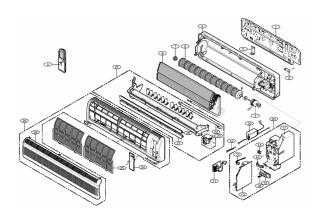


# LG AG1AH23BWI Owner's Manual

# **Shop genuine replacement parts for LG AG1AH23BWI**



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----- Manual continues below ------

## **Functions**

#### **Indoor Unit**

### Operation ON/OFF by Remote controller

### **Sensing the Room Temperature**

• Room temperature sensor. (THERMISTOR)

### **Room temperature control**

• Maintains the room temperature in accordance with the Setting Temp.

### **Starting Current Control**

• Indoor fan is delayed for 5 seconds at the starting.

### **Time Delay Safety Control**

• Restarting is inhibited for approx. 3 minutes.

### **Indoor Fan Speed Control**

• High, Med, Low, AUTO

### **Operation indication Lamps (LED)**

(Red) --- Lights up in operation
 (Yellow) --- Lights up in Sleep Mode
 (Orange) --- Lights up in Timer Mode
 (Green) --- Lights up in Deice Mode or Hot Start Mode (only Heating Model)

OŪT (Green) --- Lights up during compressor running (only Cooling Model)

### **Soft Dry Operation Mode**

· Intermittent operation of fan at low speed.

### **Sleep Mode Auto Control**

- The fan is switched to low(Cooling), med(Heating) speed.
- The unit will be stopped after 1, 2, 3, 4, 5, 6, 7 hours.

### **Natural Air Control by FUZZY Logic**

- The fan is switched to intermittent or irregular operation.
- The fan speed is automatically switched from high to low speed.

#### **Airflow Direction Control**

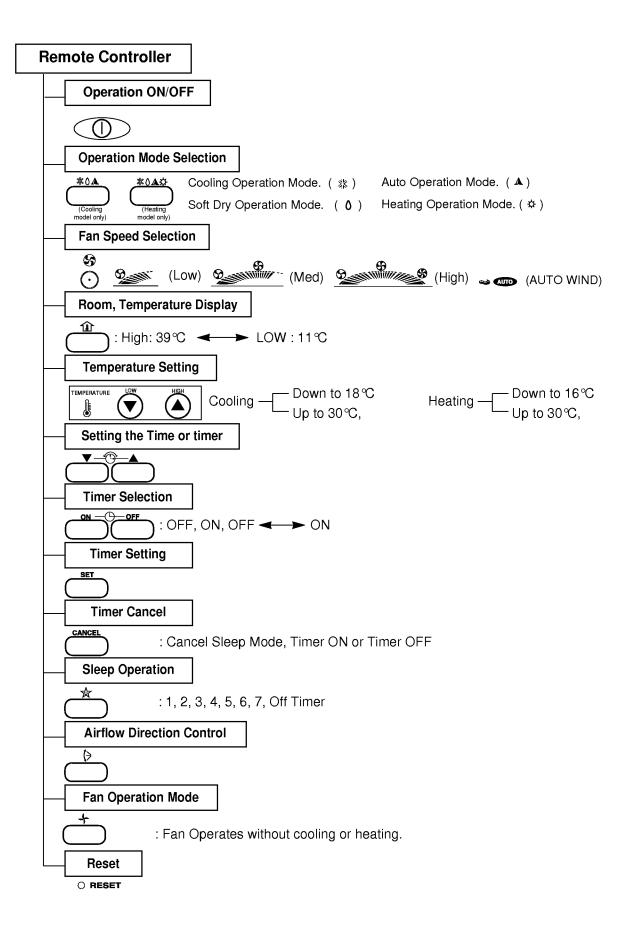
• The louver can be set at the desired position or swing up and down automatically.

### Deice(defrost) control(Heating)

- Both the indoor and outdoor fan stops during deicing.
- · Hot start after deice ends.

### **Hot-start Control (Heating)**

• The indoor fan stops until the evaporator piping temperature will be reached at 28°C.



# **Operation Details**

### (1) The function of main control

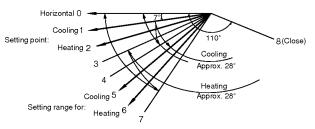
### 1. Time delay Safety Control

- 3min... The compressor is ceased for 3minutes to balance the pressure in the refrigeration cycle. (Protection of compressor)
- 5sec... Vertical air flow direction control louvers open in 5 seconds to prevent noise between louvers and wind.
- 30sec... The 4-way valve is ceased for 30sec. to prevent the refrigerant-gas abnormal noise when the Heating operation is OFF or switched to the other operation mode while compress is off.

  While compressor is running, it takes 3~5 seconds to switch.

#### 2. Airflow Direction Control

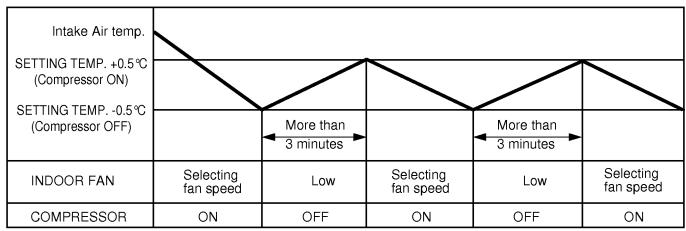
- This function is to swing the louver up and down automatically and to set it at the desired position.
- The procedure is as the following.
- 1st; Press the ON/OFF Button to operate the product.
- 2nd; Press the Airflow Direction Control Button to swing the louver up and down automatically.
- 3nd; Repress the Airflow Direction Control Button to set the louver as the desired position.



Vertical airflow direction

### 3. Cooling Mode Operation

• When selecting the Cooling( \* ) Mode Operation, the unit will operate according to the setting by the remote controller and the operation diagram is as following.

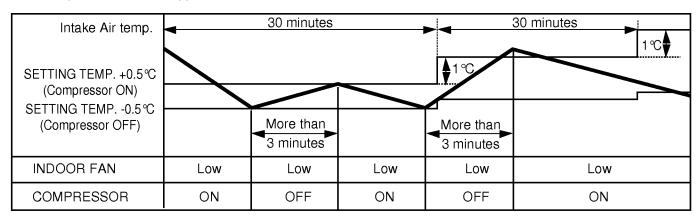


### 4. Cooling or Heating Mode with Sleep Mode Auto Operation

• When selecting the Cooling(♠) or the Heating(❖) combined with the Sleep Mode Auto Operation(☆), the operation diagram is as following.

### **■** Cooling Mode with the Sleep Mode

- The setting temperature will be raised by 1  $^{\circ}$ C 30minutes later and by 2  $^{\circ}$ C 1 hour later.
- The operation will be stopped after 1, 2, 3, 4, 5, 6, 7 hours.



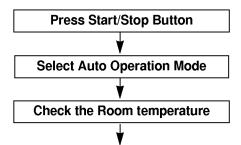
### ■ Heating Mode with the Sleep Mode

• The operation will be stopped after 1, 2, 3, 4, 5, 6, 7 hours.

SETTING TEMP. +0.3 °C (Compressor ON)  SETTING TEMP						
(Compressor OFF)		More than 3 minutes		More than 3 minutes		More than 3 minutes
INDOOR FAN	Med.	Med.	Med.	Med.	Med.	Med.
COMPRESSOR	ON	OFF	ON	OFF	ON	OFF

### 5. Auto Operation

• The operation procedure is as following. (Cooling & Heating Model)

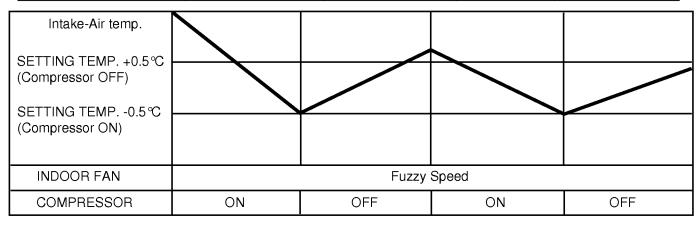


Operation modeare automatically decided by Fuzzy rule.  Setting temperature				
Intake-air temperature	below 21 ℃	Over ~ below 21 ℃ 24 ℃	Over 24℃	
Operation Mode	Heating	Soft Dry	Cooling	

- \* If initial mode is decided, that mode is continued without the room temperature changing.
- \* For cooling operation mode over 24 ℃ setting temperature and fan speed are same as cooling only model.

### ■ Auto Operation for Cooling. (Cooling only Model)

Operation Condition	Intake-air Temperature	Setting Temperature	Fan Speed	Air Direction Control	
When Auto Operation initial start	Over 26℃	25℃			
	Over 24 ℃~below 26 ℃	Intake air -1 ℃		In this mode,	
	Over 22 ℃~below 24 ℃	Intake air -0.5℃		when pressing	
	Over 20 ℃~below 22 ℃	Intake air temperature	Controlled by	the vertical air direction control. Button, louvers moves to 1/f rhythm (refer to	
	below 20 ℃	20℃	Fuzzy logic		
When pressing room temperature setting button during Auto Operation	Over 20 °C~below 30 °C	Fuzzy control			
	1		page (7)	page 17)	
	over 30°C	30℃			



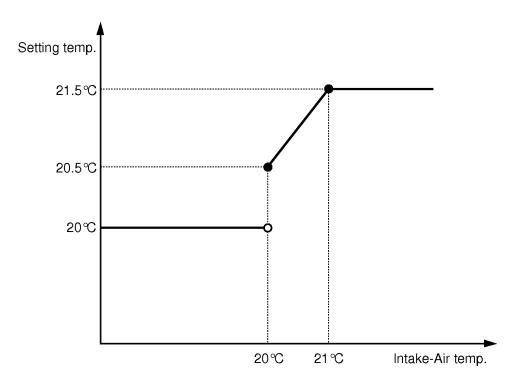
### ■ Auto Operation for Soft Dry

- The Setting temperature will be same that of the current intake-air temperature.
- Compressor ON temperature; Setting temperature +1 °C
- Compressor OFF temperature; Setting temperture -0.5°C

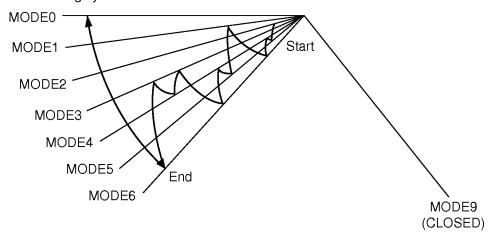
### ■ Auto Operation for Heating

Intake Air temp.	below 20℃	Over 20°C~below 21°C	Over 30℃
Setting temp.	20℃	Intake air temperature +0.5℃	30℃

- Compressor ON temperature; Setting temperature
- Compressor OFF temperature; Setting temperature +3°C

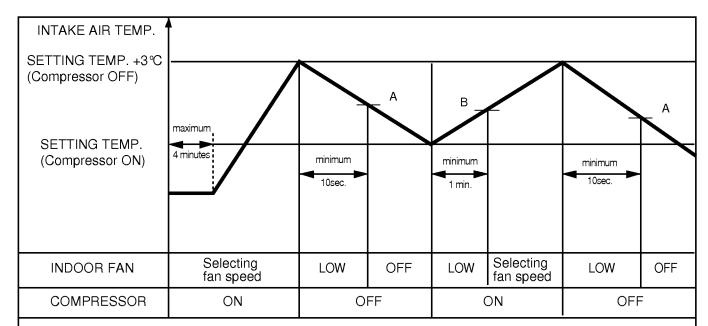


• 1/f rhythm louver operation : In Auto operation mode, when pressing the vertical air direction control button, louver moves as following cycle.



### 6. Heating Mode Operation

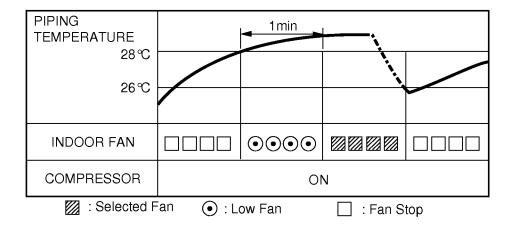
The unit will operate according to the setting by the remote controller and the operation diagram is shown as following.



- A point; While the indoor Heat-Exchanger temperature is higher than 35 ℃ fan operates at low speed, when it becomes lower than 35 ℃ fan stops.
- B point; When the indoor Heat-Exchanger temperature is higher than 28 ℃, fan operates at selected fan speed.

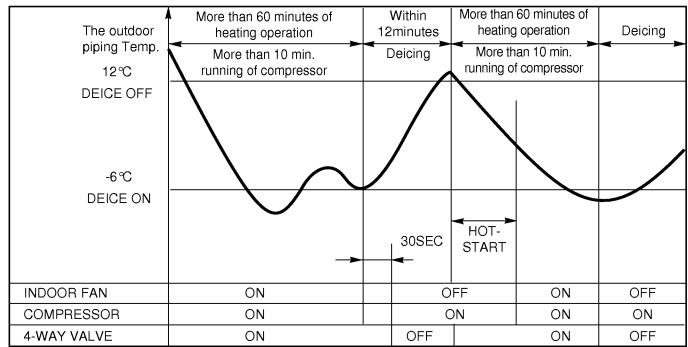
### 7. Hot-Start Control

- The indoor fan stops until the evaporator piping temperature will be reached to 28 °C.
- The operation diagram is as following.



### 8. Deice Control

- Deicing operation is controlled by timer and sensing the outdoor piping temperature.
- The first deicing starts only when the outdoor pipe temperature falls below -6°C after 60 minutes passed from starting of heating operation and more than 10 minute operation of compressor.
- Deicing ends after 12 minutes passed from starting of deice operation or when the outdoor pipe temperature rises over 12 °C even if before 12 minutes.
- The second deicing starts only when the outdoor pipe temperature falls below -6 $^{\circ}$ C after 60 minutes passed from ending of the first deicing and more than 10 minutes operation of compressor.



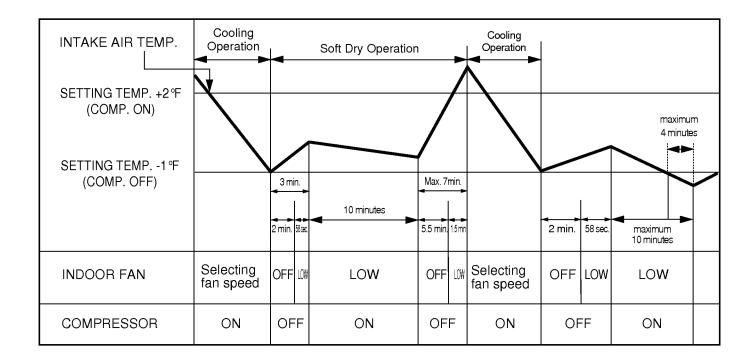
### 9. Soft Dry Operation.

- During Soft Dry Operation, the compressor ON temperature is the setting temperature plus 1 °C, the compressor OFF temperature is the setting temperature minus 0.5 °C.
- When the room temperature rises over the compressor ON temperature, the operation mode is switched to the cooling mode.
- When the room temperature falls between the compressor ON temperature and OFF temperature, the operation mode is switched to the Soft Dry Operation.

  In this temperature range, 10min. Dry Operation, 5.5min. operation OFF, 1.5min. only fan operation repeat.

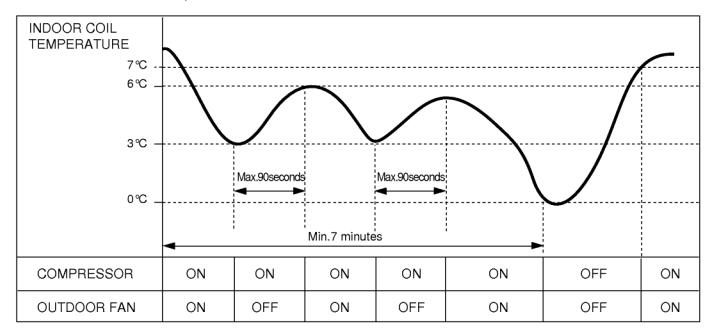
  During 10min Dry operation, even if the room temperature falls below compressor OFF temperature,

  10min(MAX) Compressor ON from starting of Dry operation which includes 4 min(MAX). Compressor ON operation below the compressor OFF temperature.
- In micom dehumidify mode, control of fan speed is as following.



### 10. Protection of the evaporator pipe from frosting

• Same as item(1) except that outdoor fan motor stops when indoor coil temperature is below 3°C and restarts at the coil temperature above 6°C or after 90 seconds, if the coil temperature does not rise to 6°C, outdoor fan motor runs continuously at even below 3°C.

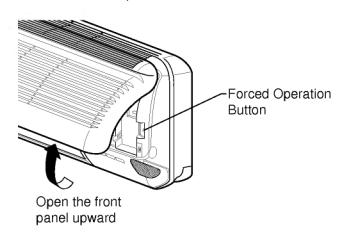


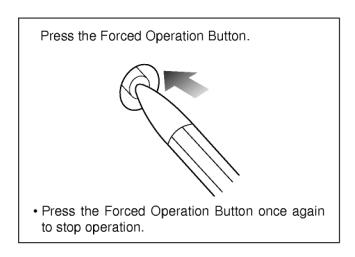
### 11. Forced Operation.

- If you lose wireless remote controller, you can operate the unit with forced operation switch.
- The standard conditions are as following.

	Cooling Model	Heat pump Model		
		Room Temp. ≥ 24°C	21 °C ≤ Room Temp. < 24 °C	Room Temp. < 21 ℃
Operation Mode	Cooling	Cooling	Soft Dry	Heating
FAN Speed	High	High	Softe Dry Rule	High
Setting Temp.	22℃	22°C	Air Intake Temperature	24°C

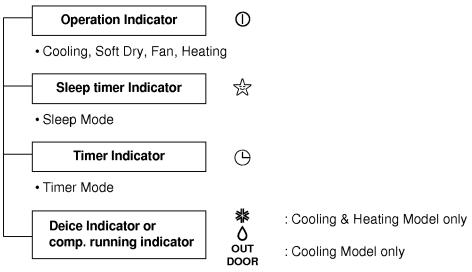
• Unit operation in low fan mode for first 15 seconds, then switched to proper operation mode according to intake Air temperature.





# **Display Function**

### **Cooling Model**



· Hot-start, Deice, Compressor running

### BUZZER SOUND

Power Input or Reset : One short beep.Operation Stop : One long beep.

• Remote Controller Key Input Except Operation Stop Key: Two Short beeps.

• Forced Operation Switch Input : Two short beeps.

# **Self-diagnosis Function**

CODE NO.	DIAGNOSIS	Operation Indicator LED Blinks	Unit Operation
¤	Indoor room temperature thermistor or pipe temperature thermistor Short/Open	Once	Still Operation
¤Ł	Outdoor pipe thermistor Short/Open	Twice	Outdoor Unit Off
¤ο	Communication failure between indoor and outdoor	5 times	Stop
¤	Indoor fan locked	8 times	Stop

- LED blinks as many times as code No. (0.5 second ON/0.5 second OFF) with 3 seconds intervals.
- While the unit is off, no indication displays.
- If more than one code occurs simultaneously, bigger code No. is displayed.

# **Operation**

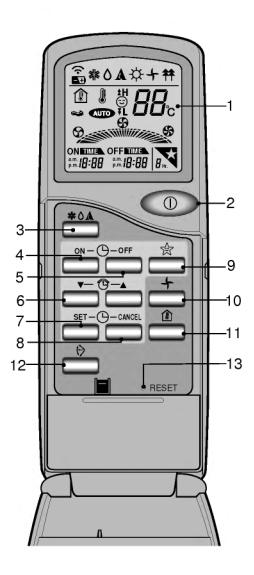
### (1) Name and Function-Remote Control

### 1) Cooling Model

### **Remote Controller**

### Signal trasmitter

Transmits the signals to the room air conditioner.



### ∠AOperation display

Displays the operation conditions.

### ∠BStart/Stop Button

Operation starts when this button is pressed, and stops when the button is pressed again.

### ∠COperation Mode Selection Button

Used to select the operation mode.

- · Cooling Operation Mode.
- · Soft Dry Operation Mode.
- · Auto Operation Mode.

### **∠**DON Timer Button

Used to set the time of starting operation.

### ∠EOFF Timer Button

Used to set the time of stopping operation.

### ✓F Time Setting Button

Used to adjust the time.

#### ∠GTimer Set Button

Used to set the timer when the desired time is obtained.

### ∠H Timer CANCEL Button

Used to cancel the timer operation.

### ✓I Sleep Mode Auto Button

Used to set Sleep Mode Auto Operation.

### ✓J Fan Operation Button

Used to circulate room air without cooling.

### ∠K Room Temperature Checking Button

Used to check the room temperature.

#### ∠ Airflow Direction Control Button

Used to set the desired vertical airflow direction.

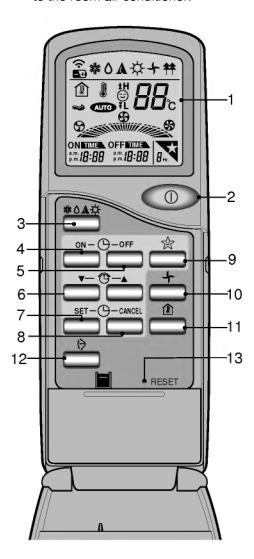
### ∠M Reset Button

### 2) Heating Model

### **Remote Controller**

### Signal trasmitter

Transmits the signals to the room air conditioner.



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- · Heating Operation.

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Used to set the time of starting operation.

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