

# AIR+PLUS

Air Conditioning Technologies



GUIDE TO THE PRODUCTS FOR  
CASSY SERIES



**AIR+PLUS**

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Plug & Play

## CASSETE TYPE FCU

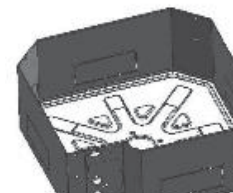
- ▶ General Features
- ▶ Nomenclature
- ▶ Performance Data Table
- ▶ Correction Ratio
- ▶ Wiring Diagram
- ▶ Dimension Drawing
- ▶ Controller System Introduction
- ▶ Optional Parts Introduction



### ▶ General Features

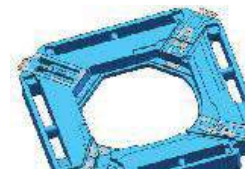
#### ▶ Casing

Casing is made of high quality galvanized steel. Thanks to a integrated blister process, ensures there is no any water leakage because of no welding points. It adopts EPS material overal foaming and bonded to the drain pan. It looks elegant and light thanks to adopting much non metal material.



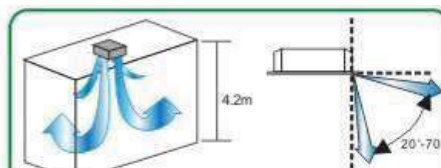
#### ▶ Front Panel

4 way air supply, intake grill, panel frame and adjustable air distribution louver on each side made form ABS.



#### ▶ Multiway Air Supply

Multiway air supply, ensures room temperature much even and comfortable



#### ▶ Coil

Coil is designed by coil selection software and tested in factory performance test lab to guarantee the performance. It adopts Integral type "C" shape design of heat exchanger with density without interval which makes the internal air temperature even avoiding area temperature difference caused by internal air twice non even mixture led by twice bended coil design. Coil design is counter flow which makes higher efficiency. Coil is made of high quality 9.52 mm copper tube and high efficient hydrophilic coated aluminum fin. It adopts advance tube expanding process which makes the copper tube and the fins touch each other in best way and moreover big diameter and low noise fan blower is adopted to make sure the best heat transfer efficiency. The header is made of brass and thanks to the design, the water flow distributes even and less head loss is achieved which improves the heat exchange performance. Thanks to the good matching of the fan blower and the new designed air deflector, the performance has been improved 15%.

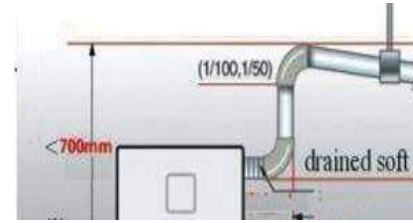


## ► Condensate Drain Pan

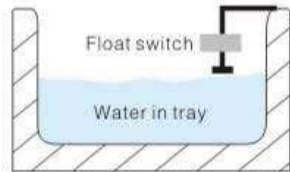
Adopt blister process and it will be bond together with high condensity E foam drain pan at an organic whole after heated. The drain pan end EPS foam both adopt fire material

## ► Condensate Drain Pump

Adopt intelligent high lift condensate water drainage pump can make the water height of 750 mm which makes it more convenient for the setting of drainage pipe and ensures good drainage performance



## ► Switch Protection of Water Level Avoids Any Water Leakage



After the water raising to a certain position, the float switch will act an alarm, then the unit will cut off the water valve or stop the fan motor.

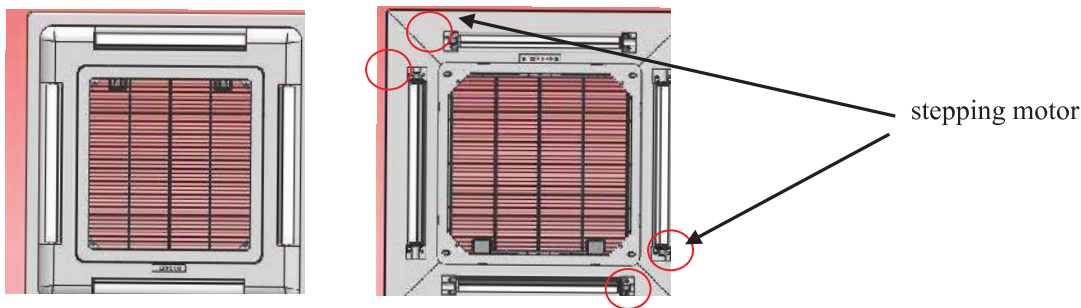
## ► Motor

Adopt large diameter vortex centrifugal fan ensures low noise running and energy saving. Adopting three-dimensional large dip angle sprial blades and rolling bearing motor. Motor shaft adopts antirust processed hardened and tempered steel which ensures loger service life, high efficiency and low noise. Moreover good EPS foam is helpful on noise absorbing.



## ► Automatic Swing

Automatic swing, the operation of 4 pieces of swing louvers are controlled by separately four stepping motors, more reliable than one stepping motor linked control structure.



## ► Blower

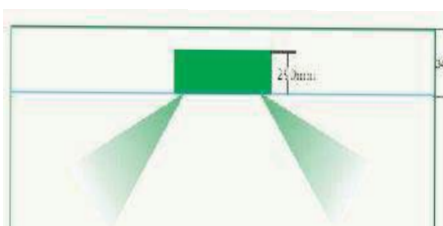
Single air inlet radial fan, fan assembly mounted on anti-vibrating supports guarantees extremely quiet.

## ► Filter

Adopt Nylon filter with easy remove design.

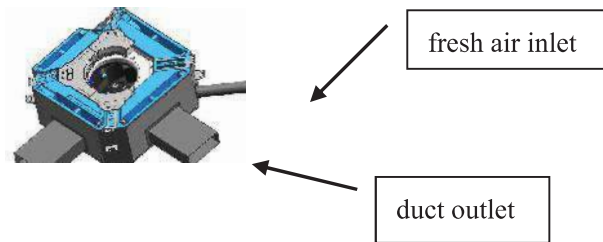
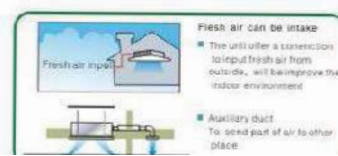
## ► Control System

Flexible control way, standard remote handset control (wired wall pad and modbus function optional)



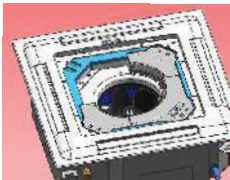
## ► Fresh Air

Fresh air from outdoor can be introduced into room which improves the indoor air quality

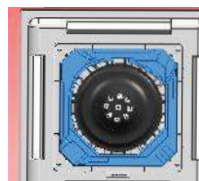
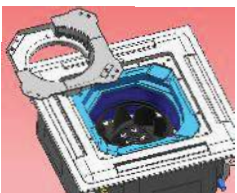


## ► Easy Maintenance

Available to inspect electronic control after removing the return air grill



Available to inspect or replace fan and motor after removing air guide ring



Cassy	KM	4	V	02	D	R	A	G	EH20	CV2	EDP
1	2	3	4	5	6	7	8	9	10	11	12

## ► Nomenclature

1. Cassy: Cassette fan coil unit
2. KM: Factory Version No.
3. 1:1 way air supply 4:4 way air supply
4. V: 2 pipe P: 4 pipe
5. 02: Model name
6. D: DX coil
7. R: with remote handset W: with wired wall pad T: terminal connection
8. A: 50Hz motor B: 60Hz motor
9. G: With group control function M: With Modbus function
10. EH20: With 2kW electric heater
11. CV2: 2 way colling coil valve kits factory built in CV3: 3 way colling coil valve kits factory built in HV2: 2 way heating coil valve kits factory built in HV3: way heating coil valve kits factory built in
12. EDP: External drain pan

# ► Performance Data Table (2 PIPE)

KM4-V			02	03	04	047	05	06	08	10	12	14	
Air flow	H	m3/h	340	510	680	800	850	1020	1360	1700	2040	2380	
	M		255	380	510	600	635	765	1020	1275	1530	1785	
	L		170	255	340	400	425	510	680	850	1020	1190	
Cooling Cap.	Total	H	kW	2.12	3.09	3.94	4.32	5	5.87	7.32	9.59	11.46	13.04
		M		1.7	2.6	3.2	3.5	4.1	4.9	6.2	8.0	9.6	11.0
		L		1.3	1.9	2.4	2.6	3.1	3.6	4.7	6.1	7.2	8.3
	Sensi ble	H	kW	1.4	2.2	2.7	2.9	3.5	4.1	5.2	6.8	8.0	9.2
		M		1.2	1.7	2.2	2.4	2.8	3.3	4.2	5.5	6.4	7.5
		L		0.8	1.3	1.6	1.8	2	2.4	3.1	4.0	4.8	5.5
Heating Cap.	H		3.37	4.81	6.21	7.01	7.66	9.62	12.42	15.47	17.43	20.16	
	M		2.7	3.8	5	5.6	6.1	7.6	9.9	12.3	14	16.2	
	L		1.9	2.7	3.6	4.1	4.4	5.5	7.1	8.9	10.1	11.7	
Water flow rate		m3/h	0.366	0.534	0.678	0.744	0.858	1.008	1.260	1.650	1.974	2.244	
Noise level		dB(A)	35/32 /29	39/36/ 33	41/38/ 35	44/40/ 36	40/35/ 31	45/40/ 36	46/41/ 37	44/37/ 34	48/42/ 36	52/46 /39	
Power supply		AC 1 φ -220V-50Hz											
Power input		W	35	49	58	70	72	94	130	149	183	220	
Running current		Amp	0.16	0.22	0.26	0.32	0.33	0.43	0.59	0.68	0.83	1.0	
Water pressure drop		kPa	16.2	20.8	28.2	36.3	21.5	25.4	35.9	33.6	40	47.2	
Drain pipe conn.		φ	26										
Package casing dimension	L	mm	760				850			1050			
	W	mm	760				850			1050			
	H	mm	350				375			375			
Package panel dimension		mm	720*720*85				920*920*85			1120*1120*85			
Water conn.	inlet	Inch	3/4" FPT										
	outlet	Inch	3/4" FPT										

## ► Note

1. The above cooling capacity is under entering air temp 27°C DB/19.5°C WB, chilled water inlet 7°C and water temperature difference is 5°C
2. The above heating capacity is under entering air temp 21°C DB and heating water inlet temp 60°C, water flow and air flow same as cooling mode
3. The above noise level is tested under back ground (<17dB(A))
4. LPM: Liter Per Min, 1LPM=0.06m³/h
5. The max current for the Motorized valve is 2A

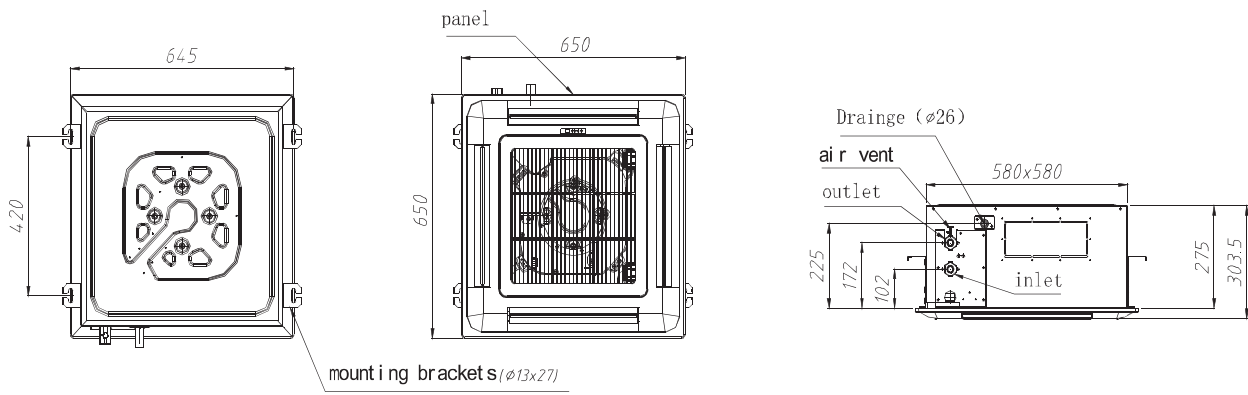
## ► Performance Data Table (4 PIPE)

KM4-P			02	03	04	047	05	06	08	10	12	14	
Air flow	H	m3/h	340	510	680	800	850	1020	1360	1700	2040	2380	
	M		255	380	510	600	635	765	1020	1275	1530	1785	
	L		170	255	340	400	425	510	680	850	1020	1190	
Cooling Cap.	Total	H	kW	1.76	2.53	3.19	3.47	4.25	5.19	6.01	8.07	9.05	9.81
		M		1.41	2.13	2.59	2.81	3.49	4.28	5.07	6.72	7.55	8.25
		L		1.08	1.56	1.94	2.11	2.64	3.19	3.82	5.12	5.70	6.21
	Sensible	H	kW	1.16	1.80	2.19	2.34	2.98	3.61	4.29	5.68	6.31	6.94
		M		1.00	1.39	1.78	1.95	2.38	2.94	3.43	4.64	5.08	5.62
		L		0.66	1.07	1.30	1.40	1.70	2.10	2.57	3.36	3.77	4.16
Heating Cap.	H	kW	2.09	2.72	3.3	3.64	4.29	4.79	5.53	7.55	8.45	9.31	
	M		1.97	2.25	2.72	3.04	3.52	3.99	4.79	6.36	7.08	7.78	
	L		1.70	1.97	2.09	2.32	2.74	3.42	3.69	4.83	5.45	6.06	
Cooling water flow rate		m3/h	0.3	0.438	0.552	0.6	0.732	0.894	1.032	1.386	1.56	1.686	
Noise level		dB(A)	35/32 /29	39/36/ 33	41/38/ 35	44/40/ 36	40/35/ 31	45/40/ 36	46/41/3 7	44/37/ 34	48/42/ 36	52/46/ 39	
Power supply			220V-50Hz										
Power input		W	35	49	58	70	72	94	130	149	183	220	
Running current		Amp	0.16	0.22	0.26	0.32	0.33	0.43	0.59	0.68	0.83	1.0	
Water pressure drop		kPa	16.2	20.8	28.2	36.3	21.5	25.4	35.9	33.6	40	47.2	
Drain pipe conn.		∅	26										
Package casing dimension	L	mm	760				850			1050			
	W	mm	760				850			1050			
	H	mm	350				375			375			
Package panel dimension		mm	720*720*85				920*920*85			1120*1120*85			
Water conn.	inlet	Inch	3/4" FPT										
	outlet	Inch	3/4" FPT										

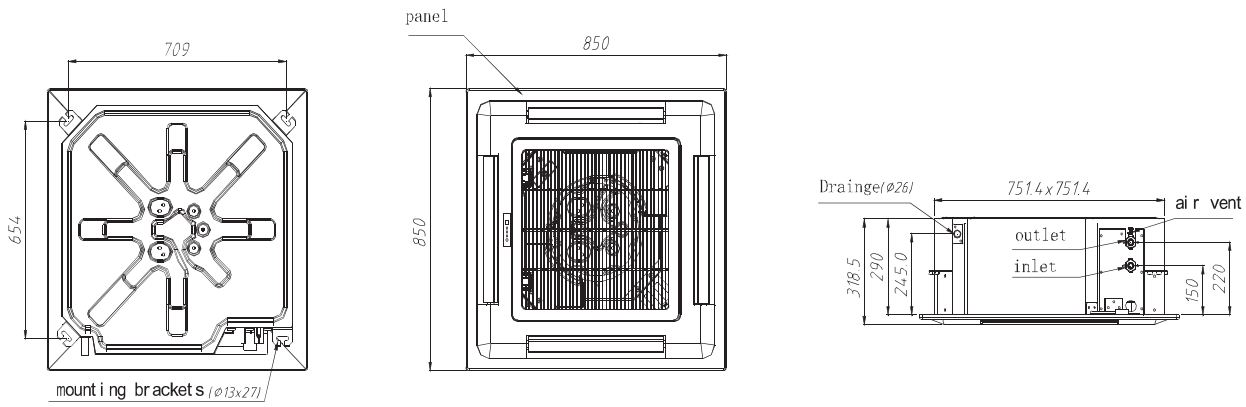
### ► Note

1. The above colling capacity is under entering air temp 27°C DB/19.5°C WB, chilled water inlet 7°C and water temperature difference is 5°C
2. The above heating capacity is under entering air temp 21°C DB and heating water inelt temp 60°C, water flow and air flow same as cooling mode
3. The above noise level is tested under back ground (<17dB(A))
4. LPM: Liter Per Min, 1LPM=0.06m³/h
5. The max current for the Motorized valve is 2A

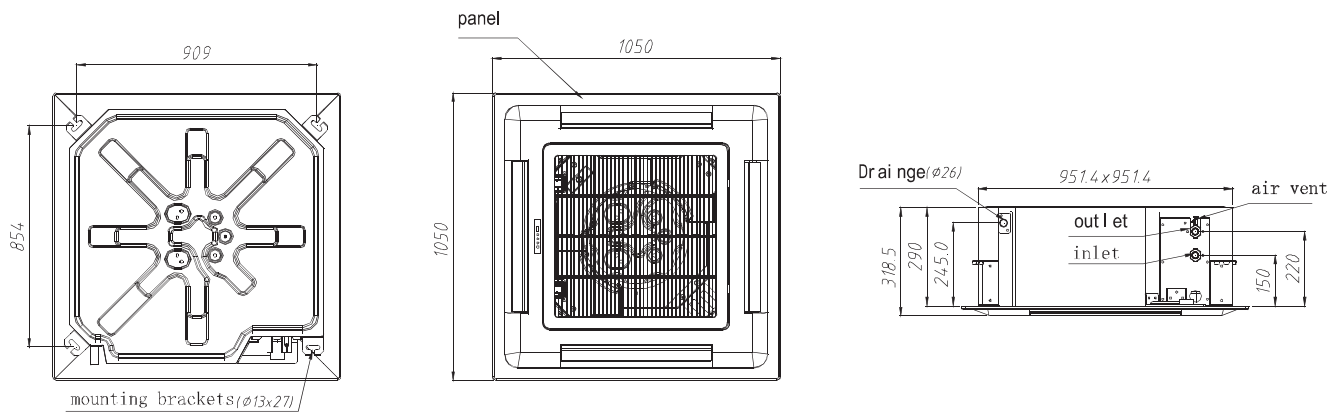
KM4-02/03/04/047



KM4-05/06/08



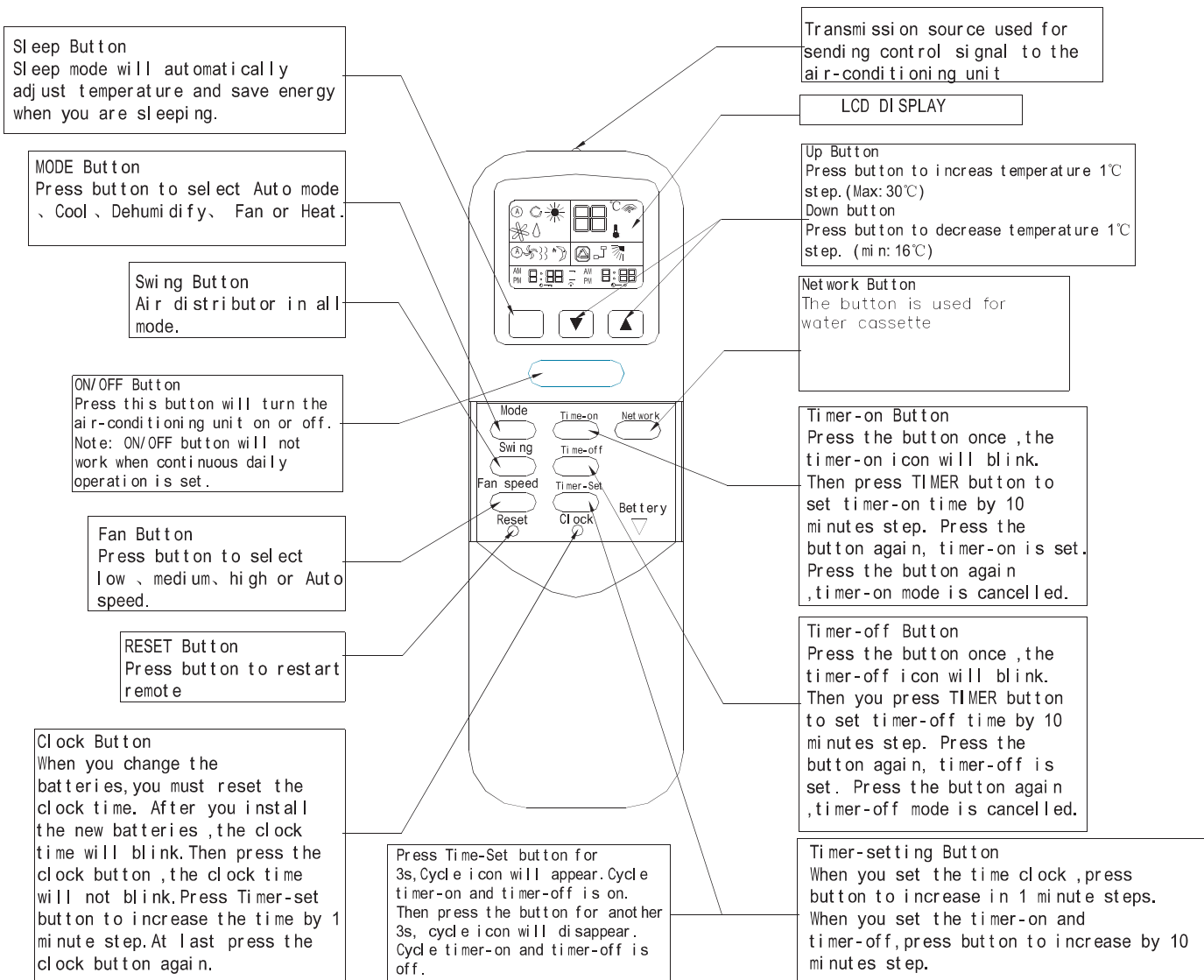
KM4-10/12/14



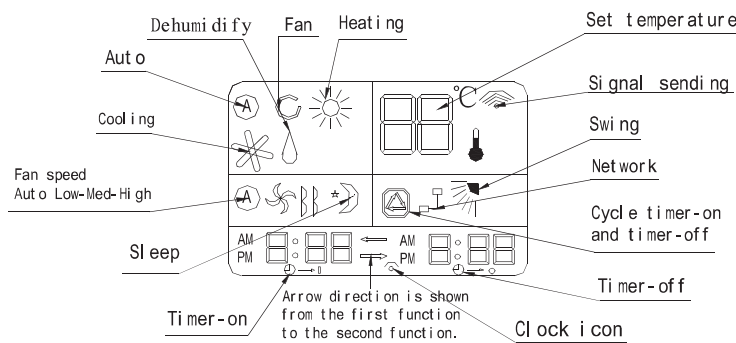


## ► Controller System Intoduction

### ► Remote Handset Controller

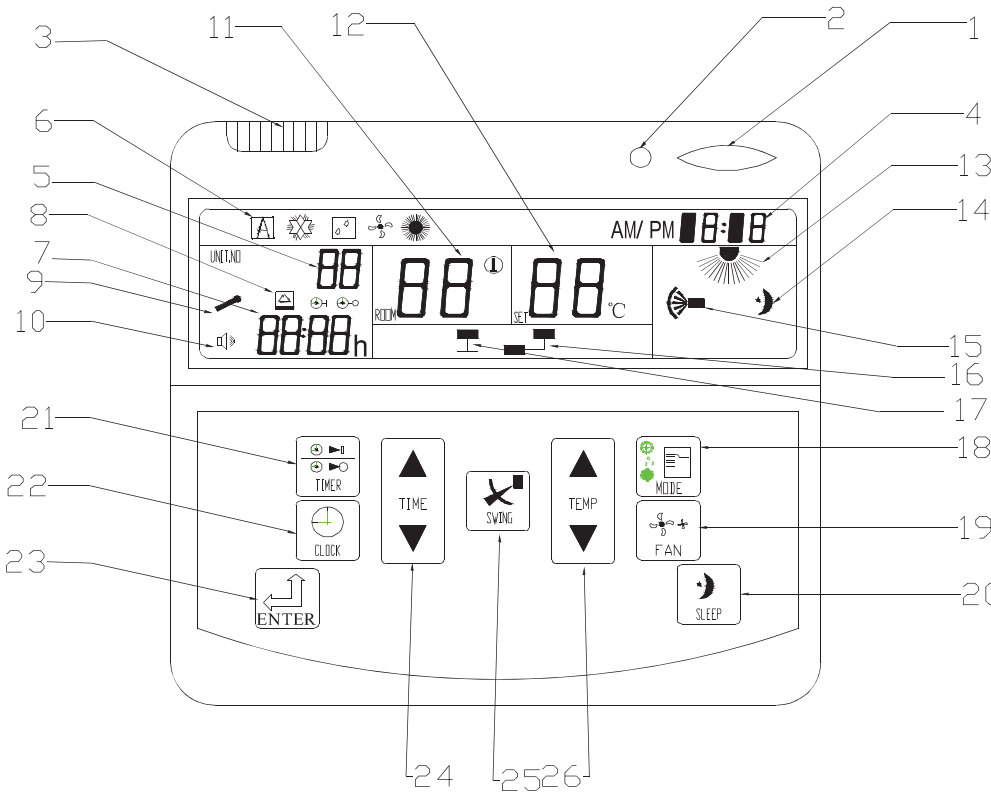


### LCD DISPLAY



# ► Wall Pad (Optional)

► Notes: The standard wire's length of the wall pad is 5m



- 1--ON/OFF Button  
Press the button, the unit will be turned on or off.
- 2--LED signal
- 3--Room temperature Sensor
- 4--Real time o'clock
- 5--Unit Number  
No.00 is the master unit. You can set slave units(No.01--31) parameters on the master wall pad.
- 6-- Mode: Auto, Cool, Dehumidification, Ventilation and Heat
- 7-- Setting Time
- 8--Timer ON and OFF
- 9-- Error Mark
  - 01 Room temperature sensor is damaged;
  - 02 Drainage system is damaged;
  - 03 Coil temperature sensor is damaged;
  - 04 Auto restart function is damaged;
  - 05 Outdoor coil temperature sensor is damaged;
  - 06 High or low pressure switch is opened;
  - 08 The unit is shortage of refrigerant.
- 10-- Error Alarm
- 11-- Room temperature
- 12-- Setting temperature
- 13---Fan Speed Icon: Auto, Low, Medium and High
- 14---Sleep Mode Icon
- 15---Louver Swing Icon
- 16---Communication Icon
- 17---Connection check Icon
- 18---Mode Select Button  
Press the button to select Auto, cool, dehumidification, ventilation or heat mode.
- 19---Fan Speed Select Button  
Press the button to select Auto, low, medium or high speed.
- 20---Sleep Mode Button.  
It will automatically adjust temperature and save energy when you are sleeping in cool mode or heat mode.  
If the wall pad is the master, press it for 3s, communication icon appears, you can select slave unit from 1 to 31 by pressing Time up or down button, all parameters appear on the wall pad will be sent to unit you selected or all slave units when you press Enter Button.
- 21---Timer ON/OFF Button
  - 1) Press TIMER button,  $\odot$  or  $\ominus$  appears in LCD;
  - 2) Press TIME (up) or (down) to select TIMER ON or TIMER OFF or SET;
  - 3) If TIMER ON or TIMER OFF is selected, "h" and  $\odot$  or  $\ominus$  blink in LCD; Press the TIMER(up) or (down) to set time by 10 minutes step; Press the TIMER button to confirm it. Repeat step 2) and 3) to set TIMER OFF or ON;
  - 4) After setting TIMER ON and OFF, Press the TIME (up) or (down). When  $\square$  and SET appear in LCD, then press TIMER button to confirm it.  $\square$ ,  $\odot$  and  $\ominus$  appear in LCD at the same time. Then press ENTER button to confirm it.
  - 5) When you cancel cycle timer on and off, press TIMER button for 30s.  $\square$  disappears in LCD. When you cancel timer on or/and off, press TIMER button first, then press the TIME (up) or (down) to select SET only in LCD. Press the TIMER button again, then cancel timer on or/and off.
- 22---Clock Button  
Press it first, then press Time up or down button to set real time o'clock
- 23---Enter Button  
In order to avoid misoperation, all setting(except ON/OFF Button) is valid after pressing the button.
- 24---Time up/down  
Press Timer ON/OFF Button or Clock Button first, then press it to set timer time or clock time
- 25---Swing Button.
- 26---Temperature Up/Down Button  
Press Up Button to increase temperature 1°C step (MAX:30°C)  
Press Down Button to decrease temperature 1°C step (MIN:16°C)

### FOR SETTING MASTER-SLAVE UNIT USING WALL PAD

1. Please see the back of wall pad. The unit No. can be set using dip switches.

UNIT NO.	dip switches	UNIT NO.	dip switches	UNIT NO.	dip switches	UNIT NO.	dip switches
00	□□□□	09	□□□□	18	□□□□	27	□□□□
01	□□□□	10	□□□□	19	□□□□	28	□□□□
02	□□□□	11	□□□□	20	□□□□	29	□□□□
03	□□□□	12	□□□□	21	□□□□	30	□□□□
04	□□□□	13	□□□□	22	□□□□	31	□□□□
05	□□□□	14	□□□□	23	□□□□		
06	□□□□	15	□□□□	24	□□□□		
07	□□□□	16	□□□□	25	□□□□		
08	□□□□	17	□□□□	26	□□□□		

### Remark:

1. Error mark from 01 to 04 is for water cassette fan coil unit.
2. Error mark from 01 to 08 is for DX cassette.

## ► CONTROLS SPECIFICATION

- 2 PIPE HOT AND CHILLED WATER CASSETTE WITH MOTORIZED VALVE  
 MASTER - SLAVE CONTROL (OPTIONAL)  
 AND COMPUTER MANAGEMENT SYSTEM CONTROL (OPTIONAL)

### 1.0 ABBREVIATIONS

Ts = Setting Temperature

Tr = Room Air Temperature Sensor

Ti = Indoor Coil Temperature Sensor

Aux = Auxiliary Contact

MTV = Motorized Valve

### 1.0 SYSTEM OPERATION

#### 2.A MASTER AND SLAVE UNIT FUNCTION

The control board can be set either as a master unit of slave unit.

##### 2.A.1 MASTER UNIT FUNCTION

The master unit can send its parameters to the slave unit using remote handset or wired wall pad. The master unit setting parameters are Unit ON/OFF, Mode, Fan Speed, Set Temperature, Sleep Function and Swing function.

##### 2.A.2 SLAVE UNIT FUNCTION

The slave unit runs according to master unit parameters. Every unit is allowed to change to locally desired setting using remote handset or wired wall pad.

##### 2.A.3 MASTER - SLAVE INSTALLATION

When using remote handset, for the master unit ensure the JP0 jumper is shorted and for the slave units JP0 is opened before turning ON the main power supply.

When using wired wall pad, JP0 jumper will not function. Unit with No.00 wall pad is master unit. Unit with No.01-31 is slave unit. See wired wall pad function guide to see how to set wall pad Numbers.

Connect master to slave units with shielded wire.

Note: Use 4-core cable and one to one configuration.

#### When MAIN POWER SUPPLY is ON:

With motorized valve: The master unit will respond with 3 beeps.

The slave unit will respond with 1 beep.

With motorized valve: The master unit will respond with 4 beeps.

The slave unit will respond with 2 beeps.

More than 1 master is allowed in a group. Masters can control commutatively.

#### 2.C AIR CONDITIONER ON/OFF

There are 3 ways to turn the system on or off:

By programmable timer on the handset or wall pad controls.

By ON/OFF button on the handset or wired wall pad.

By manual control button on the air conditioner.

## 2.D POWER ON SETTING

When power on signal is received by the air conditioner, the Mode, Fan Speed, Set Temperature and Swing settings will be the same as the last handset settings before the last power off.

## 2.E COOL MODE

If  $T_r \geq T_s + 1$  °C, cool operation is activated. MTV is turned on. AUX2 is closed. Indoor fan runs at set speed.

If  $T_r \geq T_s$ , cool operation is terminated. MTV is turned off. AUX2 is opened. Indoor fan runs at set speed.

The range of  $T_s$  is 16 to 30 °C

Indoor fan speed can be adjusted for low, medium, high and auto.

When turned on, MTV requires 30 seconds before it is fully open.

When turned off, MTV requires 120 seconds before it is fully closed.

When the unit is turned off, indoor fan will delay for 5 seconds before it is turned off.

### 2.E.1 PROTECTION OF INDOOR COIL

If  $T_i < 2$ °C for 2 minutes, MTV is turned off. AUX2 is opened. If indoor fan is set for low speed, it will run at medium speed. If it is set for medium or high speed, it will keep running at the same speed.

When  $T_i \geq 5$ °C for 2 minutes, MTV is turned on. AUX2 is closed. Indoor fan runs at set speed.

## 2.F FAN MODE

Indoor fan runs at the set speed while MTV is turned off. AUX1 and AUX2 are opened.

Indoor fan speed can be adjusted for low, medium, high and auto.

## 2.G HEAT MODE -- TZ-KM-V6.2 FOR KM4 WITHOUT ELECTRICAL HEATER

If  $T_r \leq T_s - 1$ , heat operation is activated, MTV is turned on. AUX1 is closed. Indoor fan runs at the set speed.

If  $T_r \geq T_s$ , heat operation is terminated, MTV is turned off. AUX1 is opened. Indoor fan repeatedly runs at low fan speed for 30 seconds and stops for 3 minutes.

The range of  $T_s$  is 16 to 30°C

Indoor fan speed can be adjusted for low, medium, high and auto.

When turned on, MTV requires 30 seconds before it is fully open.

When turned off, MTV requires 120 seconds before it is fully closed.

## 2.G HEAT MODE -- TZ-KM-V6.2C FOR KM4 WITH ELECTRICAL HEATER AS BOOSTER (OPTIONAL)

If  $T_r \leq T_s - 1$ , heat operation is activated, MTV is turned on. Electrical heater is turned on. Indoor fan runs at the set speed.

If  $T_r \geq T_s$ , heat operation is terminated, MTV is turned off. Electrical heater is turned off. Indoor fan runs according to POST heat condition. Indoor fan repeatedly runs at low fan speed for 30 seconds and stops for 3 minutes.

If  $T_i < 40$  C, Electrical heater is turned on. If  $40 \leq T_i < 45$  C, Electrical heater is kept original state. If  $T_i \geq 45$  C, Electrical heater is turned off.

The range of  $T_s$  is 16 to 30°C

Indoor fan speed can be adjusted for low, medium, high and auto

When turned on, MTV requires 30 seconds before it is fully open.

When turned off, MTV requires 120 seconds before it is fully closed.

## 2.G HEAT MODE -- TZ-KM-V6.2 D FOR KM4 WITH ELECTRICAL HEATER AS PRIMARY HEAT SOURCE (OPTIONAL)

If  $T_r \leq T_s - 1$ , heat operation is activated, MTV is turned off. Electrical heater is turned on. Indoor fan runs at the runs at the set speed.

If  $T_r \geq T_s$ , heat operation is terminated, MTV is turned off. Electrical heater is turned off. Indoor fan runs according to POST heat condition. Indoor fan repeatedly runs at low fan speed for 30 seconds and stops for 3 minutes.

The range of  $T_s$  is 16 to 30°C

Indoor fan speed can be adjusted for low, medium, high and auto

When turned on, MTV requires 30 seconds before it is fully open.

When turned off, MTV requires 120 seconds before it is fully closed.

### 2.G.1 PRE-HEAT -- TZ-KM-V6.2 FOR KM4 WITHOUT ELECTRICAL HEATER

If  $T_i < 32^\circ\text{C}$ , when MTV is on, indoor fan remains off and AUX1 is closed.

If  $32^\circ\text{C} \leq T_i \leq 38^\circ\text{C}$ , when MTV is on, AUX1 is closed and indoor fan keeps original state.

If  $T_i > 38^\circ\text{C}$ , when MTV is on, AUX1 is closed and indoor fan runs at set speed.

If indoor coil temperature sensor is damages, pre-heat time is set for 2 minutes and indoor fan runs at set speed.

### 2.G.1 PRE-HEAT -- TZ-KM-V6.2 C(D) FOR KM4 WITH ELECTRICAL HEATER

Indoor fan will turned on after the electrical heater is turned on 30S

### 2.G.2 POST-HEAT -- TZ-KM-V6.2 FOR KM4 WITHOUT ELECTRICAL HEATER

If  $T_i > 38^\circ\text{C}$ , when MTV is off, indoor fan remains on at set speed and AUX1 is opened.

If  $35^\circ\text{C} \leq T_i \leq 38^\circ\text{C}$ , when MTV is off, AUX1 is opened. Indoor fan keeps original state.

If  $T_i < 35^\circ\text{C}$ , when MTV is off, AUX1 is opened. Indoor fan stops.

If indoor coil temperature sensor is damages, post-heat time is set for 3 minutes with indoor fan running at set speed.

### 2.G.2 POST-HEAT -- TZ-KM-V6.2 C(D) FOR KM4 WITH ELECTRICAL HEATER

Indoor fan will turned off after the unit is turned off 20S.

### 2.G.3 PROTECTION OF INDOOR COIL

If  $T_i \geq 75^\circ\text{C}$ , MTV is turned off, indoor fan remains on and AUX1 is opened. Indoor fan at high speed.

If  $< 70^\circ\text{C}$ , MTV is turned on, indoor fan remains on and AUX1 is closed. Indoor fan at set speed.

## 2.H DEHUMIDIFICATION MODE

If  $T_r \geq 25^\circ\text{C}$ , MTV will be ON for 3 minutes and OFF for 4 minutes.

If  $16^\circ\text{C} \leq T_r < 25^\circ\text{C}$ , MTV will be ON for 3 minutes and OFF for 6 minutes.

If  $T_r < 16^\circ\text{C}$ , MTV will be turned off.

## 2.I AUTO HEAT-DEHUMIDIFICATION-COOL MODE

In auto mode, the set temperature of the system is  $24^\circ\text{C}$  and the indoor fan runs in auto fan mode.

If  $T_r < 21^\circ\text{C}$ , the unit will operate in heat mode.

If  $T_r > 25^\circ\text{C}$ , the unit will operate in cool mode.

If  $21^\circ\text{C} \leq T_r \leq 25^\circ\text{C}$ , the unit will operate in dehumidification mode.

Once the unit is turned on in auto mode, it will operate in that mode and will not changeover.

If the unit has been turned off for 2 hours, when turning on the unit, it will select operating mode depending on the room temperature.

## 2.J AUXILIARY CONTACTS

Cool mode (AUX2)

AUX2 is closed when MTV is on (in normal operation). AUX2 is opened when MTV is off or protection of indoor coil is operating.

Fan mode (AUX1 and AUX2)

AUX1 and AUX2 are opened when indoor fan is on.

Heat mode (AUX1) for unit without electrical heater.

AUX1 is closed when MTV is on (in normal operation). AUX1 is opened when MTV is off or protection of indoor coil is operating.

## 2.K SLEEP FUNCTION

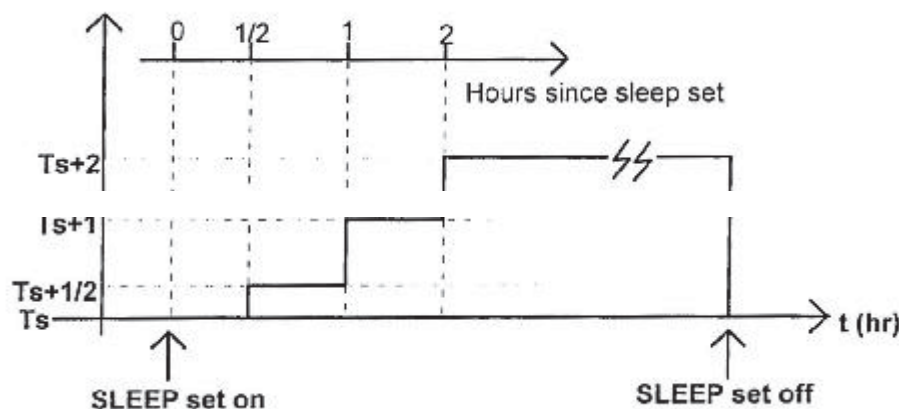
Sleep function can only be set in cool or heat modes,

In cool mode, after sleep function is set, the indoor fan will run at low speed and  $T_s$  will increase  $2^\circ\text{C}$  during 2 hours.

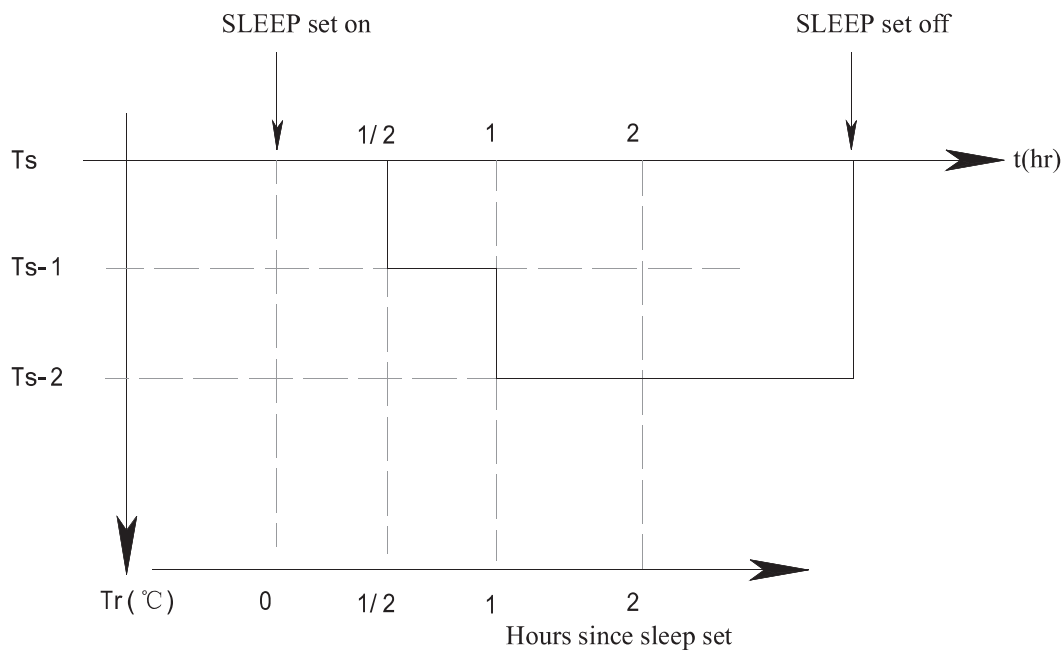
In heat mode, after sleep function is set, the indoor fan will run at auto fan mode and  $T_s$  will decrease  $2^\circ\text{C}$  during 2 hours.

Changing of operation mode will cancel sleep function.

The COOL mode SLEEP Profile is as Follow:

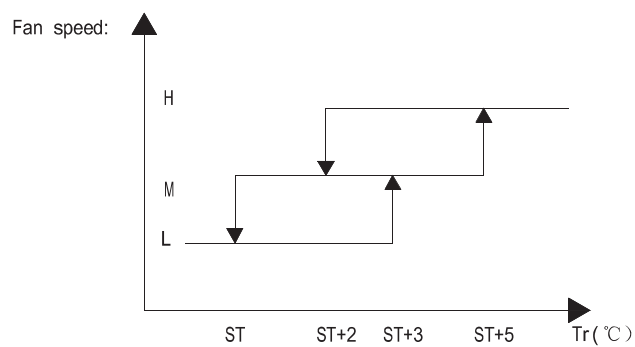


The HEAT mode SLEEP Profile is as Follow:



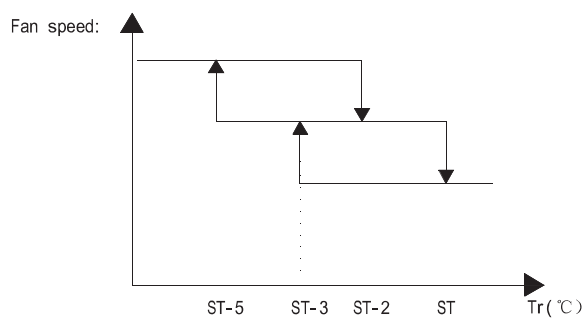
## 2.L AUTO FAN SPEED

In cool mode, the auto fan speed will operate as the following diagram:



In cool mode, the fan speed cannot change until it has run at this speed over 30 seconds.

In heat mode, the auto fan speed will operate as the following diagram:



In heat mode, the fan speed cannot change until it has run at this speed over 30 seconds.

## 2.L AUTO FAN SPEED

If the indoor fan is operating, the louver will swing or can be stopped at a preferred location in any mode.

## 2.N BUZZER

If a command is received by the air conditioner, the system will respond with a beep.

## 2.O AUTO RESTART

The system uses non-volatile memory to save the present operation parameters when system is turned off or in case of system failure or cessation of power supply. Operation parameters are mode, set temperature, swing and the fan speed. When power supply resumes or the system is switched on again, the same operations as previously set will function.

## 2.P MANUAL OPERATION BUTTON

On the unit front panel next to the LED lights is the reset button. Press it once and unit will operate according to auto mode.

## 2.Q DRAIN PUMP

In cool and dehumidification mode:

The drain pump will be turned on when the MTV is on, and will remain on for 5 minutes after the MTV closed.

The drain pump will keep running for 5 minutes after the mode is changed.

### WARNING!

If turn off the system by circuit breaker (or main power supply) the drain pump does not work after turn off.

## 2.R FLOAT SWITCH

### 2.R.1 FLOAT SWITCH OPEN BEFORE TURNING ON.

When float switch (N/C) is opened before the unit is turned on. MTV is off. Drain pump and indoor fan will operate. After float switch is closed, MTV is on.

### 2.R.2 FLOAT SWITCH IS OPENED, WHEN UNIT IS ON

If the float switch is opened, the drain pump will work. When the float switch is closed, the drain pump will run continuously 5 minutes.

If the float switch is opened for 5 minutes continuously, MTV will be turned off. Indoor fan runs at set speed.

If the float switch is opened for 10 minutes continuously, MTV will remain off. Indoor fan runs at set speed. Red, yellow and green LED will blink with beeps.

### 2.R.3 FLOAT SWITCH IS OPENED, WHEN UNIT IS OFF

If the float switch is opened, the drain pump will work. When the float switch is closed, the drain pump will run continuously 5 minutes.

If the float switch is opened for 10 minutes continuously. Red, yellow and green LED will blink. The drain pump continues to work.

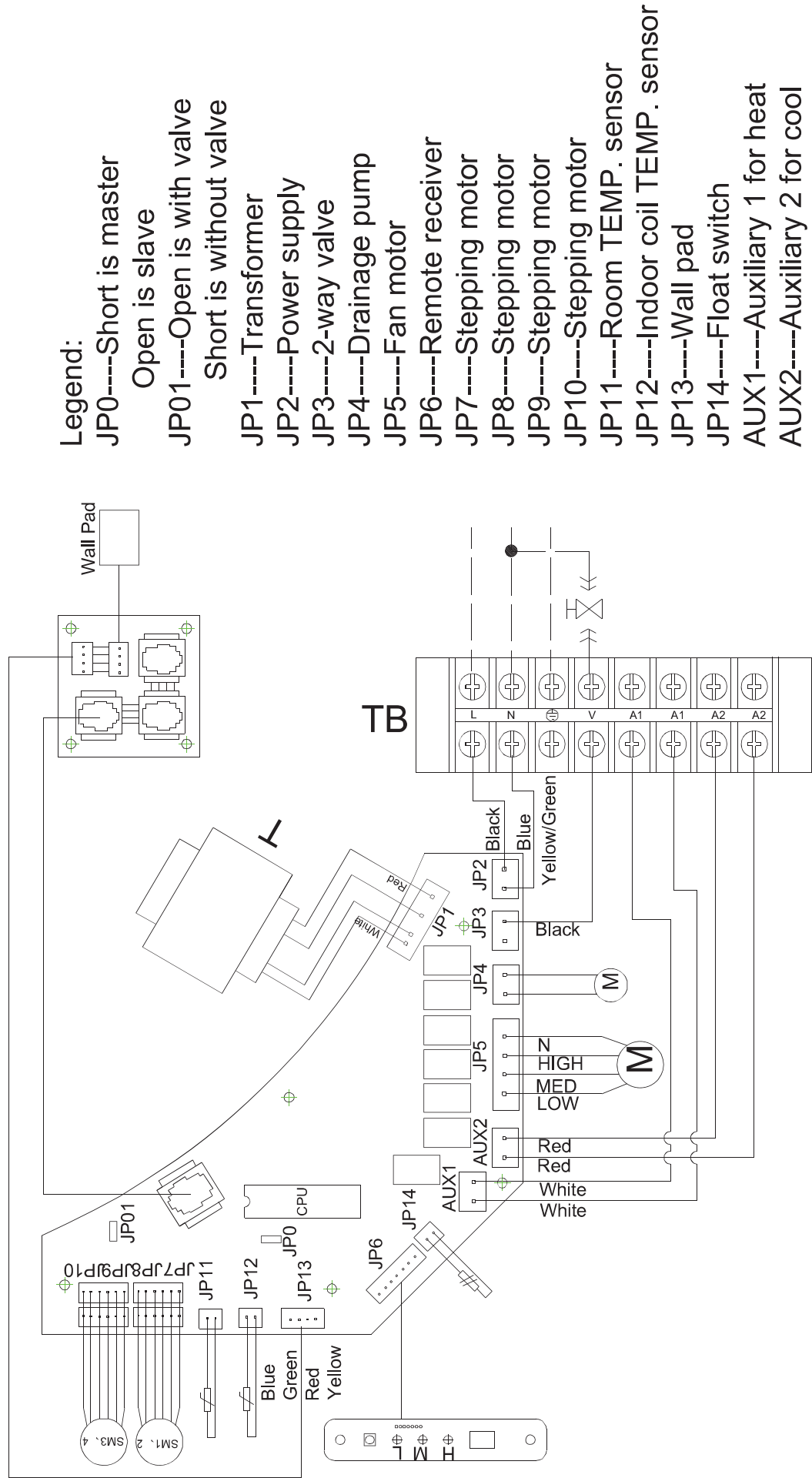


## 3.0 LED LIGHTS

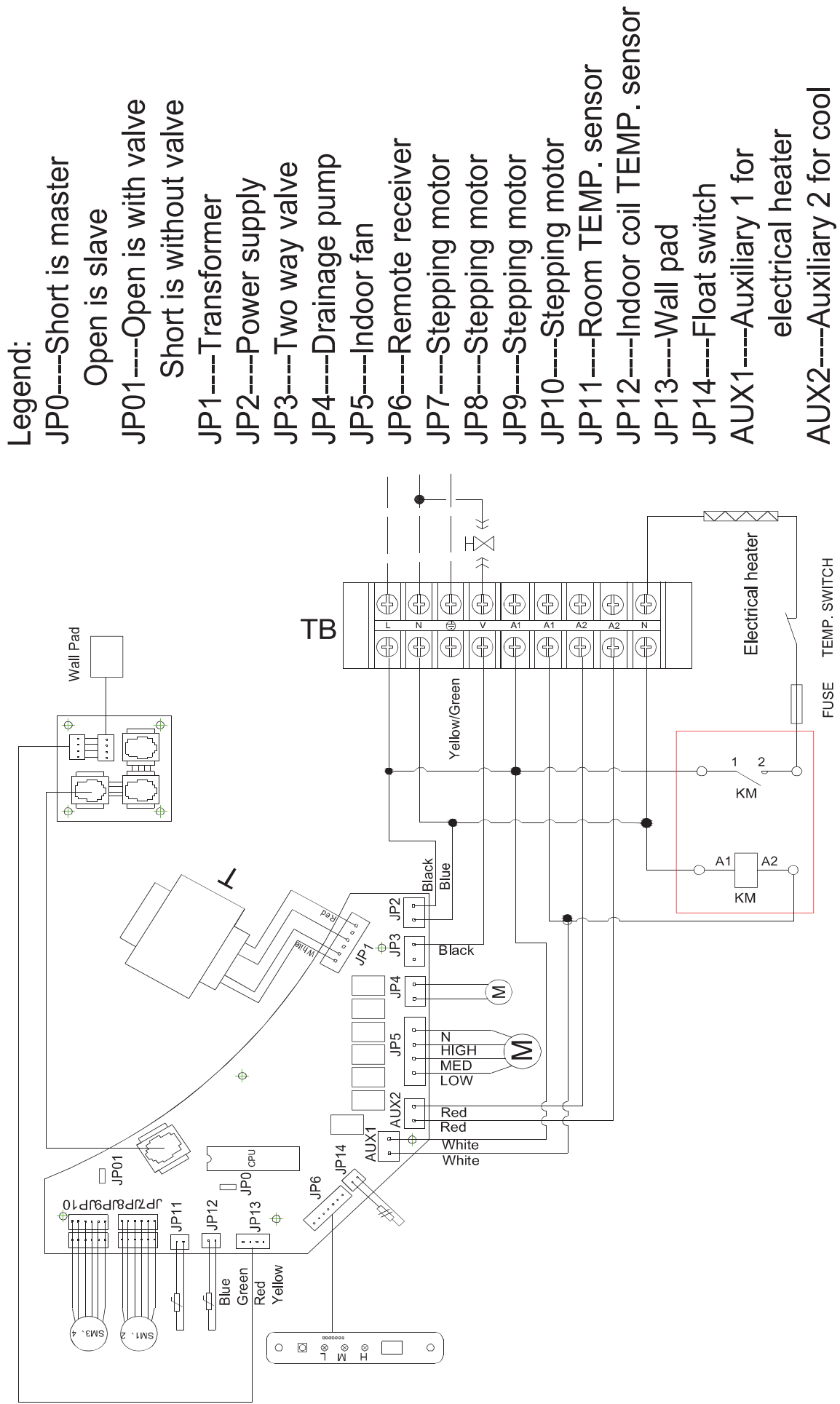
ITEM	RED LED	YELLOW LED	GREEN LED
High speed	ON		
Medium speed		ON	
Low speed			ON
Pre-heat		BLINK	
Post-heat			BLINK
Low temperature coil protection	BLINK		
Over heat indoor coil protection		BLINK	BLINK
Coil Temperature sensor damaged	ON	BLINK	BLINK
Room Temperature sensor damaged	BLINK		BLINK
Condensate pump damaged	BLINK	BLINK	BLINK

- If the sensor malfunctions, the red and yellow LED will blink with beep. Press reset button or any of the remote handset buttons, and the beeping will stop.
- If the drain pump malfunctions, the red, yellow and green LED will blink with beeping sound. Press reset button or any of the remote handset buttons, and the beeping will stop.

# Water Cassette Wiring Diagram Without Electrical Heater Master-Slave Control



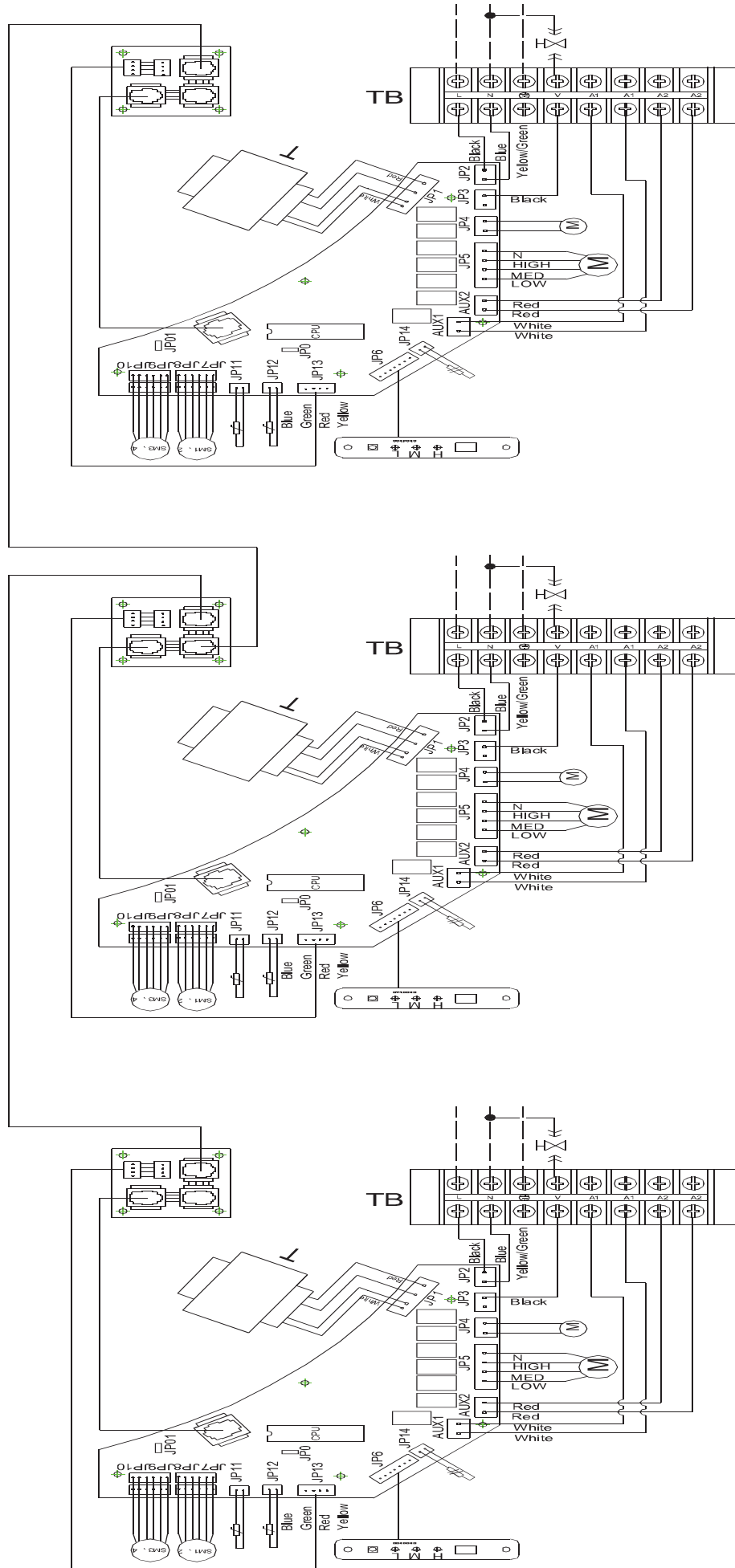
# Water Cassette Wiring Diagram With Electrical Heater Master - Slave Control



## Water Cassette Wiring Diagrams With Master and Slave Connection

SHIELD WIRE

SHIELD WIRE



## ▶ OPTIONAL PARTS INTRODUCTION

### ▶ Electric Heater



EH capacity	Cassy model	Remark
1KW	KM4-02/03	with relay
2KW	KM4-04/047/05	with relay
3KW	KM4-06/08	with relay
4KW	KM4-10/12/14	with relay

### ▶ External Drain Pan



Supply as optional part and will be backed into unit carton box to collect valve connection condensate water

### ▶ Motorized Valve Kits Shipped By Separate Packing



- 1) Flexible mounting kits. Right connection and left connection general used.
- 2) CV2/CV3 : 3/4
- 3) Power Supply: AC220V,50Hz

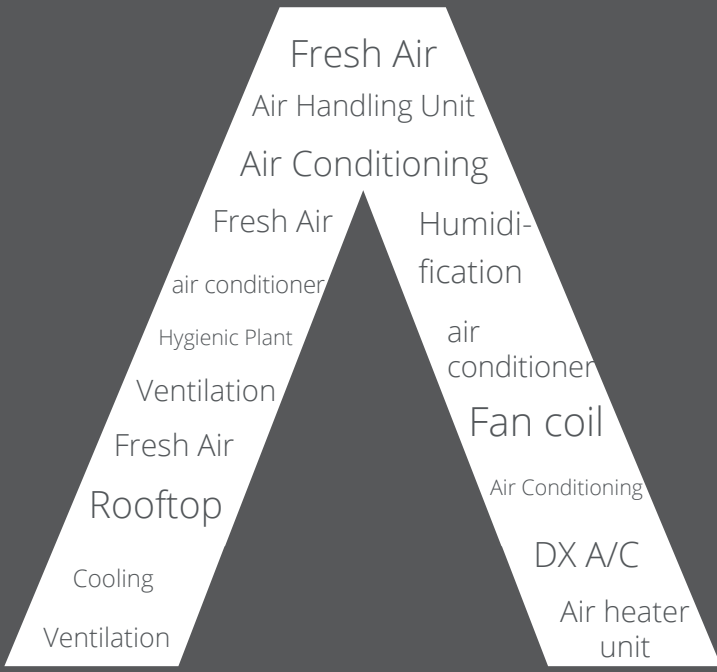
Model	KV Value(Direct Way)m <sup>3</sup> /h	KV Value (m <sup>3</sup> /h)	Pressure (MPa)	Connecting Size
HV2/HV3	1.6	1	0.25	DN15
CV2/CV3	2.5	1.6	0.15	DN20

► Motorized Valve Shipped By Separate Packing



No.	Model	Caliber	Body Structure	Kv (Cv)Value	Closing Pressure (MPa)
1	HR-G2-1/2	1/2"(15mm)	Actuator and valve body fixed together	2.2 (2.5)	0.20
2	HR-G2-3/4	3/4"(20mm)		3.0 (3.5)	0.18
3	HR-G2-1/2-S2	1/2"(15mm)	Actuator is easily dismantled from valve body	2.2 (2.5)	0.20
4	HR-G2-3/4-S2	3/4"(20mm)		3.0 (3.5)	0.18

Other kinds of valve such as ball valve, please contact Hammer for further information.



# AIR+PLUS

Air Conditioning Technologies

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