

## Windows AC OPP MSII COMP Service Manual



### Models:

#### OPPI

MWHUK-05CRN8-BCK0

#### OPPII

MWHUK-06CMN8-BCK0

MWHUK-05CMN8-BCK0

#### MSII

MWHUK-06CRN8-BCL1

MWFUK-08CRN1-BCK2

MWHUK-08CRN8-BCL0

#### MSIII

MWFUK-08CRN1-BCL0

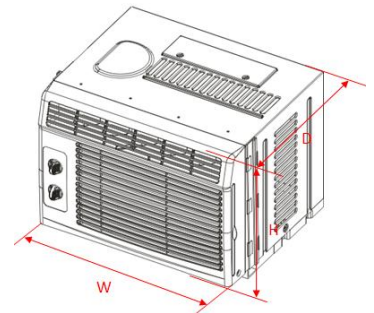
#### COMP

MWEUK-10CRN1-BCL0

MWEUK-12CRN1-BCL0

MWDUK-12CRN1-BK2

MWHUK-12CRN8-BCJ9



#### Dimension Mode

OPPI

OPPII

MSII

MSIII

COMPII

W (mm, inch)

H (mm, inch)

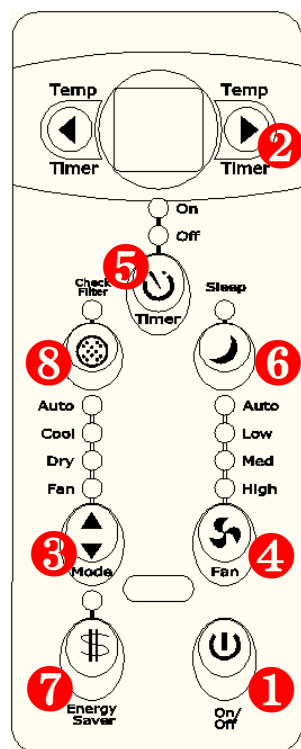
D (mm, inch)

406	16.0	306	12.0	335	13.2
406	16.0	306	12.0	390	15.4
471	18.5	340	13.4	400	15.7
471	18.5	340	13.4	444	17.5
482	19.0	372	14.6	545	21.5

1. Operation Modes and Instructions	1
1.1 Display control	1
1.2 Remote control	2
2. Wiring Diagram	3
2. Electronic function	6
2.1 Terms and definitions	6
2.2 Protection function	6
2.3 Auto mode	6
2.4 Fan-only mode	6
2.5 Cooling mode	6
2.6 Dry mode	6
2.7 Sleep mode	6
3. Installation and use notice	7
4. Troubleshooting	8
4.1 Troubleshooting	8
4.2 Sensor malfunction	8
4.3 Characteristic of temperature sensor.	9

# 1. Operation Modes and Instructions

## 1.1 Display control





### 1 On-Off Button




Press  to turn on or off the unit.

NOTE: The unit will initiate automatically the Energy Saver function under cool, Dry, Auto (only Auto-Cooling and Auto-Fan) modes.


### 2 Up and Down Button

Press or hold either  Up or  Down the setting temperature 1°C/ 2 °F each times from 62°F (17 °C) to 88 °F (30 °C).


### 5 Timer Button

Press  to start or stop the Auto On or Auto Off function. Press or hold either  Up or  Down the setting time from 0.0 to 24 hours.

### 6 Sleep Button

Press  to start or stop the sleep function.

### 7 Energy Saver Button


Press  to start or stop the energy saver function. This function is available on Cool, Dry, Auto (only Auto-Cooling and Auto-Fan) modes. When the room temperature is meet the compressor shut off condition, the fan motor will continue running for 3 minutes, after that, the fan motor will running for 2 minutes every 10 minutes, until the compressor start.

### 8 Check Filter Button

This function is a reminder to clean the Air Filter for more efficient and more healthy. The LED light will keep illuminate after 250 hours of operation, until

Press .


### 3 Mode select Button

Press  to change the operation mode, each time you press the button, a mode is selected in a sequence that goes from Auto, Cool, Dry and Fan.

The unit will initiate automatically the Energy Saver function under Cool, Dry, Auto (only Auto-Cooling and Auto Fan) modes.

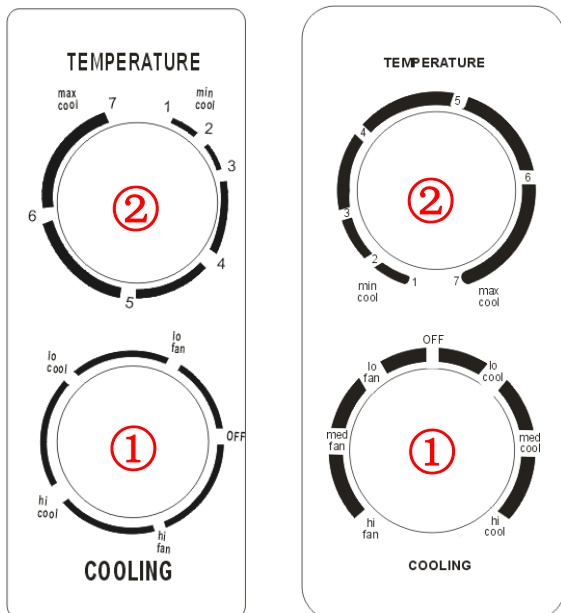
Base on Energy Stars' requirement.

### 4 Fan speed Button

Press  to change the fan speed, each time you press the button, the fan speed in four steps, Auto, Low, Med and High.

On Dry mode, the fan speed is controlled at Low automatically.

## Mechanical:

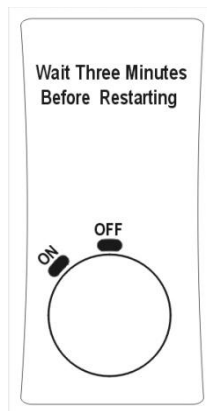


### ① On-Off and Mode select switch

Use this switch to turn on or off the unit, and select the operation mode for Low Cooling, High Cooling, Low Fan, High Fan.

### ② Temperature switch

Use this switch to setting the temperature for Cooling mode.



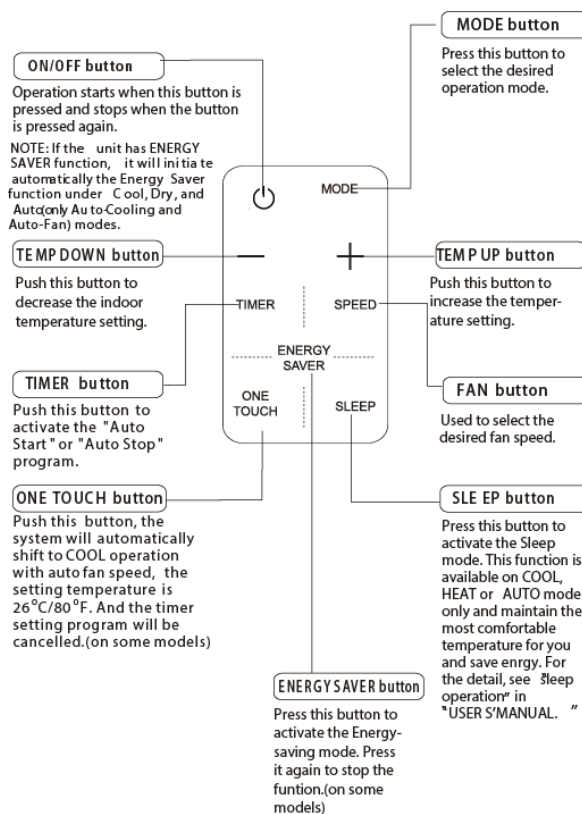
#### ● On-Off switch

Use this switch to turn on or off the unit, the unit will only running at cooling mode..

Note: To protect the compressor, every time when the customer turn on the unit, we suggest to wait for three minutes.

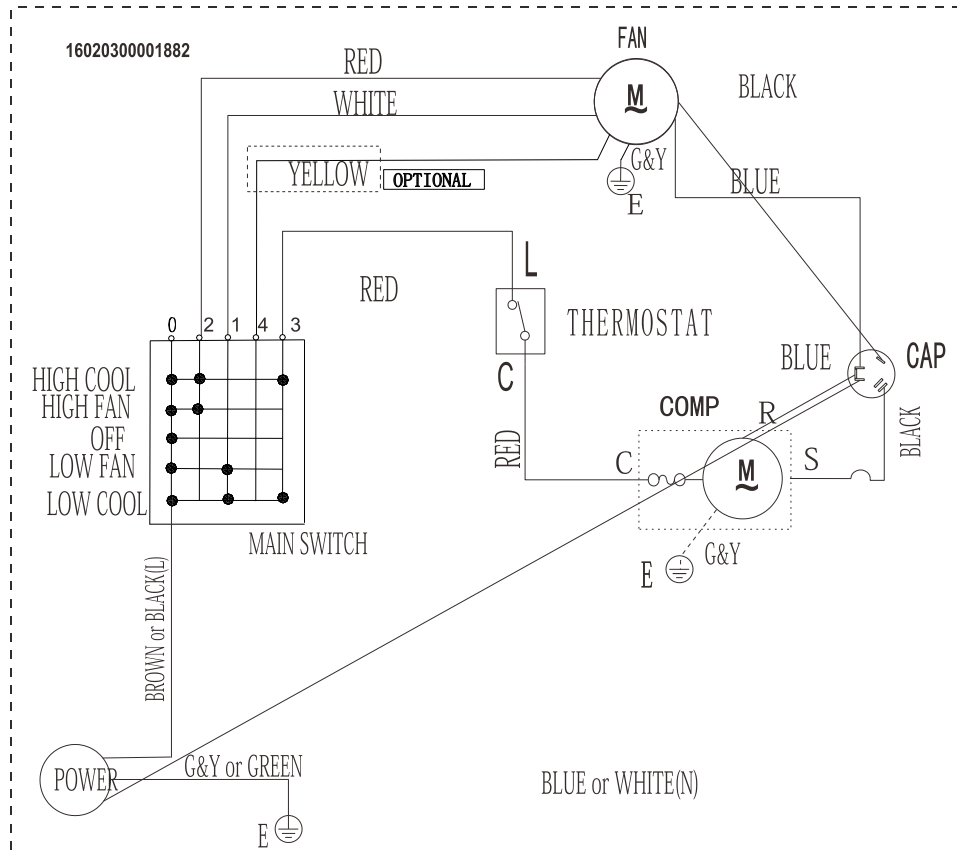
## 1.2 Remote control

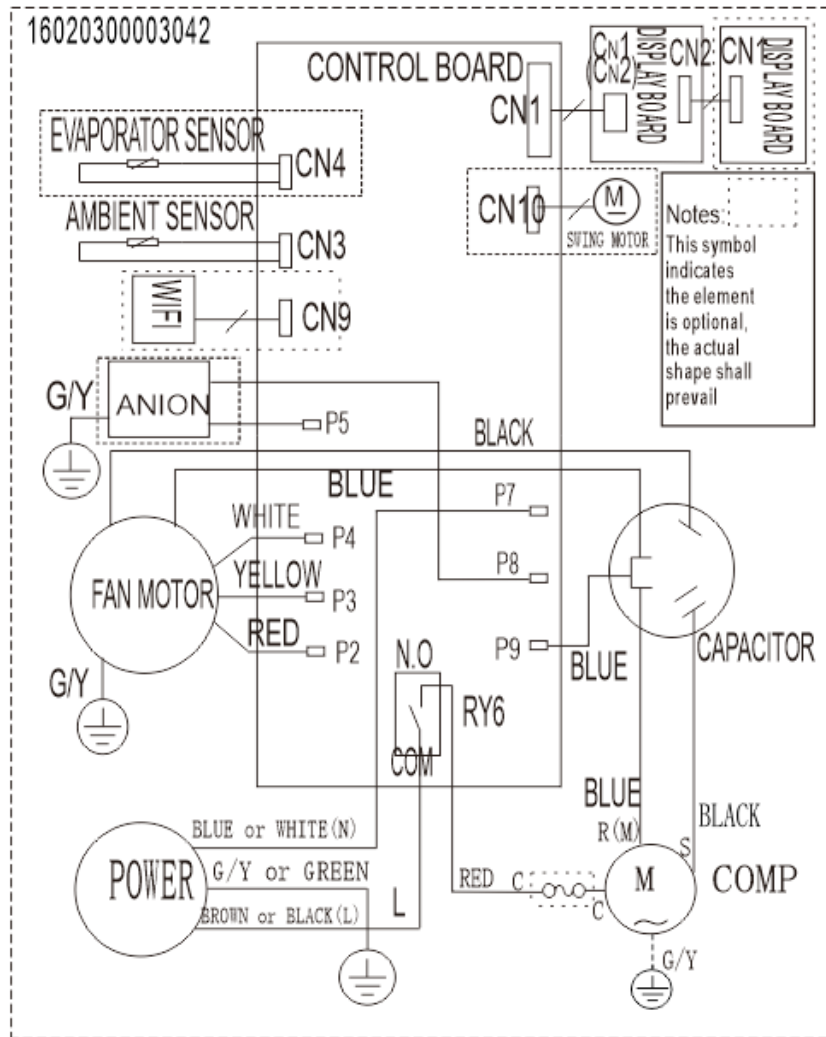
### **RG15A(B)/E**

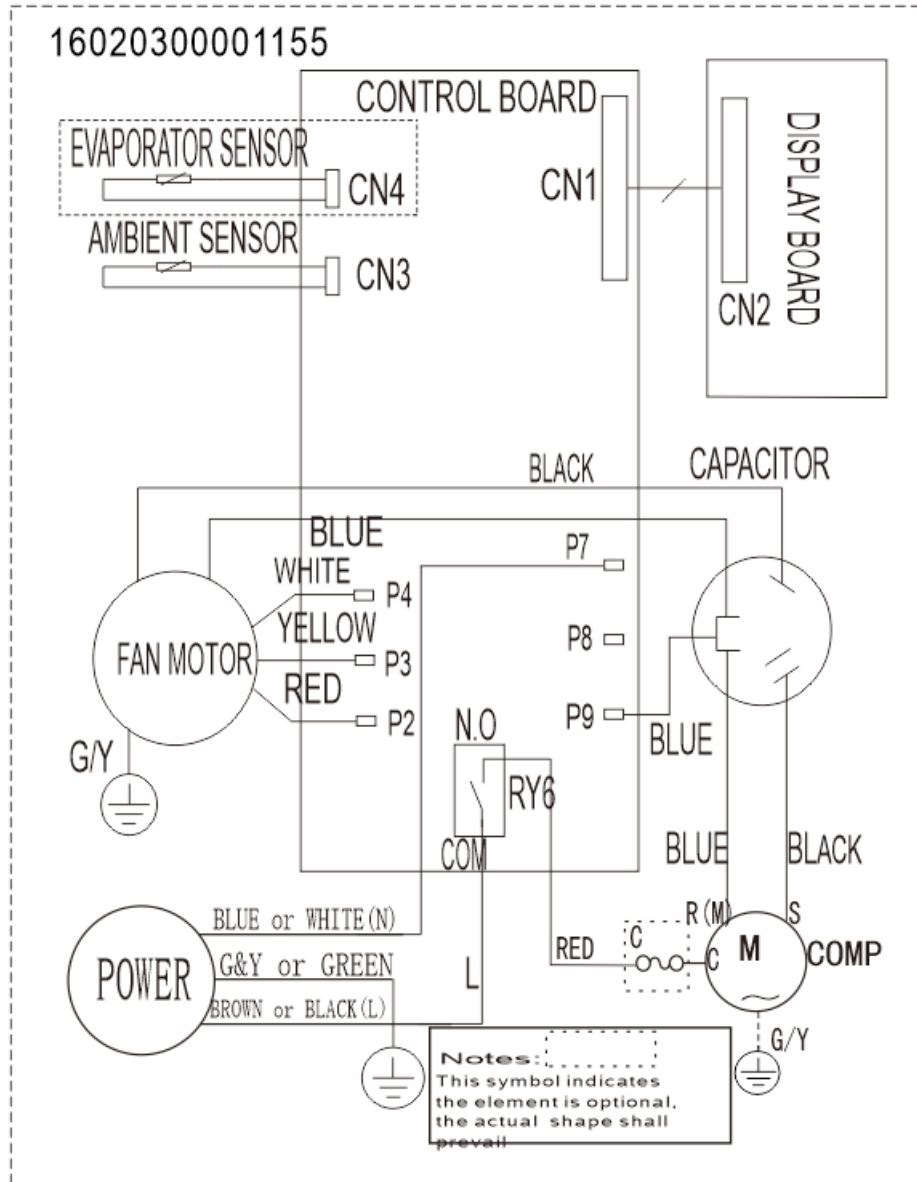


## 2 Wiring Diagram

MWHUK-05CMN8-BCK0, MWHUK-06CMN8-BCK0







### 3 Electronic function

#### 3.1 Terms and definitions

- TA: Temperature of indoor ambient (T1)
- TE: Temperature of evaporator (T2).
- TC: Temperature of condenser (T3).
- TO: Temperature of outdoor ambient (T4)
- TS: The set temperature.
- DAHT: Sensor of heater(T5)

#### 3.2 Protection function

- The compressor restart protection functions with a delay of 3 minutes.
- Sensor protection at open or short circuit.

#### 3.3 Auto mode

- At Auto mode, the unit will choose cooling, heating or fan-only mode according to  $\Delta T (\Delta T = TA - Ts)$

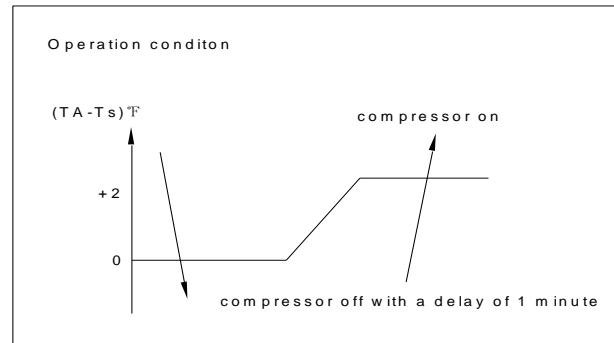
$\Delta T = TA - Ts$	Running mode
$\Delta T > 4^{\circ}F$	Cooling
$-2^{\circ}F \leq \Delta T \leq 4^{\circ}F$	Fan-only
$\Delta T < -2^{\circ}F$	Heating (Setting temperature is $Ts - 1^{\circ}F$ ); Or Fan-only (for cooling only models).

#### 3.4 Fan-only mode

- The temperature can't be controlled at the mode, and the room ambient temperature is display on LED. The temperature only display 32 to 99  $^{\circ}F$  (0 to 37 $^{\circ}C$ ), If out of range will display LO or HI
- The Ion/ Timer functions are valid at the fan-only mode.

#### 3.5 Cooling mode

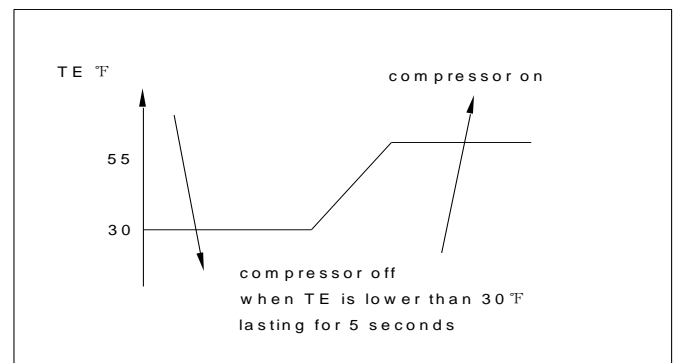
- The temperature can be set from 62 to 86 $^{\circ}F$  (17 to 30 $^{\circ}C$ )
- The compressor will be activated by sensing the difference between setting temperature and the actual ambient room temperature.
- The compressor operates as below:



When  $TA \leq TS$ , compressor off

When  $T1 > TS + 2^{\circ}F$ , compressor on

- The Ion/ Timer/ Sleep/ Energy Saver/ Follow Me functions are valid at the cooling mode.
- Auto-defrosting function protection as below:
- When TE is lower, it means that the evaporator frosts. Then the unit starts defrosting, and the indoor fan keeps working at the moment. When the temperature is up, the unit stops defrosting.



#### 3.6 Dry mode

- The temperature can be setting the same as Cooling mode.
- The fan speed is low and can't be controlled at the mode.

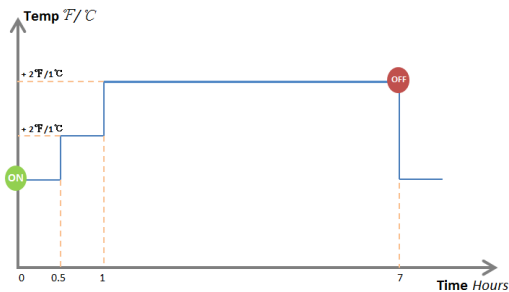
#### 3.7 Sleep mode

- This function is 7 hours. And only can be used in Cool, Dry and Heat mode.
- In this function the fan speed will be change to auto fan.
- In this function, the first and second 30minuts, the setting temperature will up (or down for heating mode) 2 $^{\circ}F$  (1 $^{\circ}C$ ), after that will keep 6 hours, until the function stop.



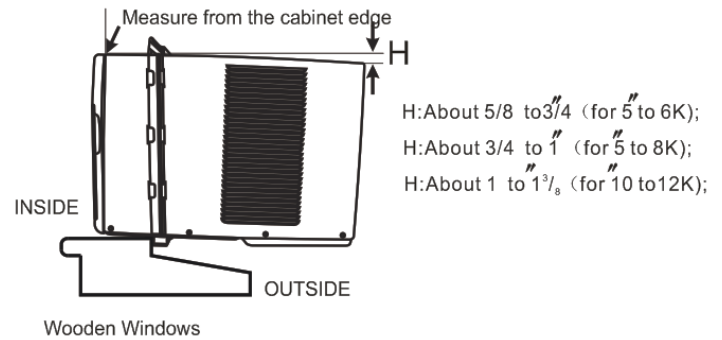
- When the function is start, if you do any operation below, the function will stop.  
Press sleep button again, or use the remote control to set anything.  
Turn off the unit.  
It is time to turn off the unit, for timer off function.

Example:



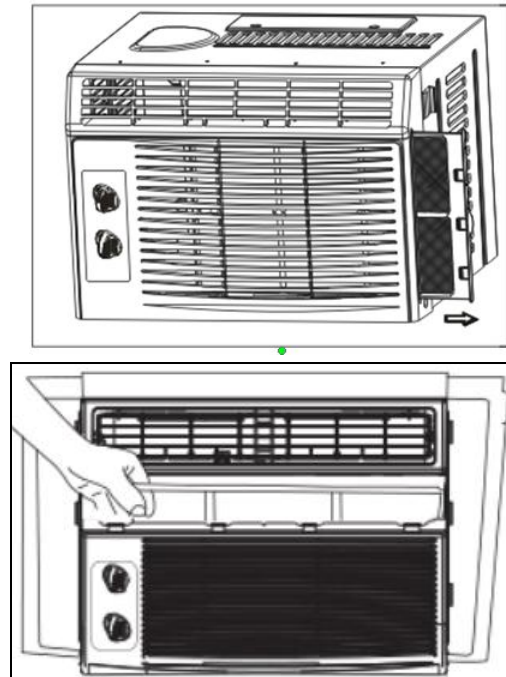
## 4 Installation and use notice

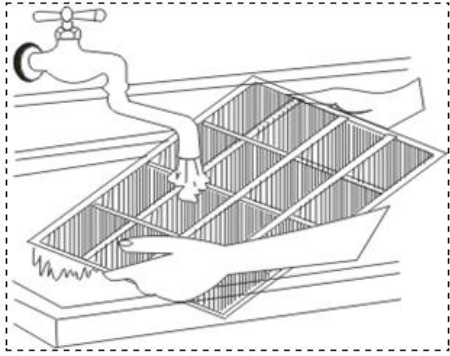
4.1 The inside should be higher than outside, to make sure that the water from evaporator will be easy to flow to the outside. and the water will be helpful to get more capacity and more EER.



NOTE: Check that air conditioner is tilted back about H (tilted about  $3^{\circ}$  to  $4^{\circ}$  downward to the outside). After proper installation, condensate should not drain from the overflow drain hole during normal use, correct the slope otherwise.

### 4.2 Cleaning filter





#### Notice:

- Never use hot water over 104°F (40°C) to clean the air filter. Never attempt to operate the unit without the air filter.
- Every time, when filter check LED light, we suggest to cleaning the filter, it will be better for healthy, and save energy.
- When the AC has not used for a long time, like one month or more, we suggest to cleaning the filter before re-use.

## 5 Troubleshooting

In general, possible trouble is classified in three kinds. One is called Starting Failure which is caused from an electrical defect, another is ineffective Air Conditioning caused by a defect in the refrigeration circuit and improper application, and the other is called the Structure Damage.

### 5.1 Troubleshooting

Problem	Solution
Air conditioner does not start	Wall plug disconnected. Push plug firmly into wall outlet.
	House fuse blown or circuit breaker tripped. Replace fuse with time delay type or reset circuit breaker.
	Plug Current Device Tripped. Press the RESET button.
	Control is OFF. Turn Control ON and set to desired setting.
Air from unit does not feel cold enough	Room temperature below 17 °C (62°F). Cooling may not occur until room temperature rises above 17 °C (62°F).
	Temperature sensing element touching cold coil, located behind air filter. Straighten tube away from coil.

	Reset to a Lower temperature.
	Compressor shut-off by changing modes. Wait approximately 3 minutes and listen for compressor to restart when set in the COOL mode.
Air conditioner cooling, but room is too warm- ice forming on cooling coil behind decorative front.	Outdoor temperature below 17 °C (62°F). To defrost the coil, set FAN ONLY mode.
	Air filter may be dirty. Clean filter. Refer to Care and Cleaning section. To defrost, set to FAN ONLY mode.
	Thermostat set too cold for night-time cooling. To defrost the coil, set to FAN ONLY mode. Then, set temperature to a Higher setting.
Air conditioner cooling, but room is too warm- NO ice forming on cooling coil behind decorative front.	Dirty air filter- air restricted. Clean air filter. Refer to Care and Cleaning section.
	Temperature is set too High, set temperature to a Lower setting.
	Air directional louvers positioned improperly. Position louvers for better air distribution.
	Front of units is blocked by drapes, blinds, furniture, etc. - restricts air distribution. Clear blockage in front of unit.
	Doors/ windows/registers, etc. Open- cold air escapes. Close doors, windows, registers.
	Unit recently turned on in hot room. Allow additional time to remove. Stored heat from walls, ceiling, floor and furniture.
Air conditioner turns on and off rapidly	Dirty air filter- air restricted. Clean air filter
	Outside temperature extremely hot. Set FAN speed to a Higher setting to bring air past cooling coils more frequently.
Noise when unit is cooling	Air movement sound. This is normal. If too loud, set to a slower FAN setting.
	Window vibration - poor installation. Refer to installation instructions or check with installer.
Water dripping INSIDE when unit is cooling.	Improper installation. Tilt air conditioner slightly to the outside to allow water drainage. Refer to installation instructions - check with installer.
Water dripping OUTSIDE when unit is cooling.	Unit removing large quantity of moisture from humid room. This is normal during excessively humid days.
Remote Sensing Deactivating Prematurely (some models)	Remote control not located within range. Place remote control within 20 feet & 180° , radius of the front of the unit.
	Remote control signal obstructed. Remove obstruction.
Room too cold	Set temperature too low. Increase set temperature.

## 5.2 Sensor malfunction

LED display	Stand for
AS	Room temperature sensor error
LO	Room temperature sensor protection at open circuit sensor error in fan only mode
HI	Room temperature sensor protection at short circuit sensor error in fan only mode
HS	Electric heating sensor error
oS	Outdoor ambient temperature sensor at open or short circuit
CS	Condenser temperature sensor at open or short circuit
ES/●	Evaporator temperature sensor at open or short circuit

### Malfunction display:

When the malfunction happened at the same time,  
the priority is AS> HS> oS>CS>ES

## 5.3 Characteristic of temperature sensor

Temp. °C	Temp. °F	Resistance KΩ	Temp. °C	Temp. °F	Resistance KΩ
-10	14	62.2756	31	87.8	7.6241
-9	15.8	58.7079	32	89.6	7.2946
-8	17.6	56.3694	33	91.4	6.9814
-7	19.4	52.2438	34	93.2	6.6835
-6	21.2	49.3161	35	95	6.4002
-5	23	46.5725	36	96.8	6.1306
-4	24.8	44.0000	37	98.6	5.8736
-3	26.6	41.5878	38	100.4	5.6296
-2	28.4	39.8239	39	102.2	5.3969
-1	30.2	37.1988	40	104	5.1752
0	32	35.2024	41	105.8	4.9639
1	33.8	33.3269	42	107.6	4.7625

2	35.6	31.5635	43	109.4	4.5705
3	37.4	29.9058	44	111.2	4.3874
4	39.2	28.3459	45	113	4.2126
5	41	26.8778	46	114.8	4.0459
6	42.8	25.4954	47	116.6	3.8867
7	44.6	24.1932	48	118.4	3.7348
8	46.4	22.5662	49	120.2	3.5896
9	48.2	21.8094	50	122	3.4510
10	50	20.7184	51	123.8	3.3185
11	51.8	19.6891	52	125.6	3.1918
12	53.6	18.7177	53	127.4	3.0707
13	55.4	17.8005	54	129.2	2.959
14	57.2	16.9341	55	131	2.8442
15	59	16.1156	56	132.8	2.7382
16	60.8	15.3418	57	134.6	2.6368
17	62.6	14.6181	58	136.4	2.5397
18	64.4	13.918	59	138.2	2.4468
19	66.2	13.2631	60	140	2.3577
20	68	12.6431	61	141.8	2.2725
21	69.8	12.0561	62	143.6	2.1907
22	71.6	11.5000	63	145.4	2.1124
23	73.4	10.9731	64	147.2	2.0373
24	75.2	10.4736	65	149	1.9653
25	77	10.000	66	150.8	1.8963
26	78.8	9.5507	67	152.6	1.8300
27	80.6	9.1245	68	154.4	1.7665
28	82.4	8.7198	69	156.2	1.7055
29	84.2	8.3357	70	158	1.6469
30	86	7.9708			