	★	★	★	T3 High temperature protection
10	★	○	○	Low pressure protection 1
11	○	★	○	High pressure protection
12	★	★	○	Air exhaust protection 1
13	○	○	★	Current protection 1
14	★	○	★	Current protection 2
15	○	★	★	Current protection 3
16	●	★	○	Current protection 4
17	●	★	●	Air exhaust protection 2, 3
				Air exhaust protection 4

FUNCTION OF SWITCH

LOCATION & EXPLANATION
 STATE OF NORMAL USE
 STATE OF QUICK CHECK
 STATE OF SELF-CHECK

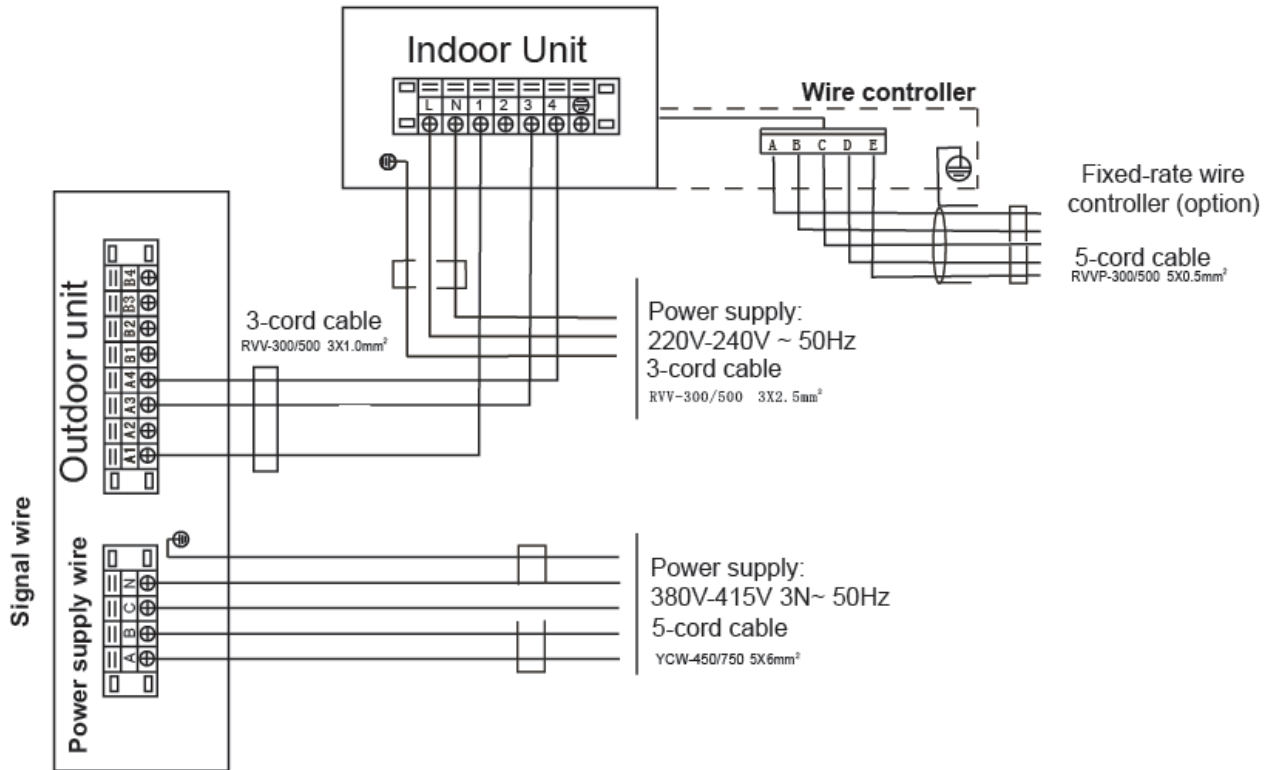
● Light, ○ Extinguish  
★ Quick-flashing, ☆ Slow-flashing

TO INDOOR UNIT

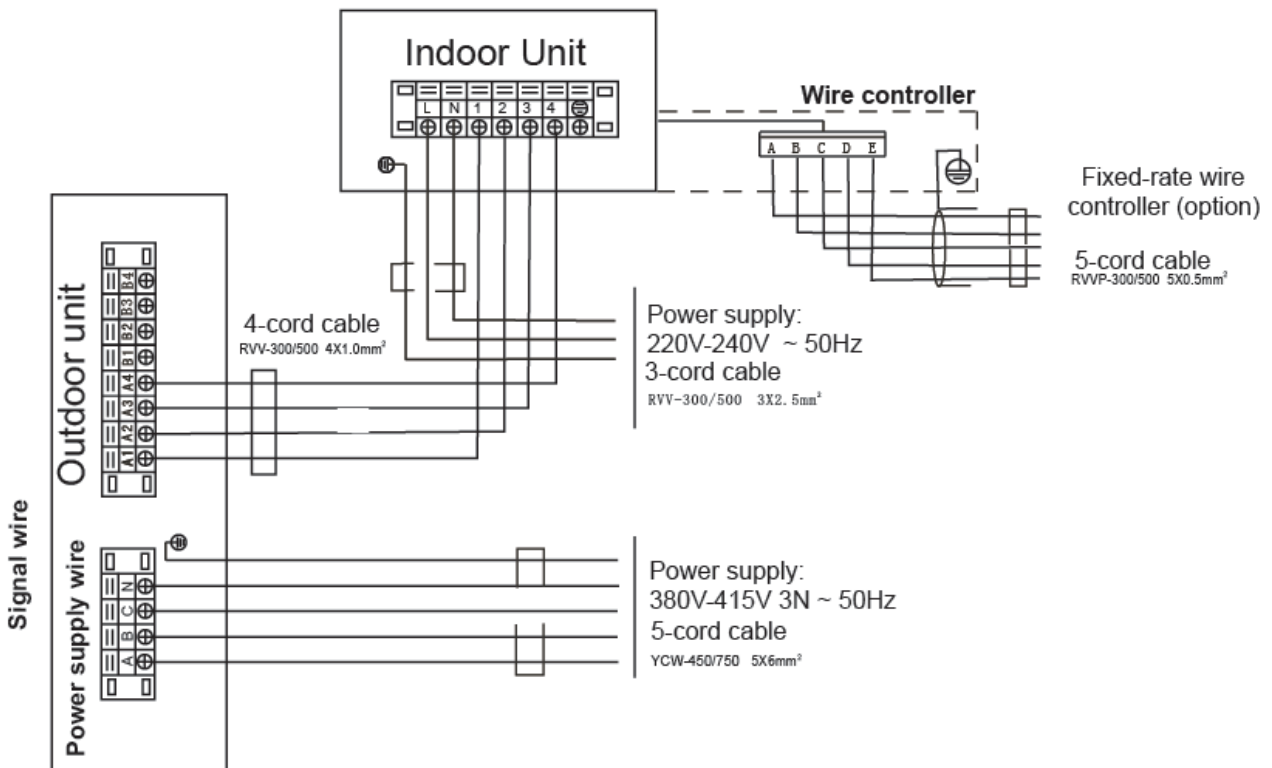
POWER  
380V-415V 3N ~ 50Hz

## 6. Field Wiring

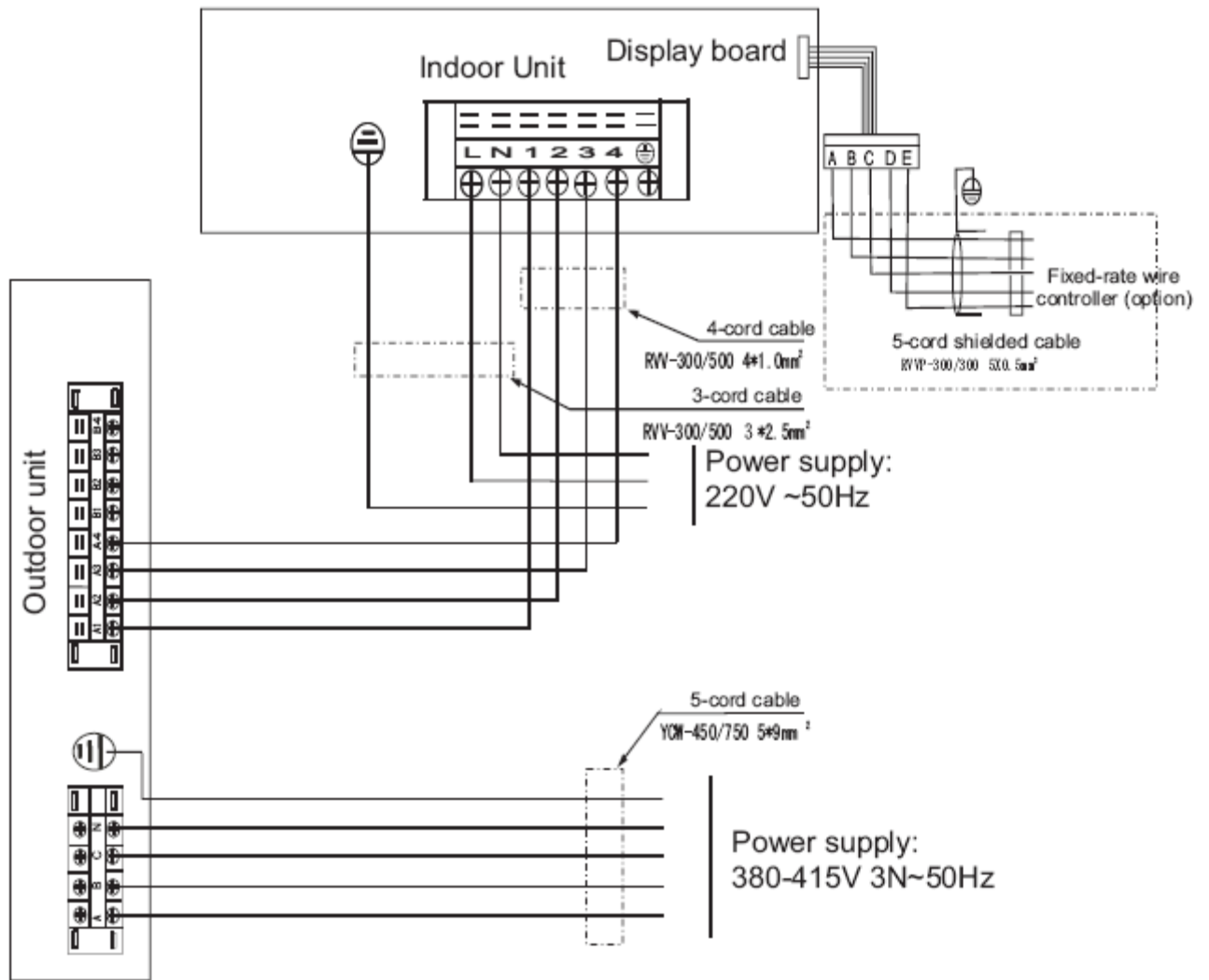
### 6.1 UCV-76C UCV-96C



### 6.2 UCV-76H UOV-96H



### 6.3 UCV-150H



## 7. Electric Characteristics

Model	Outdoor Unit				Power Supply			Compressor		OFM	
	Hz	Voltage	Min.	Max.	MCA	TOCA	MFA	MSC	RLA	KW	FLA
UCV-76C	50	380V	342V	418V	20	21	60	49	6.7	0.4	3.1
UCV-76H	50	380V	342V	418V	20	21	60	49	6.7	0.4	3.1
UCV-96C	50	380V	342V	418V	23	23	72	54	7.9	0.9	1.93
UCV-96H	50	380V	342V	415V	20	23	60	54	7.9	0.9	1.93
UCV-150H	50Hz	380V/3ph	342V	415V	40	44	120	70	9.5	0.45×2	3.28

### Remark:

MCA: Min. Current Amps. (A)

TOCA: Total Over-current Amps. (A)

MFA: Max. Fuse Amps. (A)

MSC: Max. Starting Amps. (A)

RLA: Rated Locked Amps. (A)

OFM: Outdoor Fan Motor.

FLA: Full Load Amps. (A)

KW: Rated Motor Output (kW)