

**SPLIT TYPE  
ROOM AIR CONDITIONER**  
**Universal Floor / Ceiling  
Slim Duct / Mini Duct  
Compact Cassette  
Compact Wall Mounted / Floor  
Wall Mounted type**  
**INVERTER MULTI**

# SERVICE INSTRUCTION

Refrigerant  
**R410A**

Models	Indoor unit	Indoor unit	Outdoor unit
	AS*G07LUCA	AR*G07LSLAP	AO*G36LBLA5
	AS*G09LUCA	AR*G09LSLAP	AO*G45LBLA6
	AS*G12LUCA	AR*G12LSLAP	
	AS*G14LUCA	AR*G14LSLAP	
	AS*G07LMCA	AR*G18LSLAP	
	AS*G09LMCA		
	AS*G12LMCA		
	AS*G14LMCA		
	AS*G07LMCE		
	AS*G09LMCE		
	AS*G12LMCE		
	AS*G14LMCE		
	AS*G18LFCA		
	AS*G24LFCA		
	AS*G24LFCC		
	AU*G07LVLA		
	AU*G09LVLA		
	AU*G12LVLB		
	AU*G14LVLB		
	AU*G18LVLB		
	AR*G07LLTA		
	AR*G09LLTA		
	AR*G12LLTB		
	AR*G14LLTB		
	AR*G18LLTB		
	AB*G14LVTA		
	AB*G18LVTB		
	AG*G09LVCA		
	AG*G12LVCA		
	AG*G14LVCA		

**FUJITSU GENERAL LIMITED**

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Wall Mounted type  
INVERTER (MULTI )***

**1 . DESCRIPTION OF EACH  
CONTROL OPERATION**

# 1. CAPACITY CONTROL

## 1-1 COOLING, HEATING, DRY CAPACITY CONTROL

Compressor frequency decides by capacity of an indoor unit, operation number of an indoor unit, set temperature, room temperature and outside temperature.

# 2. AUTO CHANGEOVER OPERATION

When the air conditioner is set to the Auto mode by remote controller, operation starts in the optimum mode from among the Heating, Cooling, Dry and Monitoring mode. During operation, the optimum mode is automatically switched in accordance with temperature changes. The temperature can be set between 18°C and 30°C in 1°C steps.

① When operation starts, indoor fan and outdoor fan are operated for around 3 minutes.

Room temperature and outdoor temperature are sensed, and the operation mode is selected in accordance with the table below. **<Monitoring mode>**

( Table 1 : Operation mode selection table )

Room temperature (TR)	Operation mode
$TR > Ts + 2^{\circ}\text{C}$	Cooling (Automatic dry)
$Ts + 2^{\circ}\text{C} \geq TR \geq Ts - 2^{\circ}\text{C}$	*Middle zone
$TR < Ts - 2^{\circ}\text{C}$	Heating

TR : Room temperature  
Ts : Setting temperature

\*If it's Middle zone, operation mode of indoor unit is selected as below.

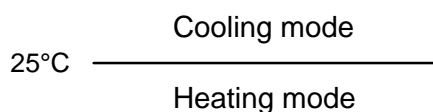
(1). Same operation mode is selected as outdoor unit.

If outdoor unit is operating in Cooling, Dry, and Heating mode, indoor unit will be operated by the same operation mode.

(2). Selected by the outdoor temperature.

If outdoor unit is operating in other than Cooling, Dry, and Heating mode, indoor unit will be operated according to the outdoor temperature as below.

( Fig. 1 : Outdoor temperature zone selection )

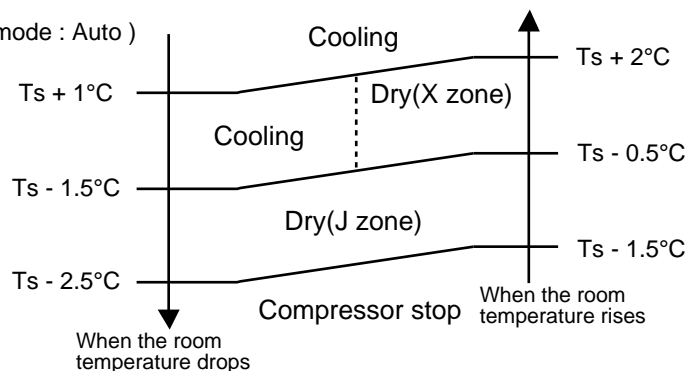


② When Cooling or Dry mode was selected at ① and air flow mode is Auto, the air conditioner operates as follow.

- The same operation as COOLING OPERATION AND DRY OPERATION.
- When the room temperature has remained at set temperature -1.5°C, operation is automatically switched to Dry mode.
- If the room temperature reaches set temperature +2°C during Dry mode, operation returns to Cooling.

( Fig.2 : Auto changeover : Cooling - Dry )

( Air flow mode : Auto )

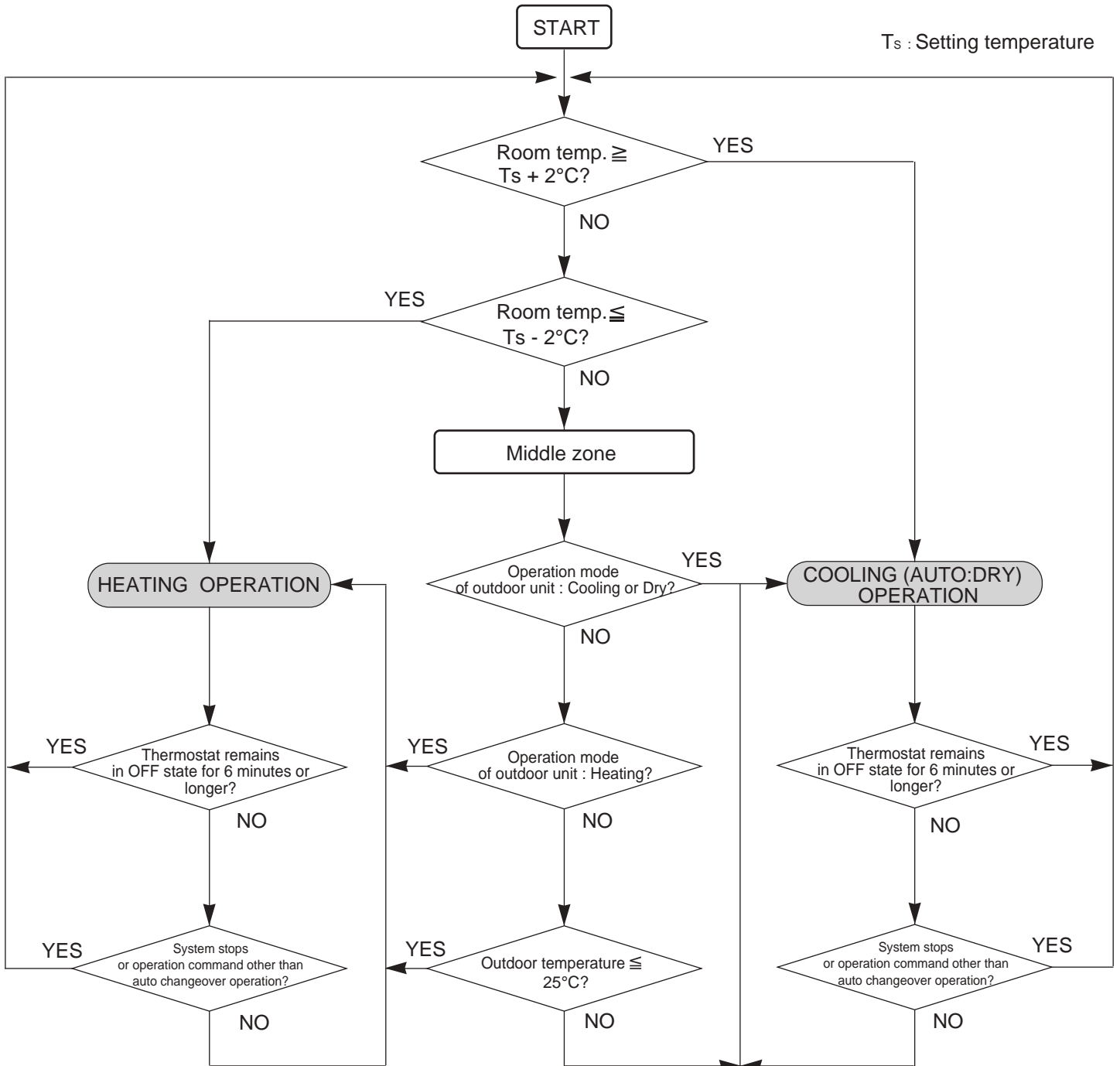


TR : Room temperature  
Ts : Setting temperature

③ When Heating was selected at ①, the same operation as HEATING OPERATION of page 01-07 is performed.

④ When the compressor was stopped for 6 consecutive minutes by the temperature control function after the Cooling(Auto:Dry) or Heating mode was selected at ① above, operation is switched to Monitoring and the operation mode is selected again.

■ AUTO CHANGEOVER operation flow chart



### 3. INDOOR FAN CONTROL

#### 1. Fan speed

(Table 2 : Indoor fan speed table)

AS\*G18LFCA (rpm)

Operation mode	Air flow mode	Fan Speed
Heating	Hi	1220
	Me+	1120
	Me	1020
	Lo	900
	Quiet	710
	Cool Air Prevention	660
	S-Lo	480
Cooling / Fan	Hi	1220
	Me	1020
	Lo	900
	Quiet	710
	*Soft Quiet	660
Dry	Auto	X, J zone:710

AS\*G24LFC\* (rpm)

Operation mode	Air flow mode	Fan Speed
Heating	Hi	1430
	Me+	1320
	Me	1220
	Lo	1020
	Quiet	900
	Cool Air Prevention	720
	S-Lo	480
Cooling / Fan	Hi	1480
	Me	1220
	Lo	1020
	Quiet	900
	*Soft Quiet	720
Dry	Auto	X, J zone:900

AB\*G14LVTA (rpm)

Operation mode	Air flow mode	Fan Speed
Heating	Hi	850
	Me+	850
	Me	800
	Lo	740
	Quiet	670
	Cool Air Prevention	500
	S-Lo	300
Cooling / Fan	Hi	850
	Me	800
	Lo	740
	Quiet	670
	*Soft Quiet	500
Dry	Auto	X, J zone:670

AB\*G18LVT\* (rpm)

Operation mode	Air flow mode	Fan Speed
Heating	Hi	1040
	Me+	1000
	Me	950
	Lo	800
	Quiet	740
	Cool Air Prevention	500
	S-Lo	300
Cooling / Fan	Hi	1040
	Me	950
	Lo	800
	Quiet	740
	*Soft Quiet	500
Dry	Auto	X, J zone:740

\*Note, during Economy operation and operation mode is Fan, air flow is 1 step downs.  
(Hi > Me, Me > Lo, Quiet > Soft Quiet)

AU\*G07LVLA (rpm)

Operation mode	Air flow mode	Fan Speed
Heating	Hi	590
	Me+	570
	Me	540
	Lo	490
	Quiet	440
	Cool Air Prevention	400
	S-Lo	300
Cooling / Fan	Hi	590
	Me	540
	Lo	490
	Quiet	440
	*Soft Quiet	400
Dry	Auto	X, J zone:440

AU\*G09LVLA (rpm)

Operation mode	Air flow mode	Fan Speed
Heating	Hi	590
	Me+	570
	Me	540
	Lo	490
	Quiet	440
	Cool Air Prevention	400
	S-Lo	300
Cooling / Fan	Hi	590
	Me	540
	Lo	490
	Quiet	440
	*Soft Quiet	400
Dry	Auto	X, J zone:440

AU\*G12LVL\* (rpm)

Operation mode	Air flow mode	Fan Speed
Heating	Hi	650
	Me+	620
	Me	580
	Lo	520
	Quiet	460
	Cool Air Prevention	400
	S-Lo	300
Cooling / Fan	Hi	660
	Me	580
	Lo	520
	Quiet	460
	*Soft Quiet	400
Dry	Auto	X, J zone:460

AU\*G14LVL\* (rpm)

Operation mode	Air flow mode	Fan Speed
Heating	Hi	740
	Me+	700
	Me	670
	Lo	600
	Quiet	480
	Cool Air Prevention	400
	S-Lo	300
Cooling / Fan	Hi	730
	Me	630
	Lo	540
	Quiet	460
	*Soft Quiet	400
Dry	Auto	X, J zone:460

AU\*G18LVL\* (rpm)

Operation mode	Air flow mode	Fan Speed
Heating	Hi	840
	Me+	800
	Me	750
	Lo	650
	Quiet	500
	Cool Air Prevention	400
	S-Lo	300
Cooling / Fan	Hi	790
	Me	660
	Lo	570
	Quiet	460
	*Soft Quiet	400
Dry	Auto	X, J zone:460

\*Note, during Economy operation and operation mode is Fan, air flow is 1 step downs.  
(Hi > Me, Me > Lo, Quiet > Soft Quiet)

AR\*G07LL\*A (Static pressure:25Pa) (rpm)

Operation mode	Air flow mode	Fan Speed
Heating	Hi	1160
	Me	1000
	Lo	940
	Quiet	880
	S-Lo	500
Cooling / Fan	Hi	1160
	Me	1000
	Lo	940
	Quiet	880
	*Soft Quiet	500
Dry	Auto	X, J zone:880

AR\*G09LL\*A (Static pressure:25Pa) (rpm)

Operation mode	Air flow mode	Fan Speed
Heating	Hi	1260
	Me	1160
	Lo	1060
	Quiet	960
	S-Lo	500
Cooling / Fan	Hi	1260
	Me	1160
	Lo	1060
	Quiet	960
	*Soft Quiet	500
Dry	Auto	X, J zone:960

AR\*G12LL\*\* (Static pressure:25Pa) (rpm)

Operation mode	Air flow mode	Fan Speed
Heating	Hi	1340
	Me	1240
	Lo	1140
	Quiet	1030
	S-Lo	500
Cooling / Fan	Hi	1340
	Me	1240
	Lo	1140
	Quiet	1030
	*Soft Quiet	500
Dry	Auto	X, J zone:1030

AR\*G14LL\*\* (Static pressure:25Pa) (rpm)

Operation mode	Air flow mode	Fan Speed
Heating	Hi	1560
	Me	1400
	Lo	1240
	Quiet	1030
	S-Lo	500
Cooling / Fan	Hi	1560
	Me	1400
	Lo	1240
	Quiet	1030
	Soft Quiet	500
Dry	Auto	X, J zone:1030

AR\*G18LL\*\* (Static pressure:25Pa) (rpm)

Operation mode	Air flow mode	Fan Speed
Heating	Hi	1380
	Me	1300
	Lo	1220
	Quiet	1140
	S-Lo	600
Cooling / Fan	Hi	1380
	Me	1300
	Lo	1220
	Quiet	1140
	*Soft Quiet	600
Dry	Auto	X, J zone:1140

\*Note, during Economy operation and operation mode is Fan, air flow is 1 step downs.  
(Hi > Me, Me > Lo, Quiet > Soft Quiet)



• AR\*G07LSLAP (Static pressure : 10pa)

Operation mode	Air flow mode	Speed (rpm)
Heating	Hi	1100
	Me	890
	Lo	810
	Quiet	750
	S-Lo	360
Cooling Fan	Hi	1100
	Me	890
	Lo	810
	Quiet	750
	S-Lo	360
Dry	Auto	750
Monitoring	S-Lo	360

• AR\*G09LSLAP (Static pressure : 10pa)

Operation mode	Air flow mode	Speed (rpm)
Heating	Hi	1170
	Me	890
	Lo	810
	Quiet	750
	S-Lo	360
Cooling Fan	Hi	1170
	Me	890
	Lo	810
	Quiet	750
	S-Lo	360
Dry	Auto	750
Monitoring	S-Lo	360

• AR\*G12LSLAP (Static pressure : 10pa)

Operation mode	Air flow mode	Speed (rpm)
Heating	Hi	1240
	Me	960
	Lo	850
	Quiet	730
	S-Lo	360
Cooling Fan	Hi	1240
	Me	960
	Lo	850
	Quiet	73
	S-Lo	360
Dry	Auto	730
Monitoring	S-Lo	360

• AR\*G14LSLAP (Static pressure : 15pa)

Operation mode	Air flow mode	Speed (rpm)
Heating	Hi	1500
	Me	1220
	Lo	1030
	Quiet	730
	S-Lo	360
Cooling Fan	Hi	1500
	Me	1220
	Lo	1030
	Quiet	730
	S-Lo	360
Dry	Auto	730
Monitoring	S-Lo	360

• AR\*G18LSLAP (Static pressure : 15pa)

Operation mode	Air flow mode	Speed (rpm)
Heating	Hi	1290
	Me	1060
	Lo	800
	Quiet	730
	S-Lo	530
Cooling Fan	Hi	1290
	Me	1060
	Lo	800
	Quiet	730
	S-Lo	530
Dry	Auto	730
Monitoring	S-Lo	530

\*Note, during Economy operation and operation mode is Fan, air flow is 1 step downs.  
(Hi > Me, Me > Lo, Lo > Quiet, Quiet > S-Lo)

## AG\*G09LVCA

(rpm)

Operation mode	Air flow mode		Fan Speed	
			Upper & Lower air flow mode	Upper air flow mode
Heating	Hi	Upper / Lower	1120/950	1230
	Me	Upper / Lower	1000/850	1090
	Lo	Upper / Lower	860/730	940
	Quiet	Upper / Lower	660/560	750
	Cool Air Prevention	Upper / Lower	660/560	680
	S-Lo	Upper / Lower	660/560	680
Cooling / Fan	Hi	Upper / Lower	1120/950	1230
	Me	Upper / Lower	960/820	1070
	Lo	Upper / Lower	820/700	910
	Quiet	Upper / Lower	660/560	750
	Soft Quiet	Upper / Lower	570/480	680
Dry	Auto	Upper / Lower	-	X, J zone:750

## AG\*G12LVCA

(rpm)

Operation mode	Air flow mode		Fan Speed	
			Upper & Lower air flow mode	Upper air flow mode
Heating	Hi	Upper / Lower	1240/1040	1300
	Me	Upper / Lower	1080/920	1140
	Lo	Upper / Lower	910/770	980
	Quiet	Upper / Lower	660/560	750
	Cool Air Prevention	Upper / Lower	660/560	680
	S-Lo	Upper / Lower	660/560	680
Cooling / Fan	Hi	Upper / Lower	1240/1040	1300
	Me	Upper / Lower	1050/890	1120
	Lo	Upper / Lower	860/730	930
	Quiet	Upper / Lower	660/560	750
	Soft Quiet	Upper / Lower	570/480	680
Dry	Auto	Upper / Lower	-	X, J zone:750

## AG\*G14LVCA

(rpm)

Operation mode	Air flow mode		Fan Speed	
			Upper & Lower air flow mode	Upper air flow mode
Heating	Hi	Upper / Lower	1330/1120	1370
	Me	Upper / Lower	1140/970	1180
	Lo	Upper / Lower	940/800	1020
	Quiet	Upper / Lower	660/560	750
	Cool Air Prevention	Upper / Lower	660/560	680
	S-Lo	Upper / Lower	660/560	680
Cooling / Fan	Hi	Upper / Lower	1330/1120	1370
	Me	Upper / Lower	1100/930	1160
	Lo	Upper / Lower	890/750	960
	Quiet	Upper / Lower	660/560	750
	Soft Quiet	Upper / Lower	570/480	680
Dry	Auto	Upper / Lower	-	X, J zone:750

AS\*G07LUCA (rpm)

Operation mode	Air flow mode	Fan Speed
Heating	Powerful	1030
	Hi	980
	Me+	980
	Me	910
	Lo	850
	Quiet	650
	Cool Air Prevention	610
	S-Lo	570
Cooling / Fan	Powerful	1030
	Hi	980
	Me	910
	Lo	850
	Quiet	650
	*Soft Quiet	610
Dry	Auto	X, J zone:650

AS\*G09LUCA (rpm)

Operation mode	Air flow mode	Fan Speed
Heating	Powerful	1050
	Hi	1030
	Me+	1030
	Me	950
	Lo	850
	Quiet	650
	Cool Air Prevention	610
	S-Lo	570
Cooling / Fan	Powerful	1080
	Hi	1030
	Me	950
	Lo	850
	Quiet	650
	*Soft Quiet	610
Dry	Auto	X, J zone:650

AS\*G12LUCA (rpm)

Operation mode	Air flow mode	Fan Speed
Heating	Powerful	1160
	Hi	1110
	Me+	1110
	Me	1030
	Lo	930
	Quiet	650
	Cool Air Prevention	610
	S-Lo	570
Cooling / Fan	Powerful	1160
	Hi	1110
	Me	1030
	Lo	930
	Quiet	650
	*Soft Quiet	610
Dry	Auto	X, J zone:650

AS\*G14LUCA (rpm)

Operation mode	Air flow mode	Fan Speed
Heating	Powerful	1230
	Hi	1180
	Me+	1180
	Me	1080
	Lo	1010
	Quiet	790
	Cool Air Prevention	610
	S-Lo	570
Cooling / Fan	Powerful	1230
	Hi	1180
	Me	1080
	Lo	980
	Quiet	740
	*Soft Quiet	710
Dry	Auto	X, J zone:740

\*Note, during Economy operation and operation mode is Fan, air flow is 1 step downs.  
(Hi > Me, Me > Lo, Quiet > Soft Quiet)

AS\*G07LMC\* (rpm)

Operation mode	Air flow mode	Fan Speed
Heating	Powerful	1090
	Hi	1050
	Me+	1000
	Me	950
	Lo	850
	Quiet	710
	Cool Air Prevention	600
	S-Lo	480
Cooling / Fan	Powerful	1090
	Hi	1050
	Me	950
	Lo	850
	Quiet	680
	*Soft Quiet	600
Dry	Auto	X, J zone:680

AS\*G09LMC\* (rpm)

Operation mode	Air flow mode	Fan Speed
Heating	Powerful	1140
	Hi	1090
	Me+	1040
	Me	980
	Lo	850
	Quiet	710
	Cool Air Prevention	600
	S-Lo	480
Cooling / Fan	Powerful	1140
	Hi	1090
	Me	980
	Lo	850
	Quiet	680
	*Soft Quiet	600
Dry	Auto	X, J zone:680

AS\*G12LMC\* (rpm)

Operation mode	Air flow mode	Fan Speed
Heating	Powerful	1240
	Hi	1190
	Me+	1120
	Me	1050
	Lo	910
	Quiet	710
	Cool Air Prevention	600
	S-Lo	480
Cooling / Fan	Powerful	1240
	Hi	1190
	Me	1050
	Lo	880
	Quiet	680
	*Soft Quiet	600
Dry	Auto	X, J zone:680

AS\*G14LMC\* (rpm)

Operation mode	Air flow mode	Fan Speed
Heating	Powerful	1320
	Hi	1280
	Me+	1190
	Me	1120
	Lo	1050
	Quiet	770
	Cool Air Prevention	600
	S-Lo	480
Cooling / Fan	Powerful	1320
	Hi	1280
	Me	1090
	Lo	1000
	Quiet	750
	*Soft Quiet	670
Dry	Auto	X, J zone:750

\*Note, during Economy operation and operation mode is Fan, air flow is 1 step downs.  
(Hi > Me, Me > Lo, Quiet > Soft Quiet)

## 2. FAN OPERATION

The airflow can be switched in 5 steps such as Auto, Quiet, Lo, Me, Hi, while the indoor fan only runs.

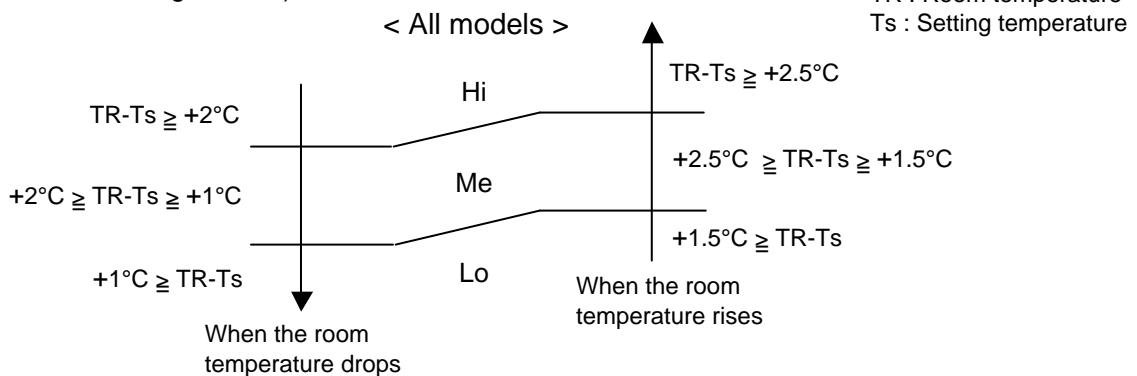
When Fan mode is set at (Auto), it operates on (Me) Fan Speed. < All models >

## 3. COOLING OPERATION (Auto : Cooling)

Switch the airflow [Auto], and the indoor fan motor will run according to a room temperature, as shown in Fig. 3.

On the other hand, if switched in [Hi] ~ [Quiet], the indoor motor will run at a constant airflow of [Cooling] operation modes Quiet, Lo, Me, Hi.

( Fig.3 : Airflow change - over )



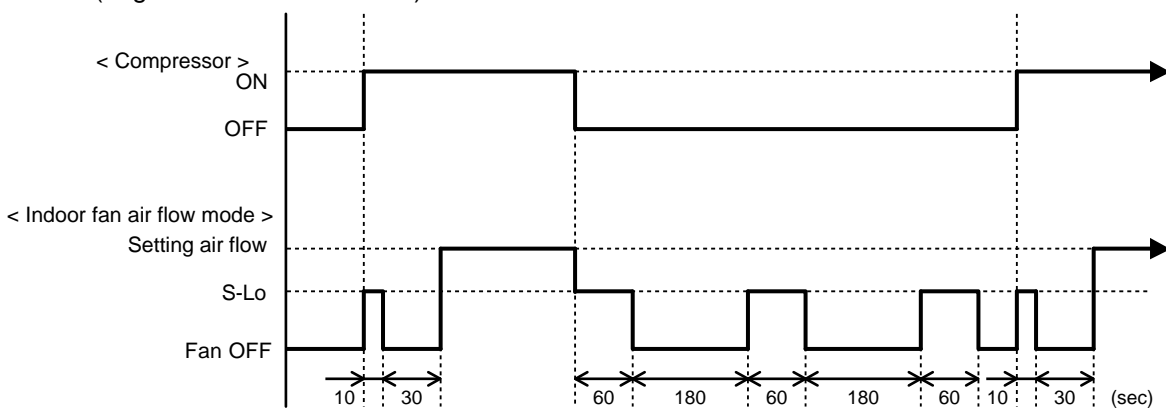
## 4. DRY OPERATION (Auto : Dry)

During the dry operation, the fan speed setting can not be changed, it operates automatically as shown in Fig. 4

Room temperature variation which the room temperature sensor of the indoor unit body has detected.

( Fig. 4 : Indoor fan control )

< All models >

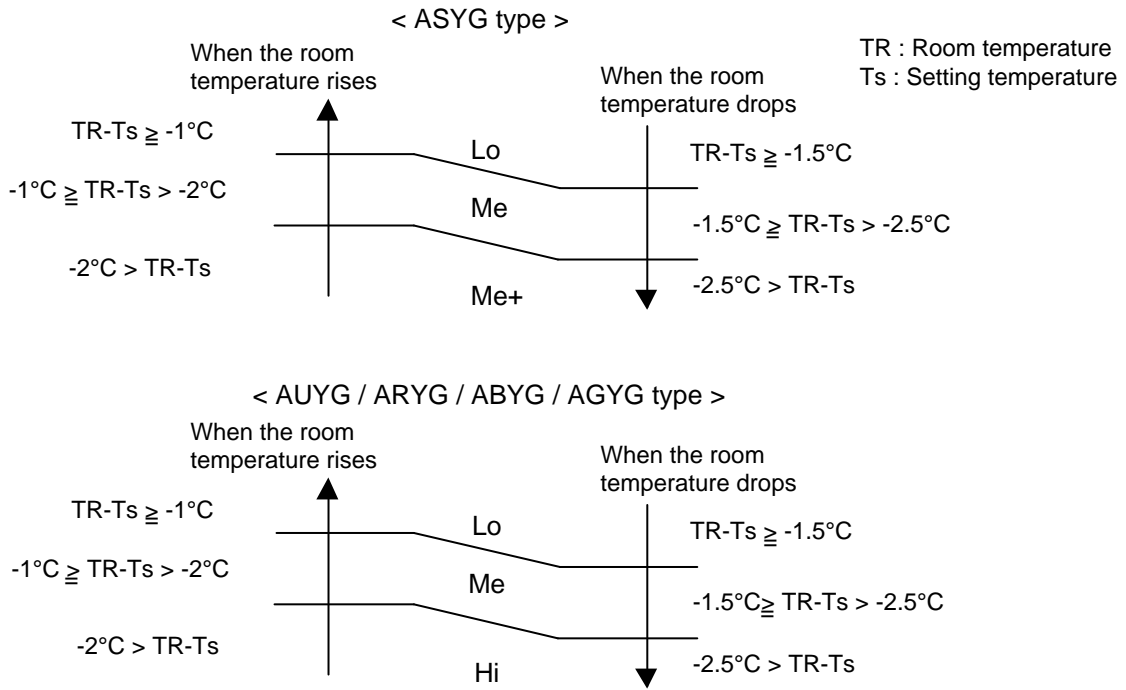


## 5. HEATING OPERATION

Switch the airflow [Auto], and the indoor fan motor will run according to a room temperature, as shown in Fig 5.

On the other hand, if switched in [Hi] ~ [Quiet], the indoor motor will run at a constant airflow of [Heat] operation modes Quiet, Lo, Me, Hi, as shown in Table 2.

( Fig.5 : Airflow change - over ( Heating : Auto ) )



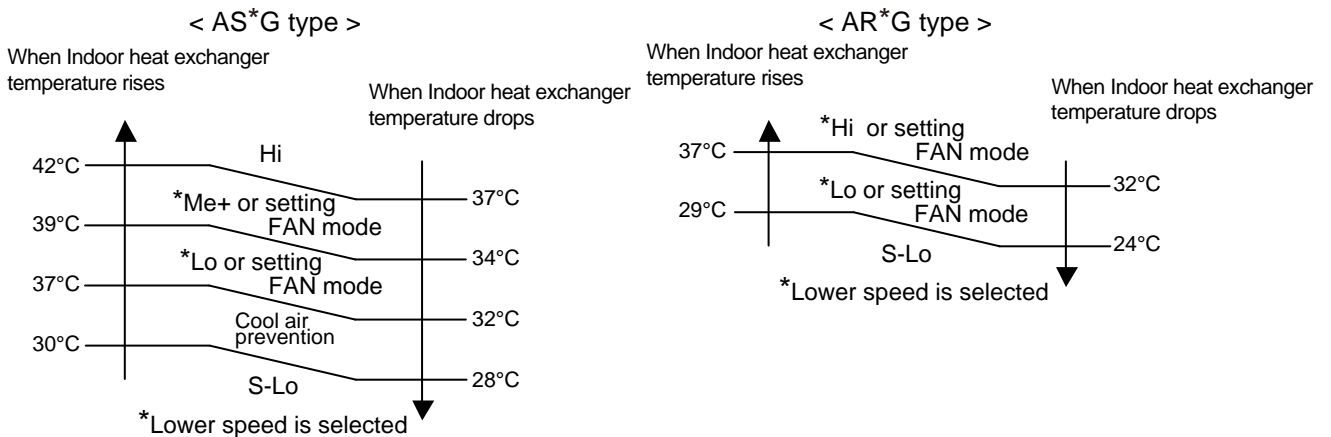
## 6. COOL AIR PREVENTION CONTROL (For Heat operation)

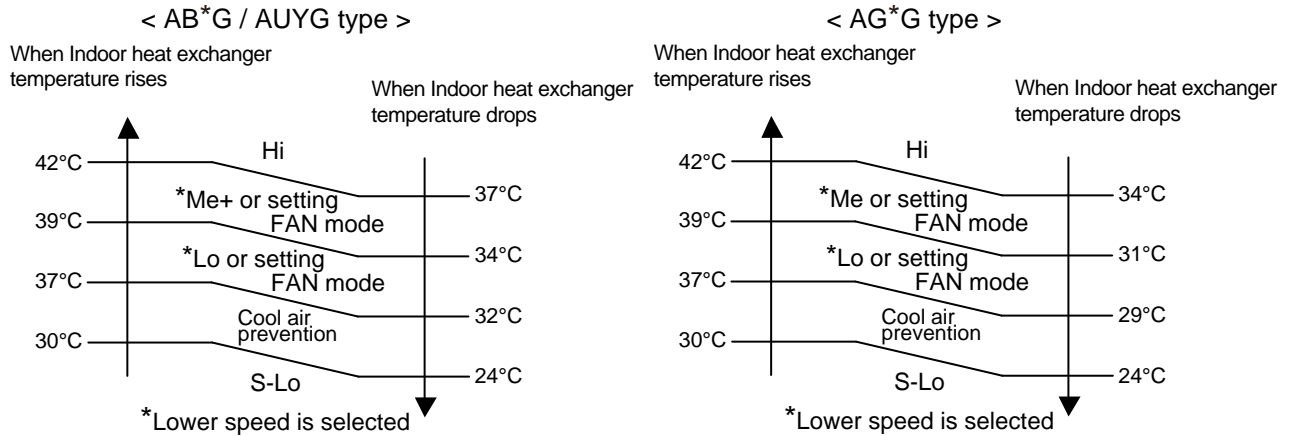
The maximum value of the indoor fan speed is set as shown in Fig 6, based on the detected temperature by the indoor heat exchanger sensor in heating mode.

Field setting is necessary at AR and AU type as "Cool air prevention : effective"

( Fig.6 : Airflow change - over for cool air prevention )

### During NORMAL HEATING OPERATION

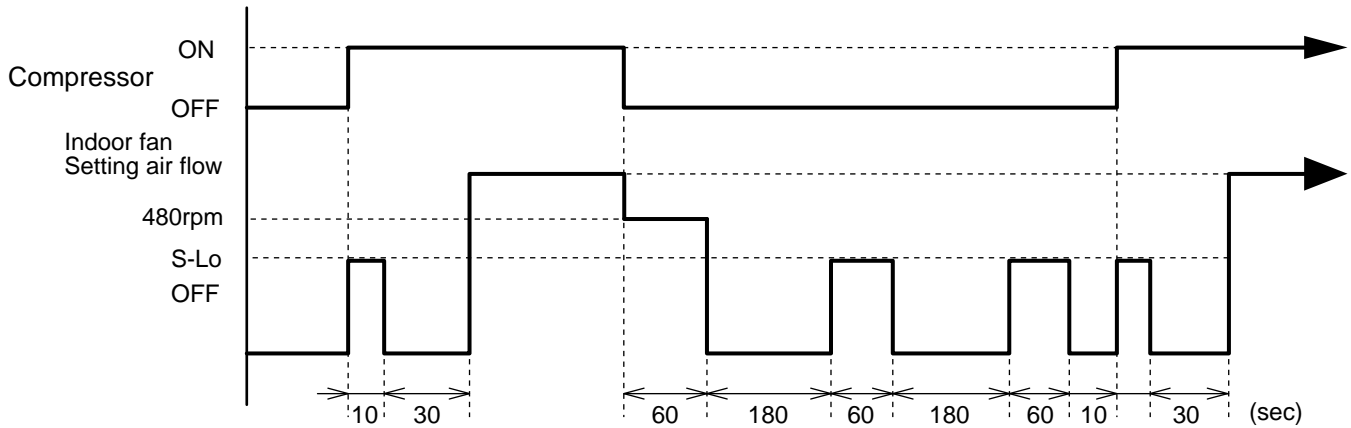




### 7. FAN CONTROL FOR ENERGY SAVING

When the air flow setting except AUTO mode, the indoor fan motor will run as shown in Fig.8.

( Fig 8 : Indoor Fan Control)



Function setting 49		Note
0	Setting air flow	In the case of 3 wire remote controller (UTY-RVN*N) is connected, set it to 0 or 1. This controller can't be set it.
1	Work	

Factory setting

## 4. LOUVER CONTROL

### For Compact Wall Mounted Type, Wall Mounted Type < AS\*G18 /24LFC\* >

#### 1. VERTICAL LOUVER CONTROL

(Function Range)

Each time the button is pressed, the air direction range will change as follow:

(Fig.7 : Vertical Air Direction Range)

① ⇄ ② ⇄ ③ ⇄ ④ ⇄ ⑤ ⇄ ⑥

(Table9 : Recommended Operation Range)

Cooling / Heating / Dry mode / Fan mode

① ⇄ ② ⇄ ③ ⇄ ④ ⇄ ⑤ ⇄ ⑥

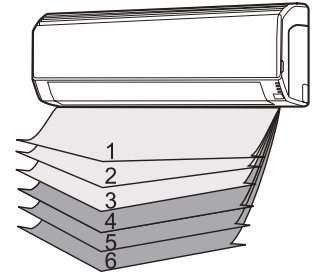
<Compact Wall Mounted Type> <Wall Mounted Type>



Vertical Louver



Vertical Louver Power Diffuser



Use the air direction adjustments within the ranges shown above.

- The vertical airflow direction is set automatically as shown, in accordance with the type of operation selected.
  - Cooling / Dry mode : Horizontal flow ①
  - Heating mode : Downward flow AS\*G07/09/12: ⑥, AS\*G18/24: ⑤
- When the temperature of the air being blown out is low at the start of heating operation or during defrosting, the airflow direction temporarily becomes ① to prevent cold air being blown onto the body.
- During use of the Cooling and Dry modes, do not set the Air Flow Direction Louver in the Heating range (④~⑥) for long period of time, since water vapor may condense near the outlet louvers and drop of water may drip from the air conditioner. During the Cooling and Dry modes, if the Air Flow Direction Louvers are left in the heating range for around 30 minutes, they will automatically return to position ③.

#### 2. HORIZONTAL LOUVER CONTROL ( For AS\*G18/24LFC\* )

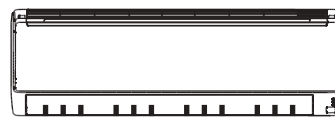
(Function Range)

Each time the button is pressed, the air direction range will change as follows. ASU7/9/12RLF changes by manual.

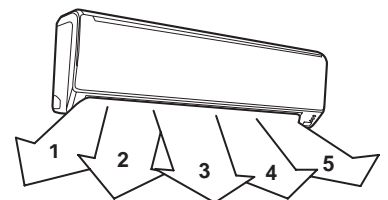
(Fig.8 : Horizontal Air Direction Range)

Cooling / Heating / Dry / Fan mode

① ⇄ ② ⇄ ③ ⇄ ④ ⇄ ⑤



Horizontal Louver



#### 3. SWING OPERATION

##### Vertical Airflow Swing Operation

When the swing signal is received from the remote controller, the vertical louver starts to swing.

(Swinging Range)

Cooling / Dry / Fan mode(①⇄③) : ① ⇄ ④

Heating / Fan mode(④⇄⑥) : AS\*G07/09/12 [ ④ ⇄ ⑥], AS\*G18/24 [ ③ ⇄ ⑥]

- When the indoor fan is S-Lo or Stop mode, the swing operation is interrupted and it stops at either upper end or bottom end.

##### Horizontal Airflow Swing Operation ( For AS\*G18/24 )

When the swing signal is received from the remote controller, the horizontal louver starts to swing.

(Swinging Range)

Cooling / Heating / Dry / Fan mode : ① ⇄ ⑤

- When the indoor fan is S-Lo or Stop mode, the swing operation is interrupted and it stops at either upper end or bottom end.

##### Vertical and Horizontal Airflow Swing Operation

- When the horizontal swing signal is input from remote control, the combination of the vertical and horizontal swing operation is performed.

※ Power Diffuser doesn't swing in any swing operation.



## For Compact Cassette Type < AU\*G07/09/12/14/18 >

### 1. VERTICAL LOUVER CONTROL

(Function Range)

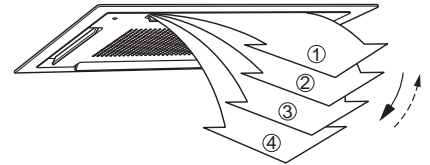
Each time the button is pressed, the air direction range will change as follows:

①↔②↔③↔④

(Operation Range)

Cooling / Heating / Dry / Fan mode : ①—②—③—④

(Fig.9 : Air Direction Range)



Use the air direction adjustments within the ranges shown above.

- The vertical airflow direction is set automatically as shown, in accordance with the type of operation selected.

Cooling / Dry / Fan mode : Horizontal flow ①  
Heating mode : Downward flow ④

- During AUTO mode operation, for the first minute after start-up, air-flow will be horizontal ①; the air direction cannot be adjusted during this period.

### 2. SWING OPERATION

When the swing signal is received from the remote controller, the vertical louver starts to swing. The range of swing depends on the set airflow direction.

(Swinging Range)

Cooling / Heating / Dry / Fan mode : ① ↔ ④

- When the indoor fan is either at S-Lo or Stop mode, the swinging operation is interrupted and it stops at either upper end or bottom end.  
( Stop mode means Operation stop.)

## For Floor / Ceiling Type < AB\*G14/18 >

### 1-1. VERTICAL LOUVER CONTROL

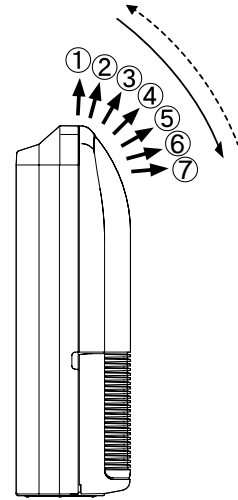
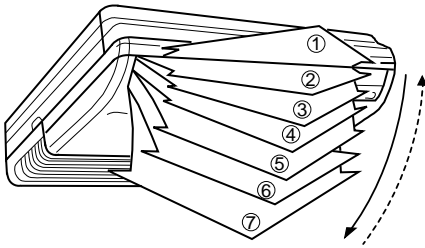
(Function Range)

Each time the button is pressed, the air direction range will change as follows:

① → ② → ③ → ④ → ⑤ → ⑥ → ⑦

( Air Direction Range : Floor installation)

( Air Direction Range : Ceiling installation)



(Operation Range)

Cooling / Heating / Dry / Fan mode : ① - ② - ③ - ④ - ⑤ - ⑥ - ⑦

Use the air direction adjustments within the ranges shown above.

- The vertical airflow direction is set automatically as shown, in accordance with the type of operation selected.  
Cooling / Dry / Fan mode : Horizontal flow ①  
Heating mode : Downward flow ⑦
- The indoor fan motor starts after the louver reaches to the setting position.

### 1-2. SWING OPERATION

When the swing signal is received from the remote controller, the vertical louver starts to swing. The range of swing depends on the set airflow direction.

(Swinging Range)

Cooling / Dry / Fan mode : ① ↔ ④

Heating mode : ③ ↔ ⑦

- When the indoor fan is either at S-Lo or Stop mode, the swinging operation is interrupted and it stops at either upper end or bottom end.  
( Stop mode means Operation stop.)

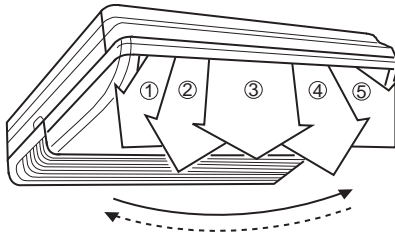
## 2-1. HORIZONTAL LOUVER CONTROL

(Function Range)

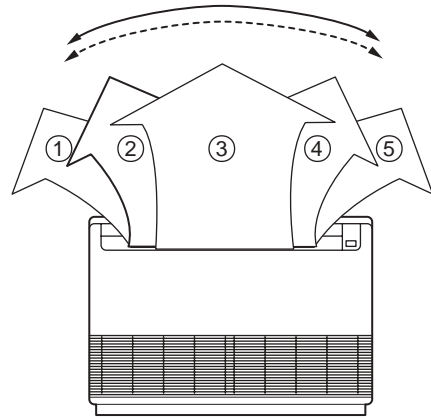
Each time the button is pressed, the air direction range will change as follows:

① ⇄ ② ⇄ ③ ⇄ ④ ⇄ ⑤

(Air Direction Range : Ceiling installation)



(Air Direction Range : Floor installation)



(Operation Range)

Cooling / Heating / Dry / Fan mode : ① - ② - ③ - ④ - ⑤

Use the air direction adjustments within the ranges shown above.

## 2-2. SWING OPERATION

When the swing signal is received from the remote controller, the horizontal louver starts to swing. The range of swing depends on the set airflow direction.

(Swinging Range)

Cooling / Heating / Dry / Fan mode : ① ⇄ ⑤

- When the indoor fan is either at S-Lo or Stop mode, the swinging operation is interrupted and it stops at either upper end or bottom end.  
( Stop mode means Operation stop.)

## For Floor Type < AG\*G09/12/14 >

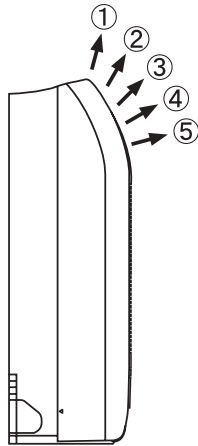
### 1. VERTICAL LOUVER CONTROL

(Function and Operation Range)

Each time the button is pressed,  
the air direction range will change as follows:

(Air Direction Range)

① ⇄ ② ⇄ ③ ⇄ ④ ⇄ ⑤



Use the air direction adjustments within the ranges shown above.

- The vertical airflow direction is set automatically as shown, in accordance with the type of operation selected.

Cooling / Dry / Fan mode : Horizontal flow ①

Heating mode : Downward flow ④

- When the temperature of the air being blown out is low at the start of heating operation or during defrosting, the airflow direction temporarily becomes ① to prevent cold air being blown onto the body.
- During Monitor operation in AUTO CHANGEOVER mode, the airflow direction automatically becomes ①, and it cannot be adjusted.

### 2. SWING OPERATION

When the swing signal is received from the remote controller, the vertical louver starts to swing .

(Swinging Range)

Cooling / Heating / Dry / Fan mode : ① ⇄ ⑤

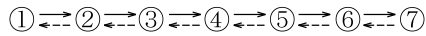
- When the indoor fan is either at S-Lo or Stop mode, the swinging operation is interrupted and it stops at either upper end or bottom end.

## For Wall Mounted Type < AS\*G07/09/12/14LUCA >

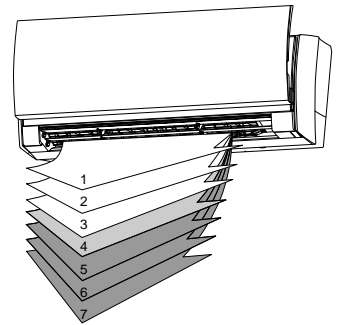
### 1. VERTICAL LOUVER CONTROL

(Function Range)

Each time the button is pressed, the air direction range will change as follow:



(Fig.10 : Air Direction Range)



#### Types of Air flow Direction Setting:

①, ②, ③ : During Cooling/Dry modes

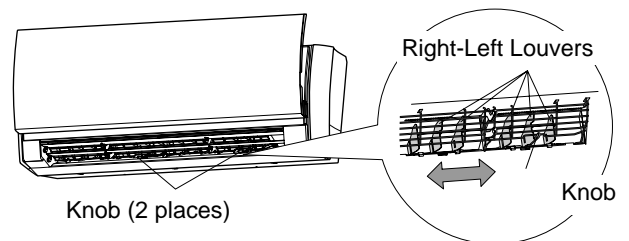
④, ⑤, ⑥, ⑦ : During Heating

The Remote Controller's display does not change.

- Use the air direction adjustments within the ranges shown above.
- The vertical airflow direction is set automatically as shown, in accordance with the type of operation selected.
  - Cooling / Dry mode : Horizontal flow ①
  - Heating mode : Downward flow ⑥
- During AUTO mode operation, for the first a few minutes after beginning operation, air-flow will be horizontal 1; the air direction cannot be adjusted during this period. The air flow direction setting will temporarily become 1 when the temperature of the air -flow is low at the start of the Heating mode.

### 2. ADJUST THE RIGHT-LEFT LOUVERS

- Move the Right-Left louvers to adjust air flow in the direction you prefer.



### 3. SWING OPERATION

#### To select Vertical Airflow Swing Operation

When the swing signal is received from the remote controller, the vertical louver starts to swing.

(Table 3 : Swinging Range)

	Range
Cooling / Dry mode Fan mode (①~④)	① ↔ ④
Heating mode Fan mode (④~⑦)	④ ↔ ⑦

- The SWING operation may stop temporarily when the air conditioner's fan is not operating, or when operating at very low speeds.

#### To select Horizontal Airflow Swing Operation

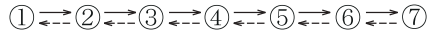
(No function)

# For Wall Mounted Type < LMCA / LMCE >

## 1. VERTICAL LOUVER CONTROL

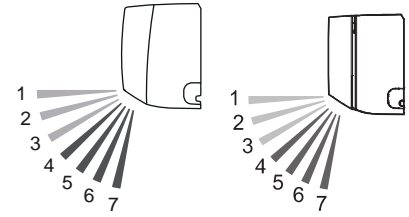
(Function Range)

Each time the button is pressed, the air direction range will change as follow:



The Remote Controller's display does not change.

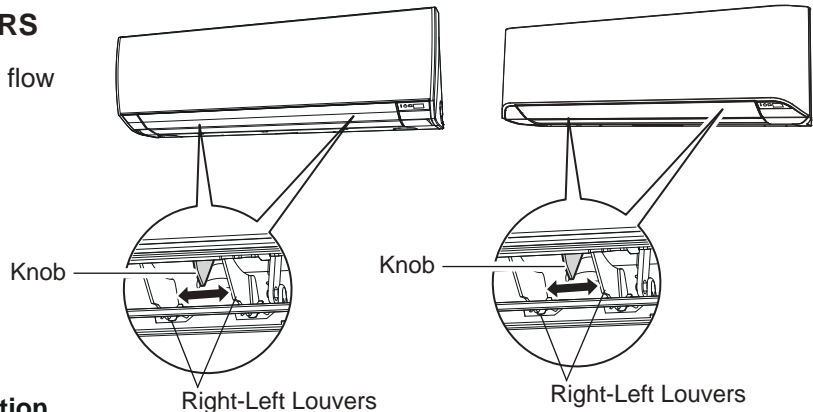
Fig.11 : Air Direction Range



- If you set the angle to position 4.7 for more than 30 minutes in COOL or DRY mode, they automatically return to position 3.  
In COOL or DRY mode, if the angle is set to position 4.7 for many hours, condensation may be formed, and the drips may wet your property.
- Use the air direction adjustments within the ranges shown above.
- The vertical airflow direction is set automatically as shown, in accordance with the type of operation selected.
  - Cooling / Dry mode : Horizontal flow ①
  - Heating mode : Downward flow ⑦
- During AUTO or Heating mode operation, for the first a few minutes after beginning operation, air-flow will be horizontal 1; the air direction cannot be adjusted during this period.  
The air flow direction setting will temporarily become 1 when the temperature of the air -flow is low at the start of the Heating mode.

## 2. ADJUST THE RIGHT-LEFT LOUVERS

- Move the Right-Left louvers to adjust air flow in the direction you prefer.



## 2. SWING OPERATION

**To select Vertical Airflow Swing Operation**

When the swing signal is received from the remote controller, the vertical louver starts to swing.

(Table4 : Swinging Range)

	Range
Cooling / Dry mode Fan mode (①~③)	① ⇔ ③
Heating mode Fan mode (④~⑦)	④ ⇔ ⑦

- The SWING operation may stop temporarily when the air conditioner's fan is not operating, or when operating at very low speeds.

**To select Horizontal Airflow Swing Operation**

(No function)

## 5. OUTDOOR FAN CONTROL

### 1. Outdoor Fan Motor

The Table 5 shows the fan speed of the outdoor unit.

( Table 5 : Fan speed of the outdoor unit )

	Cooling	Heating
AO*G36LBLA5 AO*G45LBLA6	890/ 830/ 710/ 640/ 580/ 520/ 460/ 390/ 340/ 290 rpm	910/ 830/ 710/ 640/ 580/ 520/ 460/ 390/ 340/ 290 rpm

## 6. COMPRESSOR CONTROL

### 1. OPERATION FREQUENCY RANGE

The operation frequency of the compressor is different based on the operation mode as shown in the Table 6 .

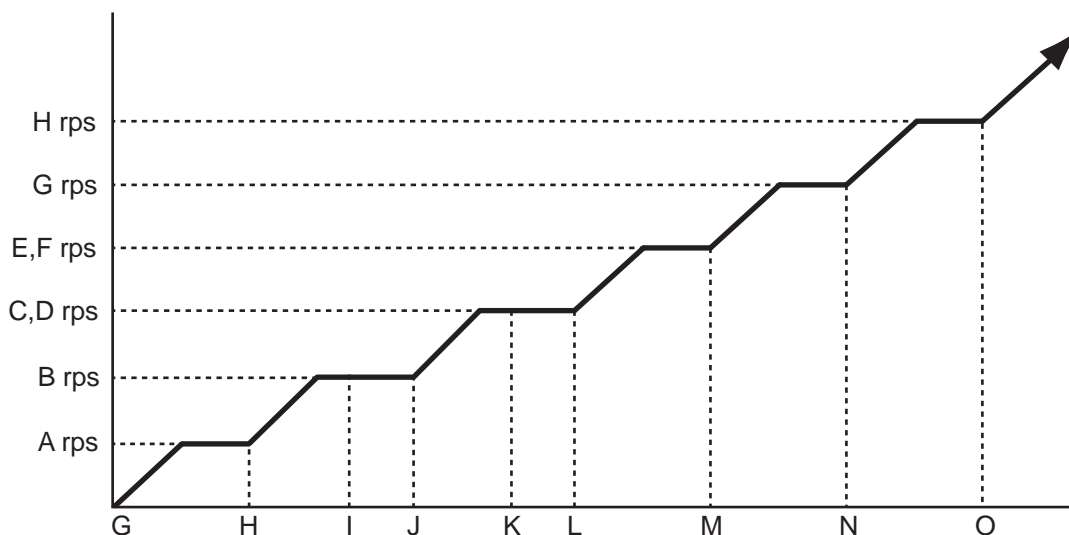
( Table 6 : Compressor operation frequency range )

	Cooling		Heating	
	Min	Max	Min	Max
AO*G36LBLA5 AO*G45LBLA6	20	100	20	100

### 2. OPERATION FREQUENCY CONTROL AT START UP

The compressor frequency soon after the start-up is controlled as shown in the Fig. 12 .

( Fig. 12 : Compressor control at Start-up )



[ Frequency ]

	A rps	B rps	C rps	D rps	E rps	F rps	G rps	H rps
AO*G36LBLA5 AO*G45LBLA6	30	30	47	47	60	60	80	100

[ Time ]

	G ~ H	H ~ I	I ~ J	J ~ K	K ~ L	L ~ M	M ~ N	N ~ O
AO*G36LBLA5 AO*G45LBLA6	60sec	60sec	480sec	120sec	300sec	180sec	120sec	120sec

# 7. TIMER OPEARTION CONTROL

## 7-1 WIRELESS REMOTE CONTROLLER

The table 7 shows the available timer setting based on the product model.

Note!

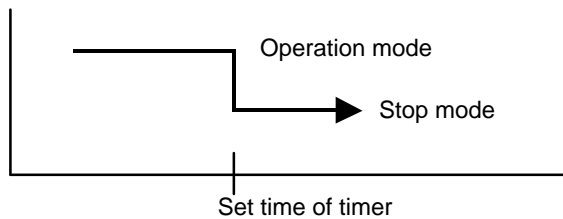
If the Central Remote Controller is installed, it is impossible to receive the timer setting from the wiress remote controller.

( Table 7 : Timer setting )

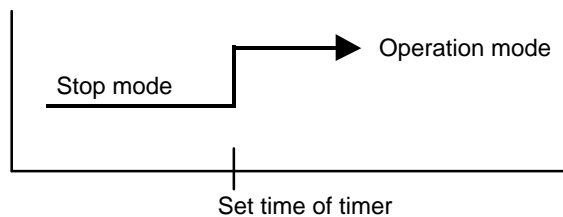
ON TIMER / OFF TIMER	PROGRAM TIMER	SLEEP TIMER
○	○	○

### 1. ON / OFF TIMER

- OFF timer : When the clock reaches the set time, the air conditioner will be turned off.

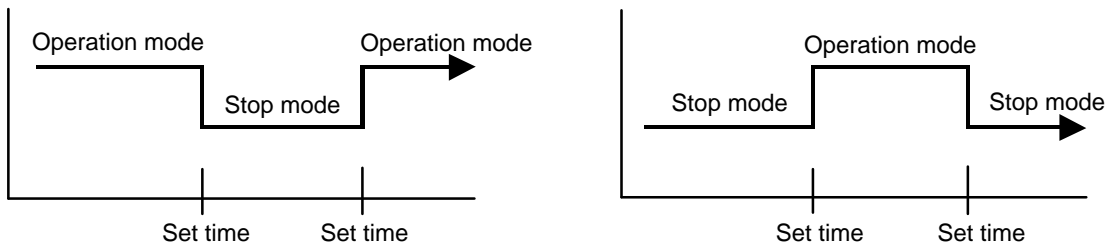


- ON timer : When the clock reaches the set time, the air conditioner will be turned on.



### 2. PROGRAM TIMER

- The program timer allows the OFF timer and ON timer to be used in combination one time.



- Operation will start from the timer setting (either OFF timer or ON timer) whichever is closest to the clock's current timer setting.  
The order of operations is indicated by the arrow in the remote control unit's display.
- SLEEP timer operation cannot be combined with ON timer operation.



### 3. SLEEP TIMER

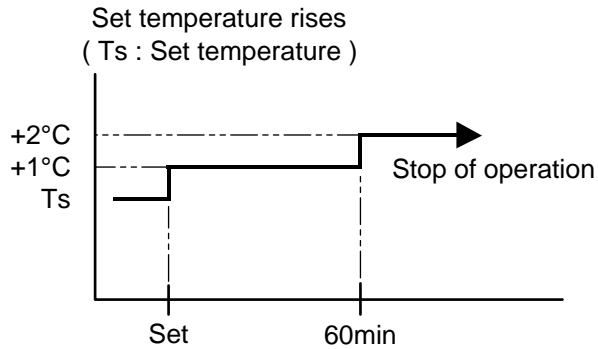
If the sleep is set, the room temperature is monitored and the operation is stopped automatically. If the operation mode or the set temperature is change after the sleep timer is set, the operation is continued according to the changed setting of the sleep timer from that time ON.

#### In the cooling operation mode

When the sleep timer is set, the setting temperature is increased 1°C.

It increases the setting temperature another 1°C after 1 hour.

After that, the setting temperature is not changed and the operation is stopped at the time of timer setting.

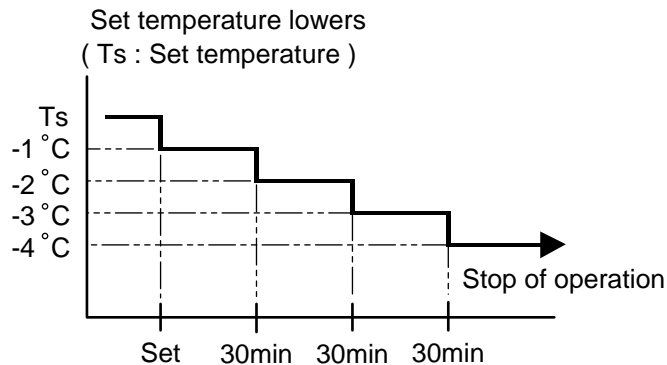


#### In the heating operation mode

When the sleep timer is set, the setting temperature is decreased 1°C.

It decreases the setting temperature another 1°C every 30 minutes.

Upon lowering 4°C, the setting temperature is not changed and the operation stops at the time of timer setting.



## 7-2 WIRED REMOTE CONTROLLER

The Table 8 shows the available timer setting based on the product model.

( Table 8 : Timer setting )

ON TIMER / OFF TIMER	WEEKLY TIMER	TEMPERATURE SET BACK TIMER
○	○	○

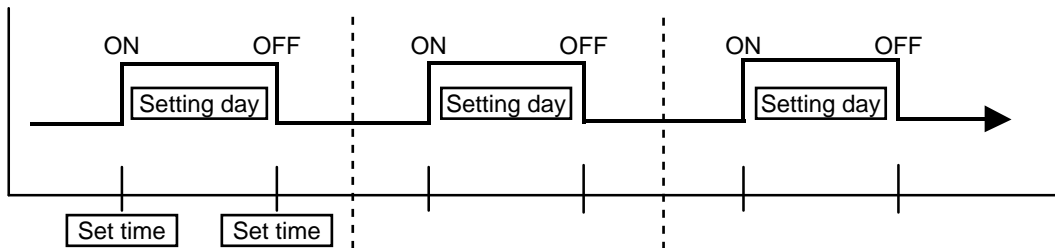
### 1. ON TIMER / OFF TIMER

Same to 7-1 **ON / OFF TIMER** and shown in those.

### 2. WEEKLY TIMER

This timer function can set operation times of the each day of the week.

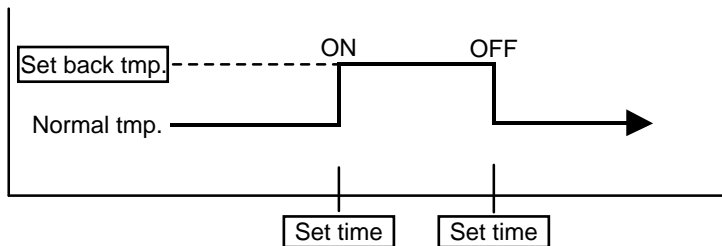
All days can be set together, the weekly timer can be used to repeat the timer setting for all of the days.



### 3. TEMPERATURE SET BACK TIMER

This timer function can change setting temperature of setting operation times of the each day of the week.

This can be together with other timer setting.



## 8. ELECTRONIC EXPANSION VALVE CONTROL

The most proper opening of the electronic expansion valve is calculated and controlled under the present operating condition based on the Table 9 .

The compressor frequency, the temperatures detected by the discharge temperature sensor and the outdoor temperature sensor.

( Table 9 : The pulse range of the electronic expansion valve control )

	Operation mode	Pulse range
AO*G36LBLA5	Cooling /Dry mode	50 ~ 480
AO*G45LBLA6	Heating mode	30 ~ 480

\* At the time of supplying the power to the outdoor unit, the initialization of the electronic expansion valve is operated (528 pulses are input to the closing direction).

## 9. PREVENT TO RESTART FOR 3 MINUTES ( 3 MINUTES ST )

The compressor won't enter operation status for 3 minutes after the compressor is stopped, even if any operation is given.

## 10. 4-WAY VALVE EXTENSION SELECT

At the time when the air conditioner is switched from the Cooling mode to Heating mode, the compressor is stopped, and the 4-way valve is switched in 3 minutes later after the compressor stopped.

## 11. AUTO RESTART

When the power was interrupted by a power failure, etc. during operation, the operation contents at that time are memorized and when power is recovered, operation is automatically resumed with the memorized operation contents.

( Table 10 : Operation contents memorized when the power is interrupted )

	Wireless remote controller	Wired remote controller (When Memory Backup : Disable)	Wired remote controller (When Memory Backup : Enable)	
Operation mode	○	○	○	
Set temperature	○	○	○	
Set air flow	○	○	○	
Thermistor detected position	—	×	○	
Timer mode	○	×	OFF Timer	×
			ON Timer	×
			WEEKLY Timer	○
			TEMPERRATURE SET BACK Timer	○

○ : Memorize  
× : Not memorize

\*It is necessary to set on the DIP-SW1-No,6 of the wired remote controller, to enable the memory backup.  
Refer to the installation manual of wired remote controller for details.

## 12. MANUAL AUTO OPERATION

If MANUAL / AUTO Button is pushed continuous from 3 seconds to 10 seconds, manual auto operation will starts.

If the remote control is lost or battery power dissipated, this function will work without the remote control.

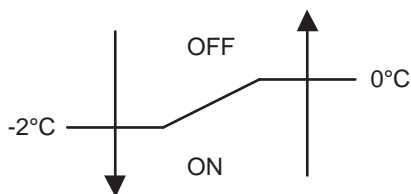
( Table 11 : Manual auto operation control )

Functions	All models
OPERATION MODE	Auto changeover
SETTING TEMP.	24°C
FAN MODE	Auto
VERTICAL LOUVER	NORMAL
HORIZONTAL LOUVER	NORMAL
TIMER MODE	Continuous (No timer setting available)
SWING OPERATION	OFF
ECONOMY	OFF

### 13. COMPRESSOR PREHEATING

When the outdoor temperature is lower than -2°C and the all operation mode has been stopped for 30 minutes, power is applied to the compressor and the compressor is heated.  
 (By heating the compressor, warm air is quickly discharged when operation is started.)  
 When operation was started and when the outdoor temperature rises to 25°C or greater, preheating is ended.

( Fig.13 : Compressor preheating )



### 14. POWERFUL OPERATION ( For AS\*G07/09/12/14LMC\* type )

The product will operate at maximum power, which is convenient when you want to quickly cool down or warm up the room. Air Conditioner operation before performing this procedure.

**< Cooling/Dry mode >**

Powerful Operation mode is automatically turned off when the room temperature has fallen to the set temperature or when 20 minutes have passed after setting the POWERFUL Operation mode. However , it does not turn off auto-matically within a certain time of setting the POWERFUL Operation mode.

**< Heating mode >**

Powerful Operation mode is automatically turned off when the room temperature has risen to the set temperature or when 20 minutes have passed after setting the POWERFUL Operation mode. However , it does not turn off auto-matically within a certain time of setting the POWERFUL Operation mode.

### 15. 10°C HEAT OPERATION

10°C HEAT operation performs as below when pressing 10°C HEAT button or Weekly timer setting on the remote controller.

( Table 12 : Minimum heat operation )

Mode	Heating
Settingtemperature	10°C
Fanmode	Auto
LEDdisplay	Economy
Defrost operation	Operate as normal

## 16. ECONOMY OPERATION

The ECONOMY operation functions by pressing ECONOMY button on the remote controller.  
At the maximum output, ECONOMY Operation is approximately 70% of normal air conditioner operation for cooling and heating.

The ECONOMY operation is almost the same operation as below settings.

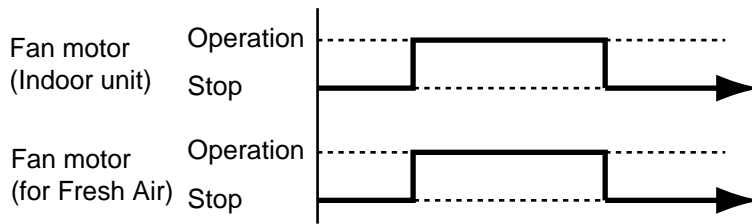
( Table 12 : Economy operation )

Mode	Cooling/ Dry	Heating
Target temperature	Setting temp.+1°C	Setting temp. -1°C

## 17. FRESH AIR CONTROL( For AU / AR type)

The fan motor for Fresh Air is operated in synchronization with the indoor fan operation as shown in Fig 14.

(Fig. 14 : Fresh Air control)



\*It needs the external relay and power supply.

## 18. EXTERNAL ELECTRICAL HEATER CONTROL (For AR type)

The External Electrical Heater is operated as below.

< Heater : ON condition >

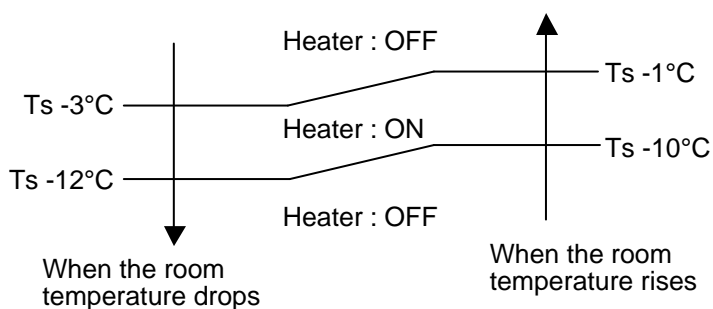
When all of the following conditions are met, external electrical heater will operate according to Fig 15.

System type	Heatpump
Operation mode	Heating
Compressor	ON
Indoor fan	ON (S-Lo is excluded)

< Heater : OFF condition >

- 1). When one of the ON conditions is not met.
- 2). When Defrost operation or Oil recovery operation starts

(Fig. 15 : External electrical heater control)



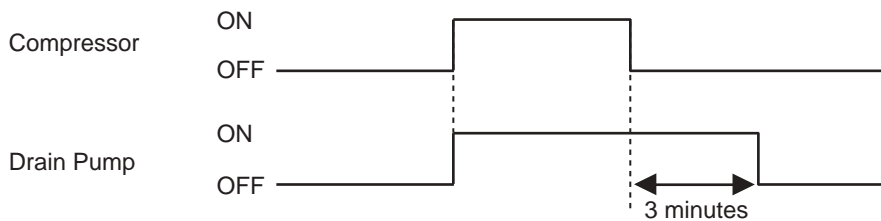
▪  $T_s$  : Setting temperature

## 19. DRAIN PUMP OPERATION( For AU / AR type)

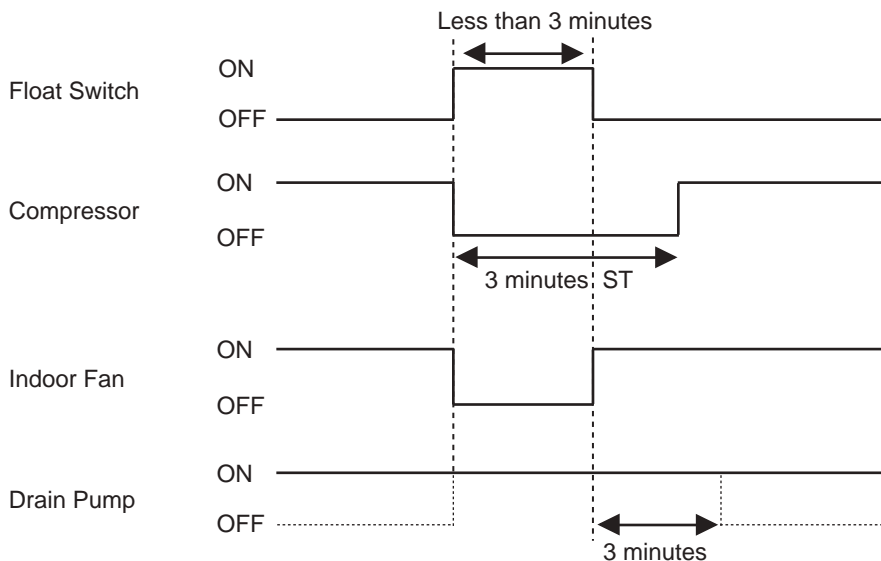
### During Cooling / Dry mode

1. When the compressor starts, the drain pump starts simultaneously.
2. The drain pump operates continuously for 3 minutes after the compressor is turned off.
3. When the compressor stops by the "Anti- freezing protection", the drain pump is turned off in 1 hour after the compressor stops.
4. When the water level in the drain pan rises up and then the float switch functions:
  - ① The compressor, indoor and outdoor fan motor operation are stopped.
  - ② Drain pump operates continuously for 3 minutes after the float switch is turned off. (Almost condensing water may be drained)
  - ③ The indoor unit fan motor operates after the float switch is turned off.
5. When the float switch turns ON continuously for 3 minutes, "FAILURE INDICATION" operates. (It is necessary to turn off power for release it. )
6. When the float switch turns OFF less than 3 minutes, the unit starts Cooling operation.

( Fig. 16 : Detail of Drain Pump Operation in Cooling / Dry )



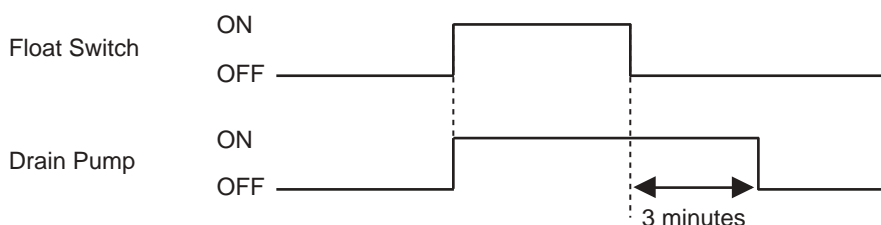
### <Float Switch turns OFF less than 3 minutes>



### During HEATING / FAN mode / Stop operation

1. When the water level in the drain pan rises up and then the float switch functions:
  - Drain pump operates continuously for 3 minutes after the float switch is turned off. (Almost condensing water may be drained)
2. When the float switch turns ON continuously for 3 minutes, "FAILURE INDICATION" operates. Thereafter, even if the float switch turns OFF, the "FAILURE INDICATION" is not released. (It is necessary to turn off power for release it. )

( Fig. 17 : Detail of Drain Pump Operation in Heating )





## 20. DEFROST OPERATION CONTROL

### 1. CONDITION OF STARTING THE DEFROST OPERATION

The defrost operation starts when the outdoor heat exchanger temperature sensor detects the temperature lower than the values shown in Table 14, 15, 16.

#### 1-1 NORMAL DEFROST

( Table 14 : Condition of starting defrost operation )

Normal defrost	Compressor integrating operation time	
	Less than 35 minutes	More than 35minutes
	Does not operate	$T_n \leq -17^{\circ}\text{C}$ (at $T_a \geq -10^{\circ}\text{C}$ )
		$T_n \leq 0.8 \times T_a - 11.6$ or $T_n \leq -24^{\circ}\text{C}$ (at $-20^{\circ}\text{C} \leq T_a < -10^{\circ}\text{C}$ )
$T_n \leq 0.8 \times T_a - 11.6$ or $T_n \leq -28^{\circ}\text{C}$ (at $T_a < -20^{\circ}\text{C}$ )		
	$T_n - T_{n-1} < -2^{\circ}\text{C}$ and $S_n = S_{n-1}$ ( $T_n \leq -6^{\circ}\text{C}$ )	

$T_n$  : Outdoor heat exchanger temp.     $S_n$  : Number of operation indoor units  
 $T_a$  : Outside air temp.                       $S_{n-1}$  : Before 5 minutes detected  $S_n$   
 $T_{n-1}$  : Before 5 minutes detected  $T_n$

#### 1-2. INTEGRATING DEFROST

( Table 15 : Condition of integrating defrost operation )

Integrating defrost ( OFF count defrost )	Compressor integrating operation time	
	More than 210 minutes ( For continuous operation )	
	$T_n \leq -3^{\circ}\text{C}$ (and after 30 minutes, if the $T_n \leq -3^{\circ}\text{C}$ )	$T_n \leq -5^{\circ}\text{C}$ (and after 3 minutes, if the $T_n \leq -5^{\circ}\text{C}$ )

#### 1-3. INTEGRATING ( OFF COUNT ) DEFROST

( Table 16 : Condition of integrating ( OFF count ) defrost operation )

Integrating defrost	Compressor integrating operation time	
	Less than 10 minutes * ( For intermittent operation )	
	OFF count of the compressor 40 times ( at outside air temp. $< 2^{\circ}\text{C}$ )	

\*If the compressor continuous operation time is less than 10 minutes,  
the OFF number of the compressor is counted.  
If any defrost operated, the compressor OFF count is cleared.

### 2. CONDITION OF THE DEFROST OPERATION COMPLETION

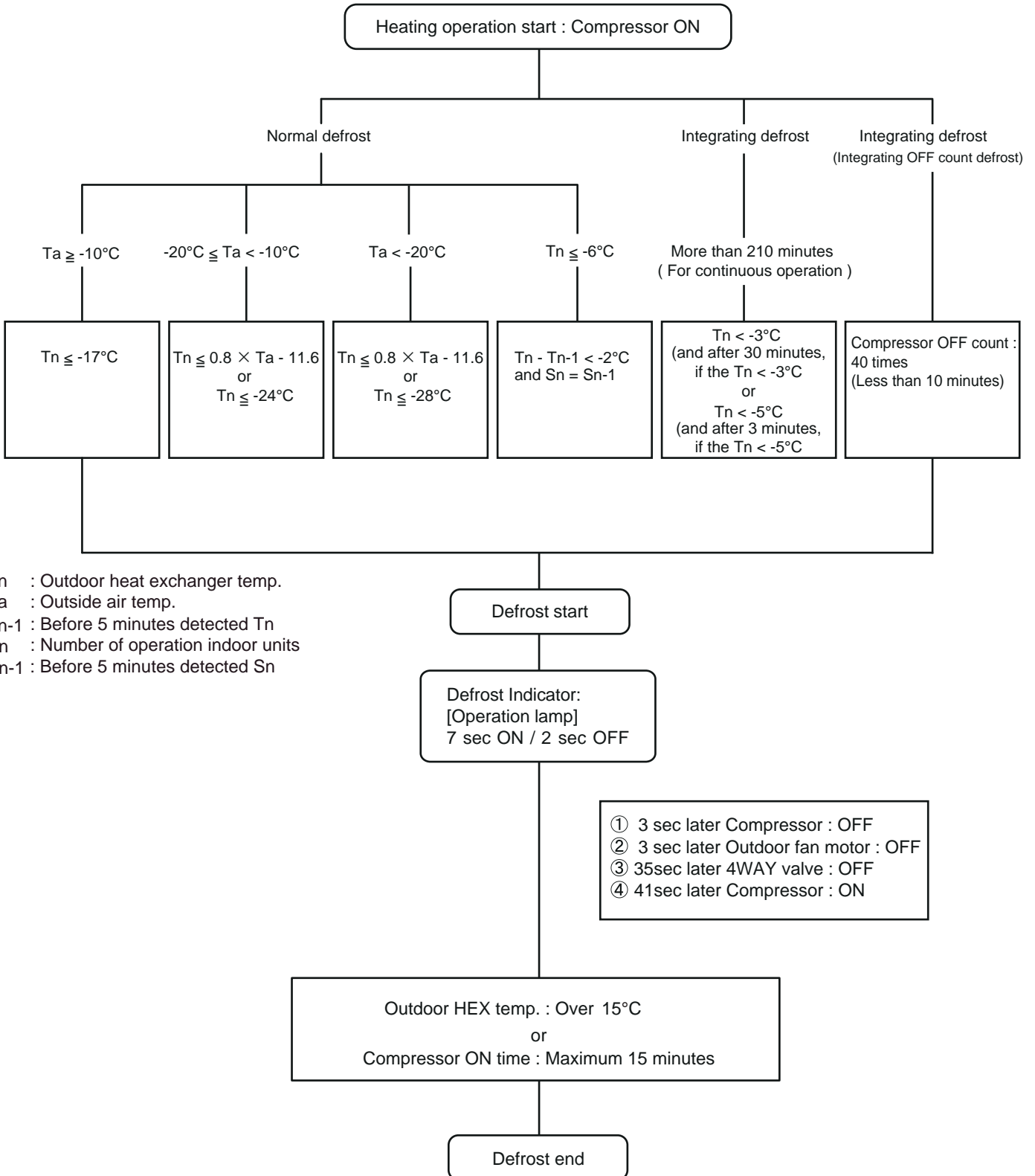
Defrost operation is released when the conditions become as shown in Table 17 .

( Table 17 : Defrost release condition )

Release Condition
Outdoor heat exchanger temperature sensor value is higher than $15^{\circ}\text{C}$ or Compressor operation time has passed 15 minutes.

### 3. Defrost Flow Chart

The defrosting shall proceed by the integrating operation time, outdoor temperature and outdoor heat exchanger temperature as follows.



Tn : Outdoor heat exchanger temp.  
Ta : Outside air temp.  
Tn-1 : Before 5 minutes detected Tn  
Sn : Number of operation indoor units  
Sn-1 : Before 5 minutes detected Sn

## 21. CHECK RUN OPERATION (AUTOMATIC WIRING CORRECTION)

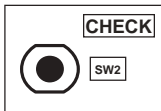
If there is a mis-wiring after check operation, switch the indoor unit port automatically on the microcomputer.  
(Check operating time)

- Cooling : 30min (Time of approximately)
- Heating : 60min (Time of approximately)

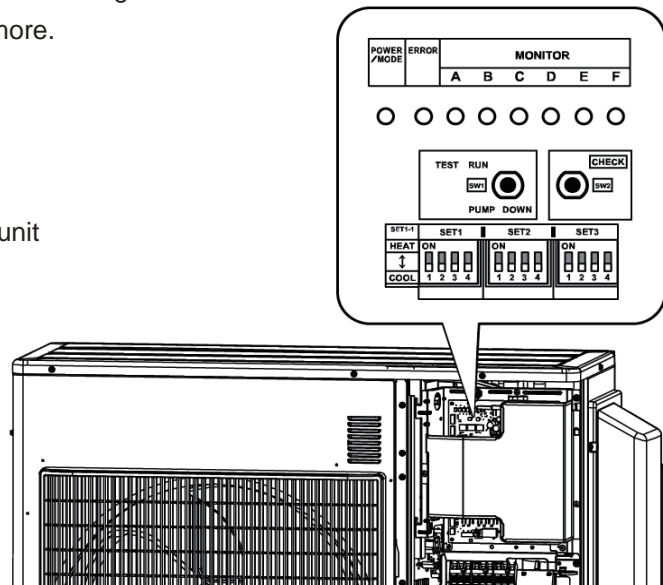
### Operating procedure for check run

NOTE : Be sure that the power is turned ON before starting the check run.

(1) Press the "CHECK" switch for 3 seconds or more.



The positions of the switches on the outdoor unit control board are shown in the right.



(2) The number of indoor units ( and the places ) connected through the communication lines is displayed.

- If the displayed number of units ( places ) and the installed number of units ( places ) is the same, proceed to step (3).
- If the displayed number of units ( places ) and the installed number of units ( places ) is not the same, shut off the power and check whether the indoor and outdoor communication lines are properly connected.
- If there is no operation for 1 minute, the LED will return to the original display. ( POWER / MODE LED : ON )

(3) Press the "CHECK" switch for 3 seconds or more again. Check run is initiated.

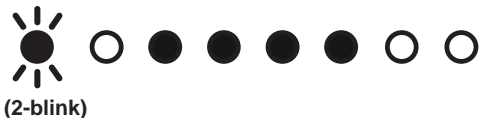
When check run is initiated, all LEDs from A to F will flash. ( Preliminary operation )

The LED for each indoor unit will switch off in order as check for each unit is completed.

To interrupt the check run, press the "CHECK" switch.

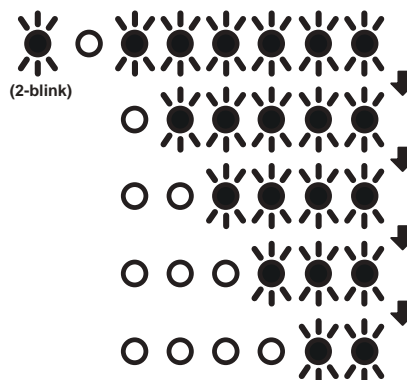
Example) When 4 indoor units ( A to D ) are connected.

POWER / MODE	ERROR	MONITOR					
		A	B	C	D	E	F



Example) When 4 indoor units ( A to D ) are connected.

POWER / MODE	ERROR	MONITOR					
		A	B	C	D	E	F



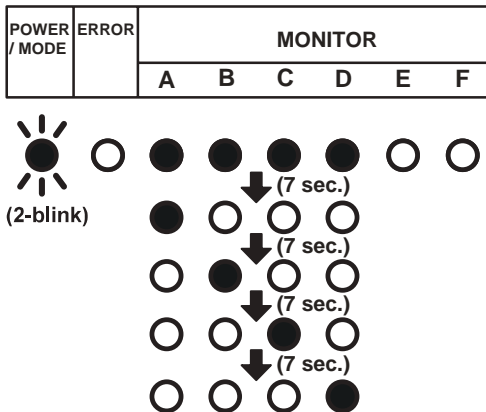
(4) After the check run is complete, results will be displayed. Please fill the display result table accordingly.

NOTE • Automatic wiring correction will not be completed if the power is turned off while displaying the result. To confirm the automatic wiring correction, be sure to carry out step (5).

- If frost is formed on the outdoor unit while displaying the result, Automatic defrost function will operate. Proceed to step (5) after the defrost function is finished.

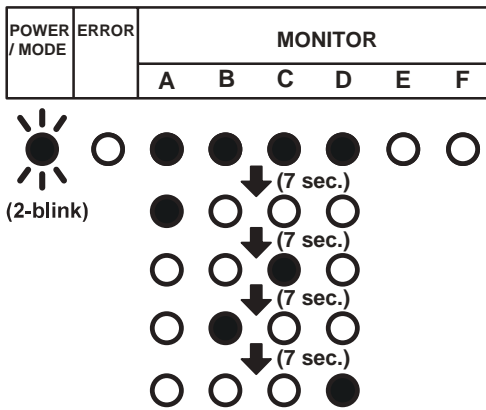
**If the connection is correct [(Example) When 4 indoor units are connected]**

After the number of connected units are displayed, the LED for each unit will light up in order from A to D.



**If the connection is incorrect [(Example) When connection of B and C of the 4 units are reversed]**

After the number of connected units are displayed, B and C will light up in reverse.



**[How to record the contents]**

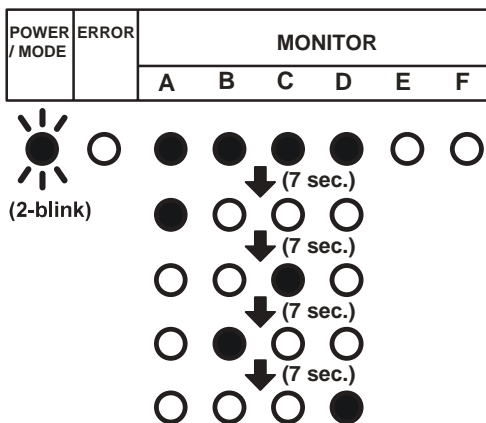
Please fill the displayed result according to the following example.

Example 1

When piping A to D is connected but the wires for B and C are connected in reverse.

**Displayed results**

The LEDs will light up in 7 second interval in the following order.



Example of result table

(a) Please write a ● where the LEDs light up in the order that they light up.

	A	B	C	D	E	F
1	●	●	●	●	○	○
2	●	○	○	○	○	○
3	○	○	●	○	○	○
4	○	●	○	○	○	○
5	○	○	○	●	○	○
6	○	○	○	○	○	○
7	○	○	○	○	○	○

(b) Based on the results of step (a), please record as follows.

Please trace the dotted circle with a pen if multiple places light up.

A	B	C	D	E	F
○	○	○	○	⋯	⋯

Please write the order from A to D in which the LEDs light up inside the circle.

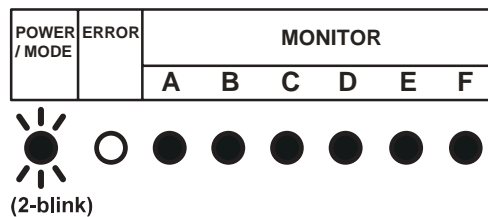
A	B	C	D	E	F
Ⓐ	Ⓒ	Ⓑ	Ⓓ	⋯	⋯

(c) Select the correction method.



→ Correct the wiring manually.\*2  
Proceed to step (6).

Use the Automatic wiring correction function.\*1  
Proceed to step (5).



NOTE:

\*1 : By using this function, the wiring is automatically corrected according to the piping.

\*2 : When correcting the wiring manually, please disconnect the power supply or turn off the breaker during results display, and then change the wiring manually according to the obtained test result.

For example, in Example 1, the wirings connected to the terminals B and C is to be exchanged manually.

Please write down the same results in the label on the reverse side of the service panel.

The results recorded are needed at the time of servicing.

(5) During results display, press the “CHECK” switch for 3 seconds or more.

After LEDs A to F have lit in turn, all LEDs will light up indicating that the automatic wiring correction is completed.

(6) Disconnect the power supply or turn off the breaker and wait 10 minutes then turn the power back on and perform test run.

NOTE: If you do not disconnect the power supply or turn off the breaker, normal operation is not possible.

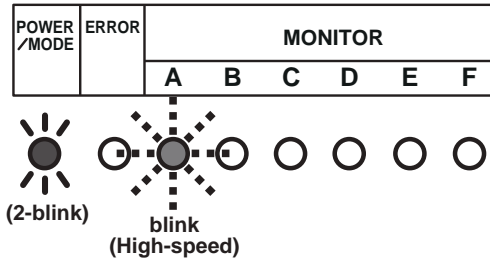
Others

- If an error occurs during check run it will be suspended. Please correct the error and start check run again.
- After the check run, if automatic wiring correction is carried out, the indoor unit's position will be modified to match the piping. (Please note that the display of the optional remote controller changes.)
- If you start check run again after the automatic wiring correction is finished, the modification will be reset.

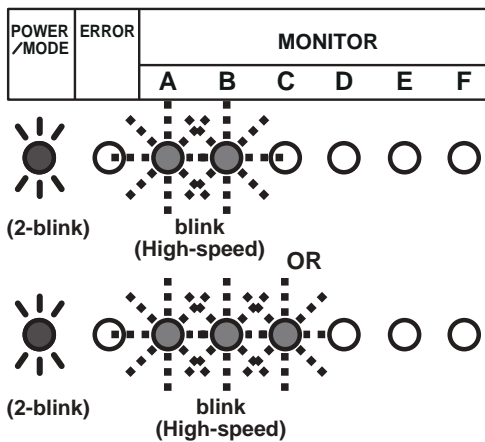
### Check run judgment failure display

- If check run cannot be performed, the following is displayed. In this case, the check run will stop. Please check by using the cooling test run of the indoor unit.

#### Temperature out of range judgment



#### Wiring / piping number difference



### Re-display check run results

- If you wish to check the automatic wiring correction contents, by briefly pressing the "CHECK" switch, the check run results is displayed. Please check the check run results by referring to the result table in step (4) of "Operating procedure for check run".
- If the automatic wiring correction contents has not been done, the POWER/MODE LED will blink twice and the MONITOR LED will turn off.

### Automatic wiring correction memory reset

#### ⚠ CAUTION

When relocating the unit, reset the memory beforehand, or the unit may not function normally.

- (1) Press the "CHECK" switch.  
The LED will light as shown in "Re-display check run results".
- (2) Press the "CHECK" switch for more than 3 seconds when the LED is on.
- (3) The LEDs from A to F will light in sequence, and then all LEDs will light to indicate the completion of the Automatic wiring correction memory reset.
- (4) Disconnect the power supply or turn off the breaker.

## 22. VARIOUS PROTECTIONS

### 1. DISCHARGE GAS TEMPERATURE OVER RISE PREVENTION CONTROL

The discharge gas thermosensor (discharge thermistor : Outdoor side) will detect discharge gas temperature.

When the discharge temperature becomes higher than Temperature I , the compressor frequency is decreased 30rps, and it continues to decrease the frequency for 30rps every 120 seconds until the temperature becomes lower than Temperature II.

When the discharge temperature becomes lower than Temperature II ,the control of the compressor frequency is released.

When the discharge temperature becomes higher than Temperature III ,the compressor stops.

( Table 18 : Discharge temperature over rise prevention control / Release temperature )

	Temperature I	Temperature II	Temperature III
AO*G36LBLA5 AO*G45LBLA6	104°C	101°C	110°C

### 2. CURRENT RELEASE CONTROL

The compressor frequency is controlled so that the outdoor unit input current does not exceeds the current limit value that was set up with the outdoor temperature.

The compressor frequency returns to the designated frequency of the indoor unit at the time when the frequency becomes lower than the release value.

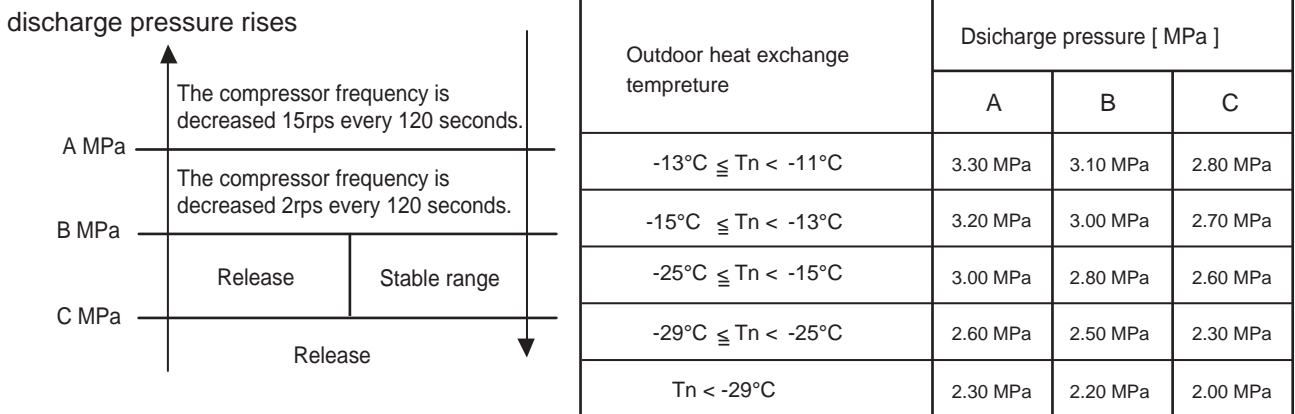
### 3. COOLING PRESSURE OVER RISE PROTECTION

When the outdoor unit discharge pressure sensor rises to 4 MPa or greater, the compressor is stopped and error display is indicated.

#### 4. HIGH TEMPERATURE RELEASE CONTROL ( Heating mode )

On heating mode, the compressor frequency is controlled as following based on the detection value of the discharge pressure sensor.

( Fig. 18 : Heating overload protection control )



#### 5. HIGH PRESSURE PROTECTION

During the compressor operation, when detect the condition of the following table value, the protection function will be worked.

The operation condition varies according to the compressor speed.

The protection function is, the compressor speed is decreased 7 rps every 60 seconds.

( Table 19 : Cooling operation )

Compressor frequency [ rps ]	Operation value	Release value
$\text{rps} \leq 20$	$H_p \geq 3.45 \text{ MPa}$	$H_p \leq 3.25 \text{ MPa}$
$20 < \text{rps} \leq 90$	$H_p \geq 3.80 \text{ MPa}$	$H_p \leq 3.60 \text{ MPa}$
$90 < \text{rps} \leq 100$	$H_p \geq 3.30 \text{ MPa}$	$H_p \leq 3.10 \text{ MPa}$

( Table 20 : Heating operation )

Compressor frequency [ rps ]	Operation value	Release value
$\text{rps} \leq 20$	$H_p \geq 3.45 \text{ MPa}$	$H_p \leq 3.25 \text{ MPa}$
$20 < \text{rps} \leq 90$	$H_p \geq 3.50 \text{ MPa}$	$H_p \leq 3.30 \text{ MPa}$
$90 < \text{rps} \leq 100$	$H_p \geq 3.30 \text{ MPa}$	$H_p \leq 3.10 \text{ MPa}$
$100 < \text{rps}$	$H_p \geq 3.10 \text{ MPa}$	$H_p \leq 2.90 \text{ MPa}$

$H_p$  : detected discharge pressure sensor value

$\text{rps}$  : detected compressor frequency

#### 6. COMPRESSOR TEMPERATURE PROTECTION

Compressor temperature sensor is monitoring the compressor Temperature I

When the compressor temperature sensor detects higher than Temperature I , the compressor is stopped.

When 3 minutes has passed from the compressor stop and the compressor temperature sensor detects lower than Temperature II, protection is released and the compressor will restart.

( Table 21 : Operation value )

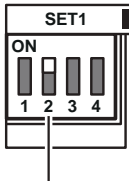
	Temperature I	Temperature II
AO*G36LBLA5 AO*G45LBLA6	108°C	80°C



## 23. PUMP DOWN OPERATION

When moving or discarding the air conditioner, in order to consider the environment and avoid the discharge of refrigerant to the atmosphere, please pump down according to the following procedure.

- (1) Connect the pressure gauge to the charging port.
- (2) Change the DIP switch on the board (SET1-2) to ON\*1



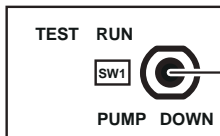
\*1: DIP switch (SET1-2)

\*Be sure the power supply is disconnected on the breaker is turned off when changing the DIP switch.

### WARNING

During the pump down operation, make sure that compressor is off before you remove the refrigerant piping. Do not remove the connection pipe while the compressor is in operation with valve open. This may cause abnormal pressure in the refrigeration cycle that leads to breakage and even injury.

- (3) To start operation, press the [PUMP DOWN] switch\*2 for 3 seconds or press after the power has been on for 3 min.



\*2: Push switch (SW1)

During pump down, the LED (POWER/MODE) will blink 3 times consecutively.

POWER /MODE	ERROR	MONITOR					
		A	B	C	D	E	F



#### NOTE:

If the [PUMP DOWN] switch is pressed during compressor operation, the compressor will stop, and the operation will start after about 3 min.

- (4) Close the liquid pipe valve.
- (5) When 0.05 MPa ~ 0 MPa is shown, close the gas pipe valve.
- (6) Stop pump down by pressing the [PUMP DOWN] switch for 3 seconds. The LED will light as follows.

POWER /MODE	ERROR	MONITOR					
		A	B	C	D	E	F

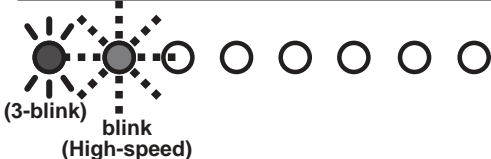


- (7) Disconnect the power supply or turn off the breaker.

#### NOTE:

- If the pump down is not stopped by pressing the switch as in step (6), it will stop automatically after 15 min. and the LED will light as follows. If the pump down is complete, disconnect the power supply or turn off the breaker. If not completed open the liquid pipe valve, and then start again from step (3).

POWER /MODE	ERROR	MONITOR					
		A	B	C	D	E	F



- In order to interrupt the pump down operation, press the [PUMP DOWN] switch again. The LED will return to the original display before starting pump down. (POWER/MODE LED: On)
- The pump down may stop before completion due to error. To complete the pump down, correct the error, open the liquid pipe valve and then start from step (1) again. Otherwise, the refrigerant can be recovered from the service port.

## 24. TEST RUN ( For Outdoor unit )

### ⚠ CAUTION

Always turn on the power 12 hours prior to the start of the operation in order to protect the compressor.

#### (1) Indoor unit

- 1 Is the drain normal?
- 2 Is there any abnormal noise and vibration during operation?

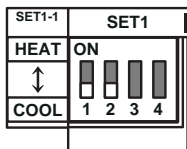
#### (2) Outdoor unit

- 1 Is there any abnormal noise and vibration during operation?
- 2 Will noise, wind, or drain water from the unit disturb the neighbors?
- 3 Is there any gas leakage?
  - Do not operate the air conditioner in the test running state for a long time.
  - For the operation method of the test run for indoor unit and central remote controller, refer to the operating manual and perform operation check.

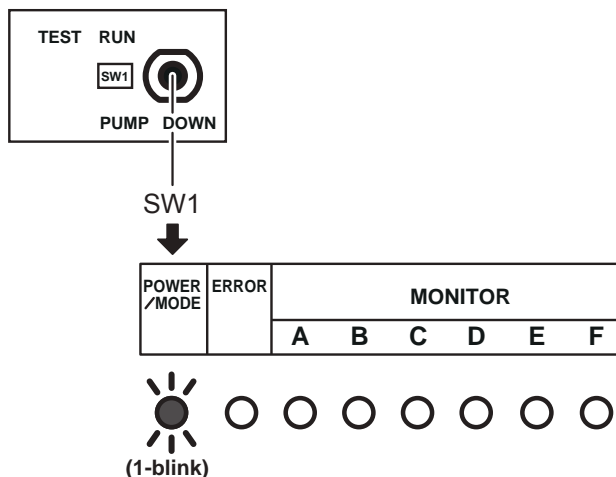
### TEST RUN method

Be sure to turn the power off before starting the test run.

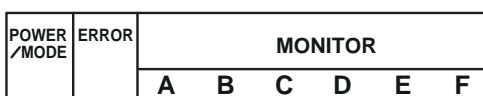
- (1) Check the 3-way valves (both at the liquid side and gas side) are opened. Please confirm that the DIP switch SET1-2 is switched OFF.
- (2) Set the operation mode to "COOL" or "HEAT". If you wish to the DIP switch SET1-1 to "HEAT", please switch it after temporarily disconnecting the power supply or turning off the breaker switching the power off.



- In the first test run, be sure to set the operation mode to "COOL".
  - The operation mode cannot be switched between "COOL" and "HEAT" during the test run. To switch the operation mode between "COOL" and "HEAT", stop the test run, switch the operation mode, and then start the test run again.
- (3) Press "TEST RUN" switch for more than 3 seconds.  
The POWER / MODE LED flashes once.



- (4) Confirm operating status.
- (5) Press "TEST RUN" switch for more than 3 seconds.



POWER/MODE LED will turn on, and test run stops.

## 25. HEAT INSULATION CONDITION ( BUILDING INSULATION )

This setting can make the room temperature control more suitable for homes or buildings with high insulation (Function Number 95).

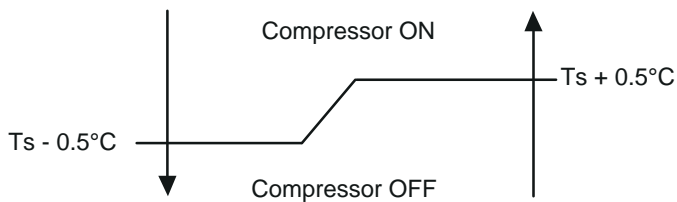
When the thermo sensor is turned ON it controls the compressor frequency at initial start to prevent overshoot in heating or cooling.

## 26. THERMO CONTROL ( FOR INDOOR UNIT SENSOR )

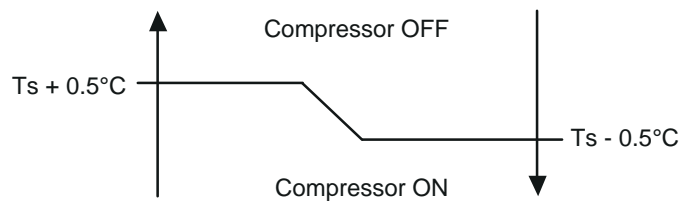
When room temperature is controlled by the Indoor unit sensor, compressor operation is as shown in Fig. 19 and 20.

But, adjustment is possible by the room temperature correction function setting. (Function Number 30 or 31)

( Fig. 19 : For Cooling operation )



( Fig. 20 : For Heating operation )



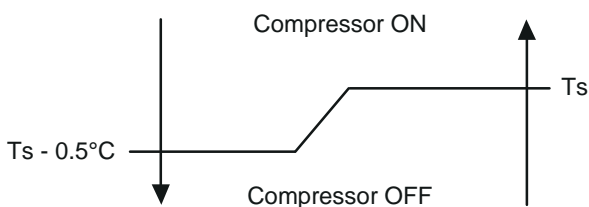
• Ts : Setting temperature

## 27. THERMO CONTROL ( FOR WIRED REMOTE SENSOR )

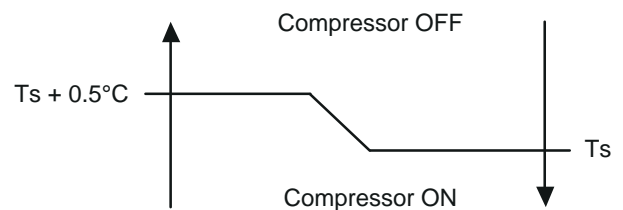
When room temperature is controlled by the Wired remote sensor, compressor operation is as shown in Fig. 21 and 22.

But, adjustment is possible by the room temperature correction function setting. (Function Number 92 or 93)

( Fig. 21 : For Cooling operation )



( Fig. 22 : For Heating operation )



• Ts : Setting temperature

***Universal Floor / Ceiling  
Slim Duct / Compact Cassette  
Compact Wall Mounted / Floor  
Wall Mounted / Duct type  
INVERTER (MULTI)***

**2 . TROUBLE SHOOTING**

## 2-1 ERROR DISPLAY

### 2-1-1 INDOOR UNIT AND WIRED REMOTE CONTROLLER DISPLAY

Please refer the flashing pattern as follows.

The Operation, Timer, Economy lamps operate as follows according to the error contents.

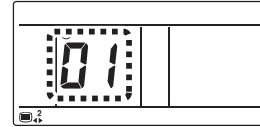
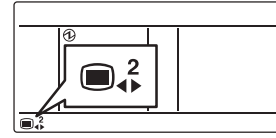
Error Contents	Indoor Unit Display			Wired Remote Controller Display	Trouble shooting
	Operation (Green)	Timer (Orange)	Economy (Green)		
Serial Communication Error	1 times	1 times	Continuous	11	1,2
Wired Remote Controller Communication Error	1 times	2 times	Continuous	12	3
External Communication Error	1 times	8 times	Continuous	18	4
Indoor Unit Capacity Error	2 times	2 times	Continuous	22	6
Address Setting Error In Wired Remote Controller System	2 times	6 times	Continuous	26	7
Connection Unit Number Error (Indoor unit Wired remote controller Error)	2 times	9 times	Continuous	29	8
Indoor Unit Model Information Error EEPROM Access Abnormal	3 times	2 times	Continuous	32	9
Manual Auto Switch Error	3 times	5 times	Continuous	35	10
Indoor Unit (Communication circuit) WRC Error	3 times	10 times	Continuous	3A	11
Indoor Room Thermistor Error	4 times	1 times	Continuous	41	12
Indoor Heat Ex. Thermistor Error	4 times	2 times	Continuous	42	13
Indoor Unit Fan Motor Error	5 times	1 times	Continuous	51	14
Drain Pump Error	5 times	3 times	Continuous	53	15
Dumper Error	5 times	7 times	Continuous	57	16,17
Intake Grille Error	5 times	8 times	Continuous	58	18
Outdoor Unit Model Information Error	6 times	2 times	Continuous	62	19
Inverter Error	6 times	3 times	Continuous	63	22
Active Filter Error	6 times	4 times	Continuous	64	23
IPM Error	6 times	5 times	Continuous	65	24
Discharge Thermistor Error	7 times	1 times	Continuous	71	25
Compressor Thermistor Error	7 times	2 times	Continuous	72	26
Heat Ex. Thermistor Error (OUT)	7 times	3 times	Continuous	73	27
Outdoor Thermistor Error	7 times	4 times	Continuous	74	28
2-Way Valve Thermistor Error	7 times	6 times	Continuous	76	29

Error Contents	Indoor Unit Display			Wired Remote Controller Display	Trouble shooting
	Operation (Green)	Timer (Orange)	Economy (Green)		
3-Way Valve Thermistor Error	7 times	6 times	Continuous	76	30
CT Error	8 times	4 times	Continuous	84	31
Discharge Pressure Sensor Error	8 times	6 times	Continuous	86	32
Over Current Error	9 times	4 times	Continuous	94	33
Compressor Control Error	9 times	5 times	Continuous	95	34
Outdoor Unit Fan Motor Error	9 times	7 times	Continuous	97	35
4-Way Valve Error	9 times	9 times	Continuous	99	36
Coil (expansion valve) Error	9 times	10 times	Continuous	9A	37
Discharge Temp. Error	10 times	1 times	Continuous	A1	38
Compressure Temp. Error	10 times	3 times	Continuous	A3	39

## 2-1-2 WIRED REMOTE CONTROLLER DISPLAY

(2 wire remote controller)

1. With "Monitor Mode Screen" displayed, press and hold the [MENU] button, [ < ] button and [ENTER] button simultaneously for at least 2 seconds. Setting item selection screen is displayed.
2. Select the number of the item to be set with the [ < ] or [ > ] button; press the [ENTER] button to switch to the Setting Screen. Please refer to the table below for the settings of each part number. For details concerning settings, see the description of the setting concerned.
3. Return to this screen after setting the various items. Return to "Monitor Mode Screen" if the [MENU] button, [ < ] button and [ENTER] button pressed and held simultaneously for at least 2 seconds.



On the various Setting Screens, setting is interrupted and the display returns to "Monitor Mode Screen" if the [MENU] button, [ < ] button and [ENTER] button pressed and held simultaneously for at least 2 seconds.

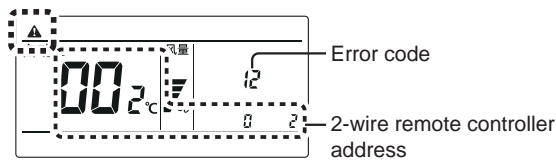
### Note

Selectable items differ according to settings when equipment is set up. Operation does not proceed to items that cannot be selected.

#### 4. Check the error

This appears automatically on the display if an error occurs.

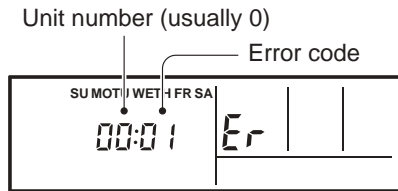
If an error occurs, the following display will be shown. ("▲" will appear in the "Monitor Mode Screen")



Ex. Error code display

## 1. SELF - DIAGNOSIS

When " Er " in Temperature Display is displayed, inspection of the air conditioning system is necessary. Please consult authorized service personnel.



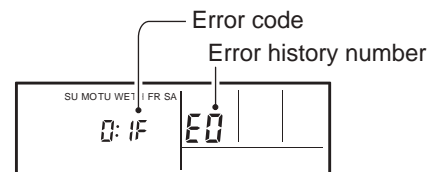
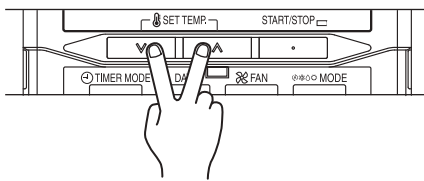
ex. Self-diagnosis check

## 2. ERROR CODE HISTORY DISPLAY

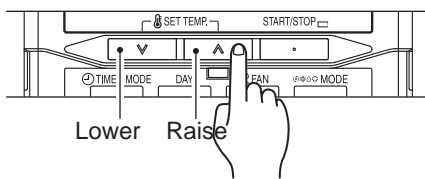
Up to 16 memorized error codes may be displayed for the indoor unit connected to the remote controller.

1. Stop the air conditioner operation.

2. Press the SET TEMPERATURE buttons  $\nabla$ ,  $\blacktriangle$  simultaneously for 3 seconds or more to start the self-diagnosis.



3. Press the SET TEMPERATURE button to select the error history number.



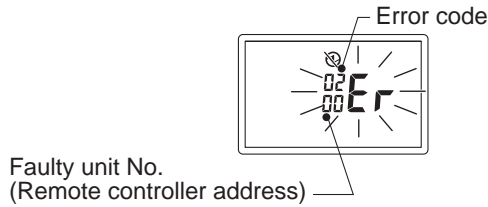
0 ↔ 1 ↔ 2 ↔ 3 ↔ 4 ↔ 5 ↔ 6 ↔ 7  
 F ↔ E ↔ d ↔ c ↔ b ↔ A ↔ 9 ↔ 8

4. Press the SET TEMPERATURE buttons  $\nabla$ ,  $\blacktriangle$  simultaneously for 3 seconds or more or there is no key input for 60 seconds to stop the display.



### 2-1-3 SIMPLE REMOTE CONTROLLER DISPLAY

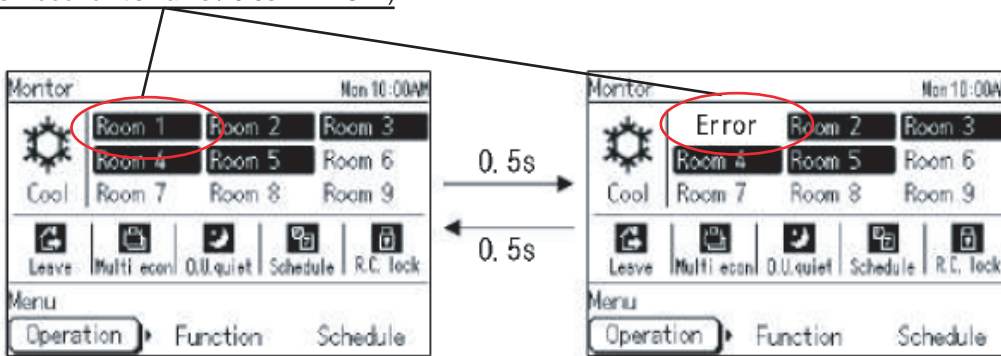
If an error occurs, the following display will be shown.  
 ("Er" will appear in the set room temperature display.)  
 If "Er" is displayed, immediately contact authorized service personnel.



Ex. Error code display

### 2-1-4 CENTRAL REMOTE CONTROLLER DISPLAY

To show which indoor unit is the error displayed,  
 indoor unit's name and "ERROR" are alternately shown.  
 (0.5s indoor unit's name / 0.5s "ERROR")



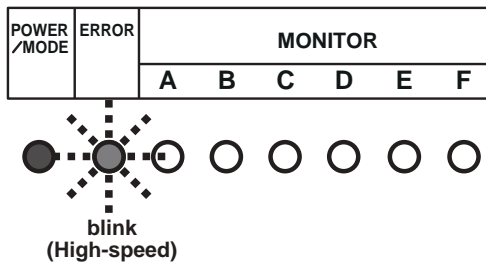
Ex. Error display

### 2-1-5 OUTDOOR UNIT DISPLAY

• If an error occurs, the LED will light up to display the error location and the error code.

#### In the event of an error

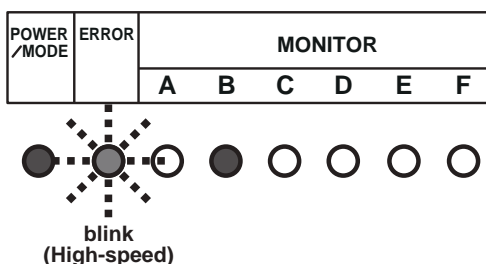
• The error LED flashes quickly.



#### Error location display

• LEDs A to F of MONITOR light up and display the error location. In the case of an overall error, LEDs A to F of MONITOR do not light up.

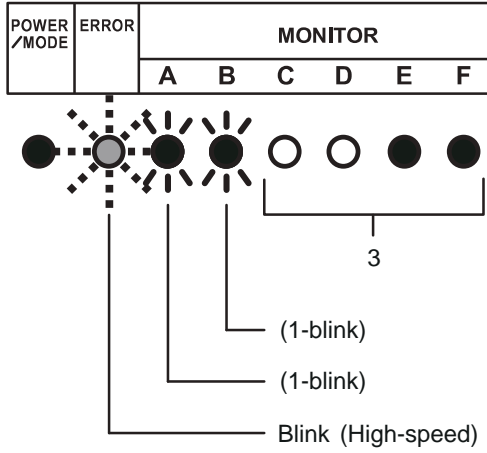
Example) Coil error in indoor unit B



## Error code display

While the error is occurring, please briefly press SW1.  
The error code is displayed.

Ex.) Serial communication error ( Error cord = 11.3 )



### Display mode

LED on : ●

LED off : ○



Blink :

(0.5s Light on / 0.5s Light off)

### For MONITOR

(A and B)

A : 10 - Blink

C : 11 - Blink

F : 12 - Blink

J : 13 - Blink

P : 14 - Blink

U : 15 - Blink

	C	D	E	F	
	○	○	○	●	→ 1
	○	○	●	○	→ 2
	○	○	●	●	→ 3
	○	●	○	○	→ 4
	○	●	○	●	→ 5
	○	●	●	○	→ 6
	○	●	●	●	→ 7
	●	○	○	○	→ 8
	●	○	○	●	→ 9
	●	○	●	○	→ A
	●	○	●	●	→ C
	●	●	○	○	→ F
	●	●	○	●	→ J
	●	●	●	○	→ P
	●	●	●	●	→ U

Error code	Error contents	Outdoor unit LED display part						Trouble shooting
		Monitor						
		A	B	C	D	E	F	
11. 3	Serial communication error	● 1	● 1	○	○	●	●	1
11. 4	Serial communication error during operation	● 1	● 1	○	●	○	○	2
16. 5	Communication error between controller and outdoor unit	● 1	● 6	○	●	○	●	5
22. 1	Indoor unit capacity error	● 2	● 2	○	○	○	●	6
5U. 1	Indoor unit error	● 5	● 15	○	○	○	●	3,9,10,12~18
62. 1	PCB model information error	● 6	● 2	○	○	○	●	19
62. 3	EEPROM access error	● 6	● 2	○	○	●	●	20
62. 8	EEPROM data corruption error	● 6	● 2	●	○	○	○	21
63. 1	Inverter error	● 6	● 3	○	○	○	●	22
65. 3	IPM error (Trip terminal L error)	● 6	● 5	○	○	●	●	24
71. 1	Dsicharge temp. sensor error	● 7	● 1	○	○	○	●	25
72. 1	Compressor temp. sensor error	● 7	● 2	○	○	○	●	26
73. 3	Heat ex. liquid temp. sensor error	● 7	● 3	○	○	●	●	27
74. 1	Outdoor temp. sensor error	● 7	● 4	○	○	○	●	28
76. 1	2-Way Valve Thermistor Error	● 7	● 6	○	○	○	●	29
76. 2	3-Way Valve Thermistor Error	● 7	● 6	○	○	●	○	30
84. 1	Current sensor 1 error (stoppage permanently)	● 8	● 4	○	○	○	●	31
86. 1	Discharge pressure sensor error	● 8	● 6	○	○	○	●	32
94. 1	Trip detection	● 9	● 4	○	○	○	●	33
95. 1	Compressor motor control error	● 9	● 5	○	○	○	●	34
97. 3	Fan motor 1 error(Duty error)	● 9	● 7	○	○	●	●	35
99. 1	4-way valve error	● 9	● 9	○	○	○	●	36
9A. 1	Coil 1 (expansion valve 1) error	● 9	● 10	○	○	○	●	37
A1. 1	Discharge temperature 1 error (stoppage permanently)	● 10	● 1	○	○	○	●	38
A3. 1	Compressor 1 temperature error	● 10	● 3	○	○	○	●	39

This Error code list is excerpt by instalation manual.

● : Flashing    ○ : No indication

● 1 - 15 : Outdoor LED Blink ( 1 to 15 times ) 0.5s Light on / 0.5s Light off

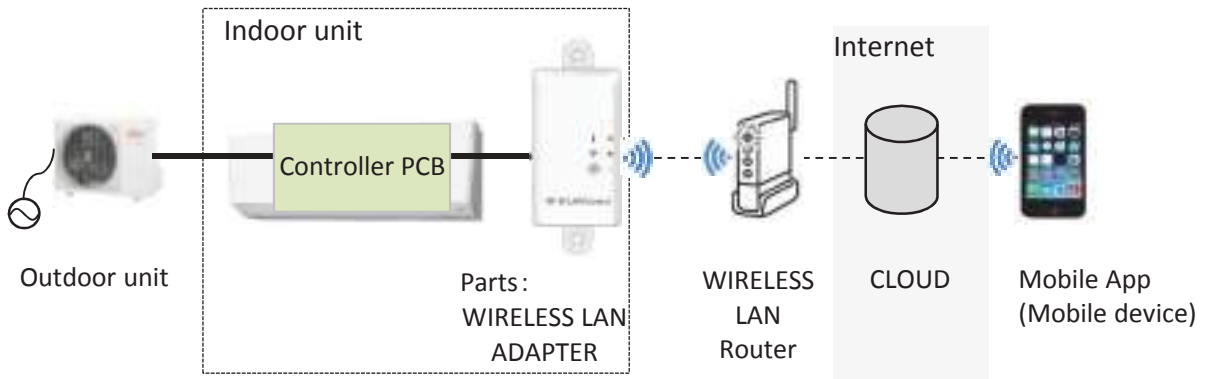
#### NOTE

Error code 16.5 : Occur when using the Home remote controller.

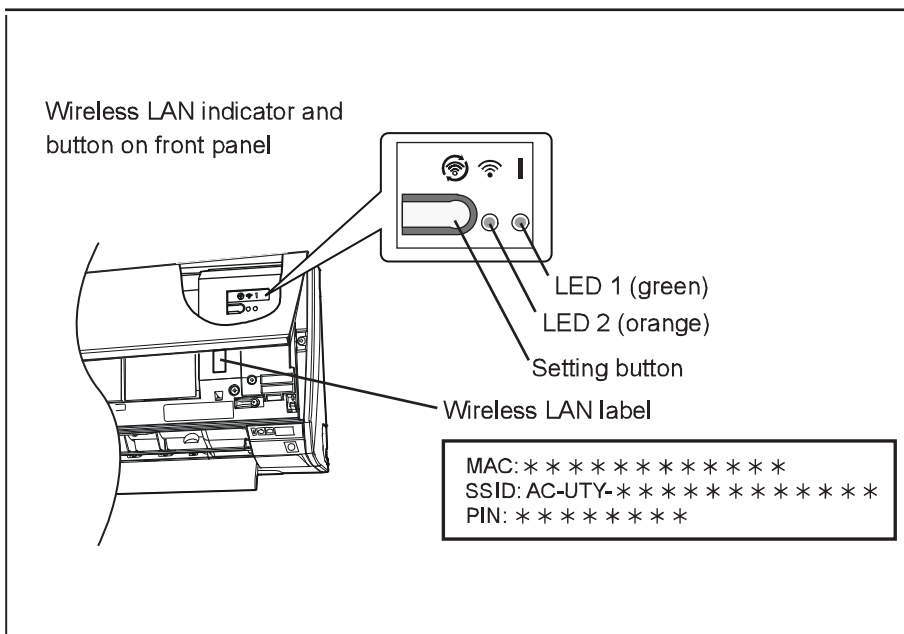
Error code 5U.1 : Indoor unit all error

## 2-1-6 WIRELESS LAN INDICATOR DISPLAY

### 1. WIRELESS LAN CONTROL system layout



### 2. NAME OF PARTS



### 3. WIRELESS LAN ADAPTER INDICATOR

Please refer the flashing pattern as follows.

LED 1 (green) and LED 2 (orange) operate as follow according to the error contents.


\*The status LED1(Green) ON: The communication between the Indoor unit and the adaptor is normal.


Error Contents	Wireless LAN adapter Indicator		Error Code	Trouble shooting
	LED 1 (Green)	LED 2 (Orange)		
External Communication Error (Communication Error of between Indoor Unit to Wireless LAN adapter)	Flashing Fast	ON	18	45
Wireless LAN adapter Error	Flashing Fast	Flashing Fast	No Error	46
Network Communication Error (Communication Error of between Wireless LAN Router to Wireless LAN adapter)	ON	Flashing Fast	No Error	47
Communication Error ("Trou. 45" and "Trou. 47" are simultaneous Error)	Flashing Fast	Flashing Fast	18	48
Wireless LAN adapter Non-Energized	OFF	OFF	18	49

Flashing Fast : Repeating 0.5 seconds ON / 0.5 seconds OFF

## 2-1-7 MOBILE APP DISPLAY ( For AIR CONDITIONER )

### 1. ERROR DISPLAY

If there is an abnormality on the air conditioning, you will see  as follows.

When you tap the "Error button"  on the home screen, Error Code and Error Name is displayed.

For Android



For iOS



## 2. ERROR CODE

Error message	Error Code	Trouble shooting
Serial communication error between indoor/outdoor units	11.1	1
	11.2	
	11.3	2
	11.4	
Remote controller communication error	12.1	3
External communication error	18.1	5
Indoor unit capacity abnormal	22.1	6
Indoor unit address setting error	26.4	7
	26.5	
Connection unit number error in wired remote controller system	29.1	8
Indoor unit main PCB error	32.1	9
Indoor unit manual auto switch error	35.1	10
Indoor unit communication circuit (wired remote controller) error	3A.1	11
Indoor unit room temp. thermistor error	41.1	12
Indoor unit heat ex. temp. thermistor error	42.2	13
Indoor unit fan motor 1 error	51.1	14
	51.2	
Indoor unit water drain abnormal	53.1	15
Indoor unit damper error	57.1	16,17
	57.2	
	57.3	
Indoor unit intake grille position error	58.1	18
Outdoor unit main PCB error	62.1	19
	62.2	
	62.3	
	62.8	
Outdoor unit inverter PCB error	63.1	22
Outdoor unit active filter/PFC circuit error	64.1	23
	64.3	
	64.4	
	64.8	
Outdoor unit IPM error	65.3	24
Outdoor unit discharge temp. thermistor error	71.1	25
Outdoor unit compressor temp. thermistor error	72.1	26
Outdoor unit heat ex. temp. thermistor error	73.3	27
Outside air temp. thermistor error	74.1	28
Outdoor unit operating valve thermistor error	76.1	29
	76.2	30
Outdoor unit current sensor error	84.1	31
Outdoor unit pressure sensor error	86.1	32
Outdoor unit trip detection	94.1	33
Outdoor unit compressor motor control error	95.1	34
	95.3	
Outdoor unit fan motor 1 error	97.3	35
Outdoor unit 4-way valve error	99.1	36
Outdoor unit coil (expansion valve) error	9A.1	37
Outdoor unit discharge temperature 1 error	A1.1	38
Outdoor unit compressor temperature error	A3.1	39

## 2-1-8 MOBILE APP DISPLAY ( In Wireless LAN Control system )

### 1. ERROR DISPLAY

If there is an abnormality on the Wireless LAN control system, you will see is as follows.  
Error messages will disappear at 5 seconds. Then return to normal display.

For Android



For iOS



### 2. ERROR MESSAGES LIST

#### ■ Mobile app errors

#### Registration Errors (For Android)

Error messages	Causes	Solutions
Wi-Fi must be enabled to set up new device	The user has disabled Wi-Fi on their mobile device.	Enable Wi-Fi from the Android setting.
We weren't able to sign you onto null. Please go to the Wi-Fi settings and join the network from there. Return to the app when you're done.	The mobile device and air conditioner are connected to different Wi-Fi networks when attempting to register.	Connect the mobile device to the same network as the air conditioner, then retry the registration.
Could not connect to the device at this time. Please reset the device and try again.	The air conditioner is not connected to Wi-Fi.	Check if the router connected to the air conditioner has internet access. (You can check by connecting the mobile device to the router, then opening the website.) If there is no access, connect the router to the internet.
	Mobile device is not connected to the same network as the air conditioner.	Connect the mobile device to the same network as the air conditioner, then retry the registration.
The device failed to connect with service.	Your internet access may be down or a firewall may be blocking requests to the service.	Check if the router connected to the air conditioner has internet access. (You can check by connecting the mobile device to the router, then opening the website.) If there is no access, connect the router to the internet, then retry the registration.

Error messages	Causes	Solutions
<p>Could not register the device. Make sure the device is ready for registration.</p>	<p>The air conditioner is not connected to the router.</p>	<p>Enter the Wi-Fi setting on the mobile device, then check if the SSID of the air conditioner (AC-UTY-***** *) is connected. If the air conditioner is connected, retry the registration.</p>
	<p>The router the air conditioner is connected to, has no internet access.</p>	<p>Check if the router connected to the air conditioner has internet access. (You can check by connecting the mobile device to the router, then open the website.) If there is no access, connect the router to the internet, then retry the registration.</p>
	<p>The air conditioner is already registered.</p>	<p>If there is a mobile device that has already been registered to the air conditioner, unregister by using the registered mobile device. Retry the registration with the mobile device you wish to register.</p> <p>If you do not own the mobile device registered to the air conditioner (lost, property of previous owner, etc.), please ask your maker service to unregister the mobile device. Please notify the MAC address of the WLAN adapter as written on the Wireless LAN label.</p>
	<p>*If the problem persists even if the all of the above is conducted, please contact your dealer or authorized service personnel. When asking for advice, please notify the MAC address of the WLAN adapter as written on the Wireless LAN label.</p>	



## Registration Errors (For iOS)

Error messages	Causes	Solutions
You need an internet connection to add new devices.	The user has disabled Wi-Fi on their mobile device.	Enable Wi-Fi from the iOS setting.
Could not register same LAN device. Make sure both devices are in the same LAN and try again to register.	The mobile device and air conditioner are connected to different Wi-Fi networks when attempting to register.	Connect the mobile device to the same network as the air conditioner, then retry the registration.
No registrable device was found. Make sure Wi-Fi setup was successful. This method only works if the Wi-Fi was recently performed.	The air conditioner is not connected to Wi-Fi.	Check if the router connected to the air conditioner has internet access. (You can check by connecting the mobile device to the router, then opening the website.) If there is no access, connect the router to the internet.
	Mobile device is not connected to the same network as the air conditioner.	Connect the mobile device to the same network as the air conditioner, then tap register button.
Could not register the device. Make sure the device is ready for registration.	The air conditioner is not connected to the router.	Enter the Wi-Fi setting on the mobile device, then check if the SSID of the air conditioner (AC-UTY-***** ***) is connected. If the air conditioner is connected, retry the registration.

Error messages	Causes	Solutions
<p>Could not register the device. Make sure the device is ready for registration.</p>	<p>The router the air conditioner is connected to, has no internet access.</p>	<p>Check if the router connected to the air conditioner has internet access. (You can check by connecting the mobile device to the router, then opening the website.) If there is no access, connect the router to the internet, then retry the registration.</p>
	<p>The air conditioner is already registered.</p>	<p>If there is a mobile device that has already been registered to the air conditioner, unregister by using the registered mobile device. Retry the registration with the mobile device you wish to register.</p> <p>If you do not own the mobile device registered to the air conditioner (lost, property of previous owner, etc.), please ask your maker service to unregister the mobile device. Please notify the MAC address of the WLAN adapter as written on the Wireless LAN label.</p>
	<p>*If the problem persists even if the all of the above is conducted, please contact your dealer or authorized service personnel. When asking for advice, please notify the MAC address of the WLAN adapter as written on the Wireless LAN label.</p>	

### General Errors (For Android)

Error messages	Causes	Solutions
No connectivity to Wi-Fi or the cloud. Please check your network connection.	The mobile device has no internet access.	Connect the mobile device to the internet.
An error occurred while trying to update your profile. Please try again later.		
Device is offline and cannot be modified.	The router the air conditioner is connected to, has no internet access.	Check if the router connected to the air conditioner has internet access. (You can check by connecting the mobile device to the router, then opening the website.) If there is no access, connect the router to the internet.
	The air conditioner is not connected to the router.	Check the LED indicators on the WLAN adapter. If the Green or Orange LED lamp is flashing or off, please check the TROUBLESHOOTING "State of the Wireless LAN indicators".

### General Errors (For iOS)

Error messages	Causes	Solutions
Failed to change password.	The mobile device has no internet access.	Connect the mobile device to the internet.
Cloud not determine service reachability.		
Failed to update property.		
Could not retrieve schedules.		
The operation couldn't be completed. Operation timed out.		
"Device name" is offline. (Device name varies depending on the air conditioner)	The router the air conditioner is connected to has no internet access.	Check if the router connected to the air conditioner has internet access. (You can check by connecting the mobile device to the router, then opening the website to check access.) If there is no access, connect the router to the internet.
	The air conditioner is not connected to the router.	Check the LED indicators on the WLAN adapter. If the Green or Orange LED lamp is flashing or off, please check the TROUBLESHOOTING "State of the Wireless LAN indicators".

### Sign-in Errors (For Android/iOS)

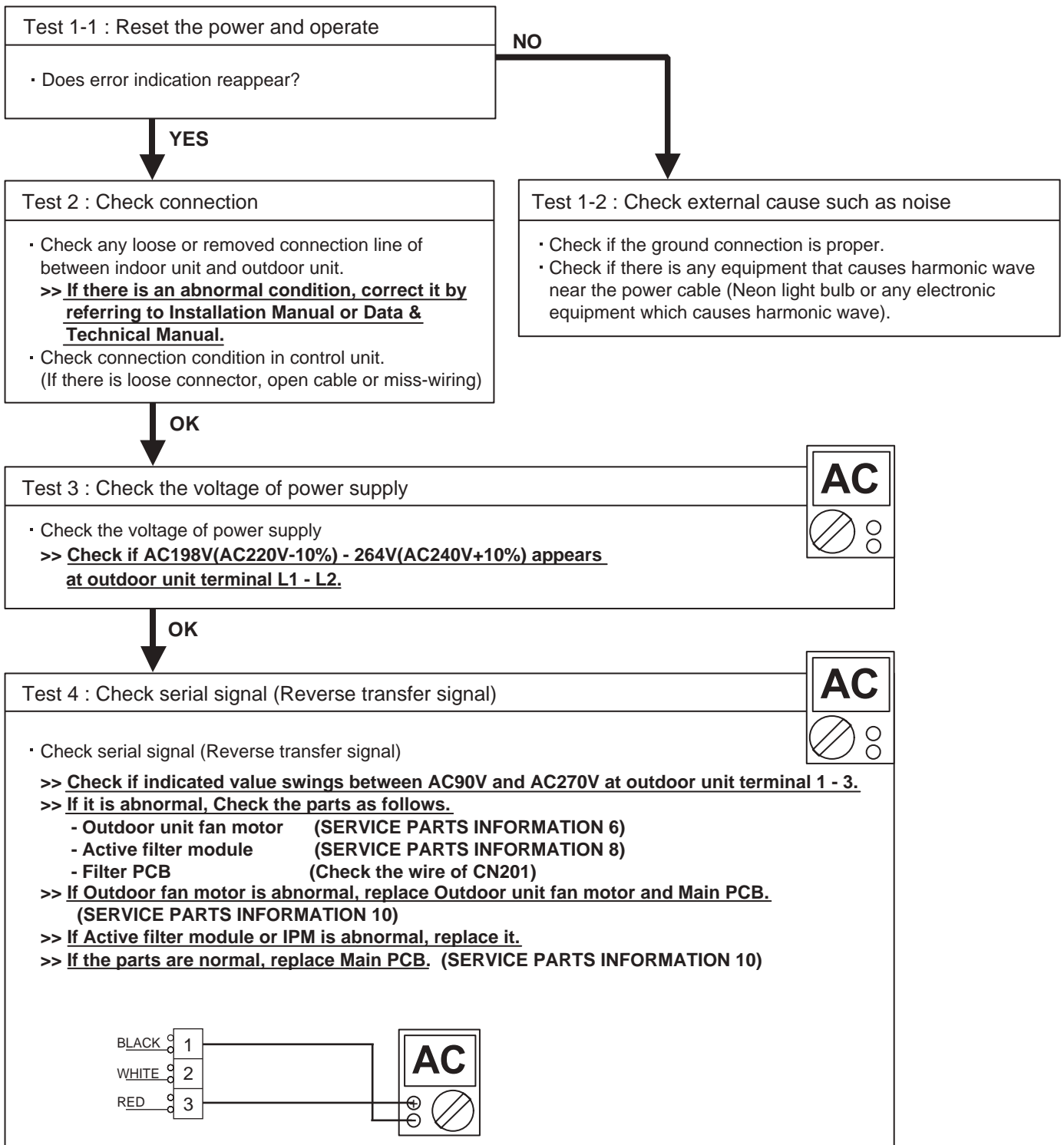
Error messages	Causes	Solutions
Could not reach service.	The mobile device has no internet access.	Connect the mobile device to the internet.

## 2-2 TROUBLE SHOOTING WITH ERROR CODE

<b>Trouble shooting 1</b> <b>OUTDOOR UNIT Error Method:</b> <b>Serial Communication Error</b> <b>(Serial Reverse Transfer Error)</b>	<b>Indicate of Display:</b>	
	<b>Indoor Unit</b> Operation lamp : 1 time Flash Timer lamp : 1 time Flash ERROR CODE : [E : 11]	Outdoor Unit: No indication

<b>Detective Actuators:</b> Outdoor unit main PCB Outdoor unit fan motor	<b>Detective details:</b> When the indoor unit cannot receive the serial signal from outdoor unit more than 2 minutes after power ON, or the indoor unit cannot receive the serial signal more than 15 seconds during normal operation.
--	--

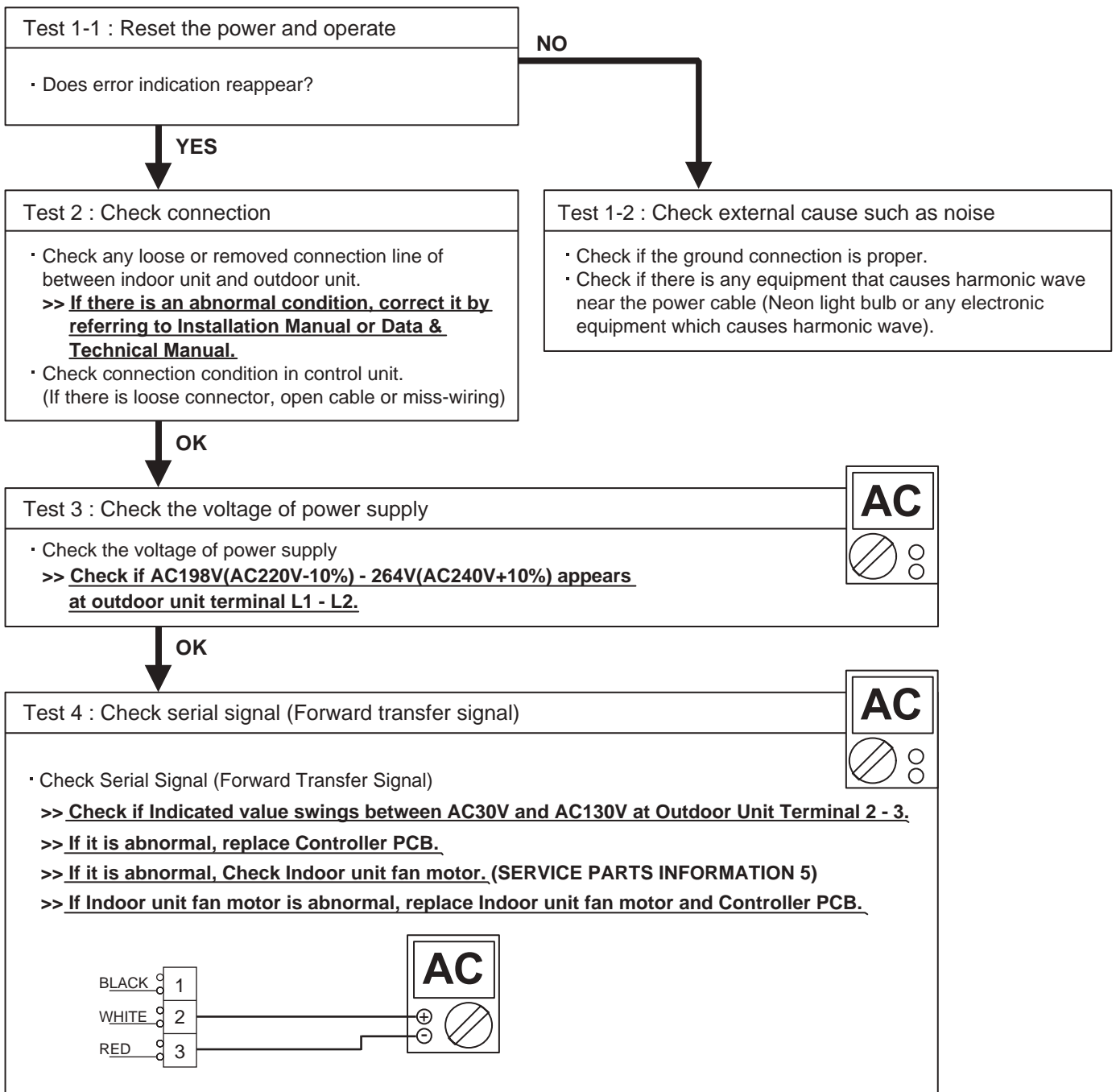
<b>Forecast of Cause:</b> 1. Connection failure   2. External cause   3. Main PCB failure   4. Active filter module failure 5. Transistor PCB (IPM) failure   6. Filter PCB failure   7. Outdoor unit Fan motor failure
---



<p><b>Trouble shooting 2</b>  <b>INDOOR UNIT Error Method:</b>  <b>Serial Communication Error</b>  <b>(Serial Forward Transfer Error)</b></p>	<p><b>Indicate of Display:</b>  <b>Indoor Unit</b>  <b>Operation lamp : 1 time Flash</b>  <b>Timer lamp : 1 time Flash</b>  <b>ERROR CODE : [E : 11]</b></p>	<p><b>Outdoor Unit</b></p> <table border="1"> <thead> <tr> <th colspan="6">Monitor</th> </tr> <tr> <th>A</th> <th>B</th> <th>C</th> <th>D</th> <th>E</th> <th>F</th> </tr> </thead> <tbody> <tr> <td>● 1</td> <td>● 1</td> <td>○</td> <td>○</td> <td>●</td> <td>●</td> </tr> <tr> <td>● 1</td> <td>● 1</td> <td>○</td> <td>●</td> <td>○</td> <td>○</td> </tr> </tbody> </table> <p>● : Light ON ○ : Light OFF ● n : n time blinking</p>	Monitor						A	B	C	D	E	F	● 1	● 1	○	○	●	●	● 1	● 1	○	●	○	○
Monitor																										
A	B	C	D	E	F																					
● 1	● 1	○	○	●	●																					
● 1	● 1	○	●	○	○																					

<p><b>Detective Actuators:</b>  Indoor unit controller PCB</p>	<p><b>Detective details:</b>  When the outdoor unit cannot properly receive the serial signal from indoor unit for 15 seconds or more.</p>
--	--

**Forecast of Cause:**  
1. Connection failure 2. External cause 3. Controller PCB failure



<p><b>Trouble shooting 3</b>  <b>INDOOR UNIT Error Method:</b>  <b>Wired Remote Controller Communication Error</b></p>	<p><b>Indicate of Display:</b>  <b>Indoor Unit</b>  <b>Operation lamp : 1 time Flash</b>  <b>Timer lamp : 2 time Flash</b>  <b>ERROR CODE : [E : 12]</b></p>	<p><b>Outdoor Unit</b></p> <table border="1" data-bbox="1050 232 1461 315"> <thead> <tr> <th colspan="6">Monitor</th> </tr> <tr> <th>A</th> <th>B</th> <th>C</th> <th>D</th> <th>E</th> <th>F</th> </tr> </thead> <tbody> <tr> <td>● 5</td> <td>● 15</td> <td>○</td> <td>○</td> <td>○</td> <td>●</td> </tr> </tbody> </table> <p>● : Light ON ○ : Light OFF ● n : n time blinking</p>	Monitor						A	B	C	D	E	F	● 5	● 15	○	○	○	●
Monitor																				
A	B	C	D	E	F															
● 5	● 15	○	○	○	●															

<p><b>Detective Actuators:</b>  Indoor unit controller PCB  Wired remote controller</p>	<p><b>Detective details:</b>  When the indoor unit cannot properly receive the signal from Wired Remote Controller for 1 minutes or more.</p>
---	---

Forecast of Cause:  
1. Connection failure 2. Wired Remote Controller failure 3. Controller PCB failure

**Test 1 : Check the connection of terminal**

Check & correct the followings.  
• Check the connection of terminal between Wired Remote Controller and indoor unit, and check if there is a disconnection of the cable.



<p><b>Test 2 : Check Wired Remote Controller and Controller PCB</b></p>	
<p>• Check Voltage at terminal 1-3 of Controller PCB or Communication PCB.  (Power supply to Remote Control)  Compact Cassette, Slim Duct, Universal Floor, Ceiling Type : CN14  Wall Mount : CN16  Compact Wall Mount Type : CNC01 (UTY-TWBXF)</p> <p><b>&gt;&gt; If it is DC12V, Remote Control is failure. (Controller PCB is normal) &gt;&gt; Replace Remote Control</b>  <b>&gt;&gt; If it is DC 0V, Controller PCB is failure. (Check Remote Control once again) &gt;&gt; Replace Controller PCB</b></p>	
<p><b>For AR* G07/09/12/14/18LSLAP</b></p> <p>• Check Voltage at CN300 (terminal 1-3) of Controller PCB.(3 wire remote controller)  • Check Voltage at CN300 (terminal 1-2) of Controller PCB.(2 wire remote controller)  (Power supply to Remote control)</p> <p><b>&gt;&gt; If it is DC12V, Remote Control is failure. (Controller PCB is normal) &gt;&gt; Replace Remote Control</b>  <b>&gt;&gt; If it is DC 0V, Controller PCB is failure. (Check Remote Control once again) &gt;&gt; Replace Controller PCB</b></p>	

**For AR\*G\*\*LSLAP**

<p><b>Trouble shooting 4</b>  <u><b>INDOOR UNIT Error Method:</b></u>  <b>External Communication Error</b></p>	<p><u><b>Indicate or Display:</b></u>  <b>Outdoor Unit : No indication</b>  <b>Indoor Unit : Operation lamp: 1 time Flash, Timer lamp: 8 time Flash</b>  <b>Economy lamp : Continuous flash.</b>  <b>ERROR CODE : [E : 18]</b></p>
--	--

<p><u><b>Detective Actuators:</b></u>          External communication error</p>	<p><u><b>Detective details:</b></u>          After receiving a signal from the same a signal has not been received for 15sec</p>
---	--

<p><u>Forecast of Cause:</u>          1. Connection failure      2.Controller PCB failure</p>
---

<p>Check Point 1 : Check the connection</p> <ul style="list-style-type: none"> <li>▪ Check any loose or removed connection of between the controller PCB</li> <li>➤<b>If there is an abnormal condition, correct it by refer to installation manual or the technical manual.</b></li> <li>▪ Check the condition condition on the controller PCB              (If there is loose connector, open cable or miss-wiring)</li> </ul>
--



<p>Check Point 2: Replace external I/O PCB</p> <p>▶ <u><b>If Check Point 1 do not improve the symptom.</b></u></p>
--



<p>Check Point 3: Replace Controller PCB</p> <p>▶ <u><b>If Check Point 2 do not improve the symptom, change Controller PCB.</b></u></p>
---



<p><b>Trouble shooting 5</b>  <b><u>OUTDOOR UNIT Error Method:</u></b>  <b>Communication Error Between Controller And Outdoor Unit</b></p>	<p><b><u>Indicate of Display:</u></b>  <b>Indoor Unit</b>  <b>Operation lamp : - time Flash</b>  <b>Timer lamp : - time Flash</b>  <b>ERROR CODE : [E : --]</b></p>	<p><b>Outdoor Unit</b></p> <table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <tr> <th colspan="6">Monitor</th> </tr> <tr> <th>A</th> <th>B</th> <th>C</th> <th>D</th> <th>E</th> <th>F</th> </tr> <tr> <td>● 1</td> <td>● 6</td> <td>○</td> <td>●</td> <td>○</td> <td>●</td> </tr> </table> <p>● : Light ON   ○ : Light OFF   ●n : n time blinking</p>	Monitor						A	B	C	D	E	F	● 1	● 6	○	●	○	●
Monitor																				
A	B	C	D	E	F															
● 1	● 6	○	●	○	●															

<p><b><u>Detective Actuators:</u></b>          Outdoor unit Main PCB          Home Controller</p>	<p><b><u>Detective details:</u></b>          When the home controller cannot 60sec receive the signal from</p>
---	--

**Forecast of Cause:**  
 1. Connection failure   2. Home Controller failure   3. Main PCB failure

**Test 1 : Check the connection of terminal**

Check & correct the followings.  
 • Check the connection of terminal between Wired Remote Controller and indoor unit, and check if there is a disconnection of the cable.



<p><b>Test 2 : Check Home Controller and Main PCB</b></p> <p>• Check Voltage at terminal 1-3 (CN93) of Main PCB.          (Power supply to Remote Control)</p> <p><b>&gt;&gt; If it is DC12V, Home Controller is failure. (Main PCB is normal) &gt;&gt; Replace Home Controller</b>  <b>&gt;&gt; If it is DC 0V, Main PCB is failure. (Check Home Controller once again) &gt;&gt; Replace Main PCB</b>  <b>(SERVICE PARTS INFORMATION 10)</b></p>	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="text-align: center; font-weight: bold; font-size: 1.2em;">DC</td> </tr> <tr> <td style="text-align: center;"> </td> </tr> </table>	DC	
DC			

<p><b>Trouble shooting 6</b>  <b>INDOOR UNIT Error Method:</b>  <b>Indoor Unit Capacity Error</b></p>	<p><b>Indicate of Display:</b>  <b>Indoor Unit</b>  <b>Operation lamp : 2 time Flash</b>  <b>Timer lamp : 2 time Flash</b>  <b>ERROR CODE : [E : 22]</b></p>	<p><b>Outdoor Unit</b></p> <table border="1" data-bbox="1062 254 1469 339"> <thead> <tr> <th colspan="6">Monitor</th> </tr> <tr> <th>A</th> <th>B</th> <th>C</th> <th>D</th> <th>E</th> <th>F</th> </tr> </thead> <tbody> <tr> <td>● 2</td> <td>● 2</td> <td>○</td> <td>○</td> <td>○</td> <td>●</td> </tr> </tbody> </table> <p>● : Light ON ○ : Light OFF ●n : n time blinking</p>	Monitor						A	B	C	D	E	F	● 2	● 2	○	○	○	●
Monitor																				
A	B	C	D	E	F															
● 2	● 2	○	○	○	●															

<p><b>Detective Actuators:</b>  All indoor unit</p>	<p><b>Detective details:</b>  The total capacity of the indoor unit if it is install beyond.</p>
---	--

**Forecast of Cause:**  
1. The selection of indoor units is incorrect    2. Main PCB(Outdoor unit) failure

Test 1 : Check the total capacity of indoor unit

- Check the total capacity of the connected indoor units.

**>> If abnormal condition is found, correct it by referring to Installation Manual or Design & Technical Manual.**



Test 2 : Replace Main PCB

**▶ If Test 1 do not improve the symptom, replace Main PCB of Outdoor unit. (SERVICE PARTS INFORMATION 10)**

## For AR\*G\*\*LSLAP

<p><b>Trouble shooting 7</b>  <b><u>INDOOR UNIT Error Method:</u></b>  <b>Address Setting Error</b>  <b>In Wired Remote Controller System</b></p>	<p><b><u>Indicate or Display:</u></b>  <b>Outdoor Unit : No indication</b>  <b>Indoor Unit : Operation lamp: 2 time Flash, Timer lamp: 6 time Flash</b>  <b>Economy lamp : Continuous flash.</b>  <b>ERROR CODE : [E : 26]</b></p>
---	--

<p><b><u>Detective Actuators:</u></b>          Wired remote controller ( 2-Wire )          Indoor unit Controller PCB circuit</p>	<p><b><u>Detective details:</u></b>          When the address number set by auto setting and manual setting are mixed in one RC group.          When the duplicated address number exists in one RC group.</p>
---	--

<p><b><u>Forecast of Cause:</u></b>          1. Wrong wiring of RCgroup 2. Wrong remote address setting 3. Indoor unit controller PCB failure          4. Remote controller failure</p>
---

<p><b>Check Point 1 : Wire installation</b></p>
<p><input type="checkbox"/> Wrong wire connection in RCgroup (Please refer to the installation manual)</p>



<p><b>Check Point 2 : Wrong RCgroup setting</b></p>
<p><input type="checkbox"/> The given address number by auto setting (00) and the manual set number (Except 00) were not existing in one RCG.  <input type="checkbox"/> The remote controller address setting by U.I. were not existing same address.  <input type="checkbox"/> The duplicated address number is not existing in one RCgroup</p>



<p><b>Check Point 3 : Check Indoor unit controller PCB</b></p>
<p><input type="checkbox"/> Check if controller PCB damage  <input type="checkbox"/> Change controller PCB and check the Error after setting remote controller address</p>

**For AR\*G\*\*LSLAP**

<p><b>Trouble shooting 8</b>  <u><b>INDOOR UNIT Error Method:</b></u>  <b>Connection Unit Number Error (Indoor unit in Wired RC Error)</b></p>	<p><u><b>Indicate or Display:</b></u>  <b>Outdoor Unit : No indication</b>  <b>Indoor Unit : Operation lamp: 2 time Flash, Timer lamp: 9 time Flash</b>  <b>Economy lamp : Continuous flash.</b>  <b>ERROR CODE : [E : 29]</b></p>
--	--

<p><u><b>Detective Actuators:</b></u>          Wired remote controller ( 2-Wire )          Indoor unit Controller PCB circuit</p>	<p><u><b>Detective details:</b></u>          When the number of connecting indoor units are out of specified rule.</p>
---	--

<p><u><b>Forecast of Cause:</b></u>          1. Wrong wiring / Number of I.U, RC in RCgroup 2. Indoor unit controller PCB defective</p>
---

<p><b>Check Point 1 : Wire installation</b></p>
<p><input type="checkbox"/> Wrong number of connecting indoor unit</p>

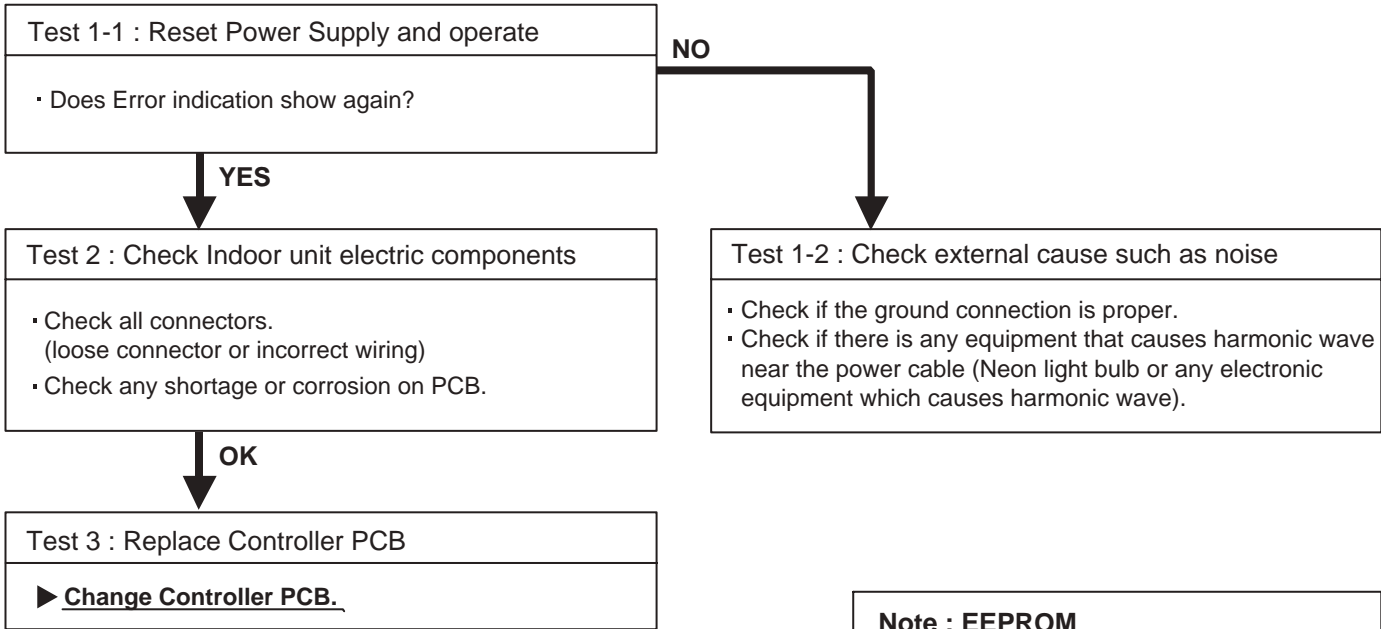


<p><b>Check Point 2 : Check Indoor unit controller PCB</b></p>
<p><input type="checkbox"/> Check if controller PCB damage  <input type="checkbox"/> Check if controller PCB and check the Error after setting remote controller address</p>

<b>Trouble shooting 9</b> <b>INDOOR UNIT Error Method:</b> <b>Indoor Unit Model Information Error</b> <b>EEPROM Access Abnormal</b>	<b>Indicate of Display:</b> <b>Indoor Unit</b> <b>Operation lamp : 3 time Flash</b> <b>Timer lamp : 2 time Flash</b> <b>ERROR CODE : [E : 32]</b>	<b>Outdoor Unit</b> <table border="1"> <thead> <tr> <th colspan="6">Monitor</th> </tr> <tr> <th>A</th> <th>B</th> <th>C</th> <th>D</th> <th>E</th> <th>F</th> </tr> </thead> <tbody> <tr> <td>● 5</td> <td>● 15</td> <td>○</td> <td>○</td> <td>○</td> <td>●</td> </tr> </tbody> </table>	Monitor						A	B	C	D	E	F	● 5	● 15	○	○	○	●
	Monitor																			
A	B	C	D	E	F															
● 5	● 15	○	○	○	●															
● : Light ON ○ : Light OFF ●n : n time blinking																				

<b>Detective Actuators:</b> Indoor unit controller PCB	<b>Detective details:</b> When power is on and there is some below case. ① When model information of EEPROM is oncorrect. ② When the access to EEPROM failed.
---	--

Forecast of Cause:  
1. External cause 2. Defective connection of electric components 3. Controller PCB failure





**Note : EEPROM**  
EEPROM(Electronically Erasable and Programmable Read Only Memory) is a non-volatile memory which keeps memorized information even if power is turned off. It can change the contents electronically. To change the contents, it uses higher voltage than normal, and it can not change a partial contents. (Rewriting shall be done upon erasing the all contents.) There is a limit in a number of rewriting.

<p><b>Trouble shooting 10</b>  <b>INDOOR UNIT Error Method:</b>  <b>Manual Auto Switch Error</b></p>	<p><b>Indicate of Display:</b>  <b>Indoor Unit</b>  <b>Operation lamp : 3 time Flash</b>  <b>Timer lamp : 5 time Flash</b>  <b>ERROR CODE : [E : 35]</b></p>	<p><b>Outdoor Unit</b></p> <table border="1" data-bbox="1050 232 1461 315"> <thead> <tr> <th colspan="6">Monitor</th> </tr> <tr> <th>A</th> <th>B</th> <th>C</th> <th>D</th> <th>E</th> <th>F</th> </tr> </thead> <tbody> <tr> <td>● 5</td> <td>● 15</td> <td>○</td> <td>○</td> <td>○</td> <td>●</td> </tr> </tbody> </table> <p>● : Light ON ○ : Light OFF ● n : n time blinking</p>	Monitor						A	B	C	D	E	F	● 5	● 15	○	○	○	●
Monitor																				
A	B	C	D	E	F															
● 5	● 15	○	○	○	●															

<p><b>Detective Actuators:</b>  Indoor unit controller PCB  Indicator PCB  Manual auto switch</p>	<p><b>Detective details:</b>  When the Manual Auto Switch becomes ON for consecutive 60 seconds or more.</p>
---	--

Forecast of Cause:  
1. Manual Auto Switch failure    2. Controller PCB and Indicator PCB failure

<p>Test 1 : Check the Manual Auto Switch</p>	
<ul style="list-style-type: none"> <li>• Check if Manual Auto Switch is kept pressed.</li> <li>• Check ON/OFF switching operation by using a meter.</li> </ul> <p>&gt;&gt; <b><u>If Manual Auto Switch is disabled (on/off switching), replace it.</u></b></p>	

↓  
**OK**

<p>Test 2 : Replace Controller PCB and Indicator PCB</p>
<p>▶ <b><u>If Test 1 do not improve the symptom, replace Controller PCB and Indicator PCB.</u></b></p>

**For AR\*G\*\*LSLAP**

<p><b>Trouble shooting 11</b>  <u><b>INDOOR UNIT Error Method:</b></u>  <b>Indoor Unit (Communication Circuit)</b>  <b>WRC Error</b></p>	<p><u><b>Indicate or Display:</b></u>  <b>Outdoor Unit : No indication</b>  <b>Indoor Unit : Operation lamp: 3 time Flash, Timer lamp: 10 time Flash</b>  <b>Economy lamp : Continuous flash.</b>  <b>ERROR CODE : [E : 3A]</b></p>
--	---

<p><u><b>Detective Actuators:</b></u>          Indoor unit Controller PCB circuit</p>	<p><u><b>Detective details:</b></u>          Detect the communication error of microcomputer and communication PCB.</p>
---	---

<p><u><b>Forecast of Cause:</b></u>          1.Communication PCB defective      2. Indoor unit controller PCB defective</p>
---

<p><b>Check Point 1 : Check the connection of terminal</b></p>
<p>After turning off the power supply, check &amp; correct the followings  <input type="checkbox"/> Indoor unit - Check the connection the communication PCB and the controller PCB</p>



<p><b>Check Point 2 : Replace the communication PCB</b></p>
<p>If the Check point 1 is ok, replace the communication PCB</p>



<p><b>Check Point 3 : Replace the controller PCB</b></p>
<p>If condition is doesn't change, replace the controller PCB</p>

**Trouble shooting 12**  
**INDOOR UNIT Error Method:**  
**Indoor Room Thermistor Error**

**Indicate of Display:**

**Indoor Unit**  
**Operation lamp : 4 time Flash**  
**Timer lamp : 1 time Flash**  
**ERROR CODE : [E : 41]**

**Outdoor Unit**

Monitor					
A	B	C	D	E	F
● 5	● 15	○	○	○	●

● : Light ON ○ : Light OFF ● n : n time blinking

**Detective Actuators:**

Indoor unit controller PCB circuit  
 Room temperature thermistor

**Detective details:**

Room temperature thermistor is open or short is detected always.

**Forecast of Cause:**

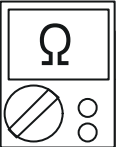
1. Connector failure connection
2. Thermistor failure
3. Controller PCB failure

**Test 1 : Check connection of Connector**

- Check if connector is loose or removed
  - Check erroneous connection
  - Check if thermistor cable is open
- >>Reset Power when reinstalling due to removed connector or incorrect wiring.**



**Test 2 : Remove connector and check Thermistor resistance value**



Thermistor Characteristics (Rough value)

Temperature (°C)	-10	0	10	20	30	40	45
Resistance Value (kΩ)	58.25	33.62	20.17	12.54	8.04	5.30	4.35

**► If Thermistor is either open or shorted, replace it and reset the power.**

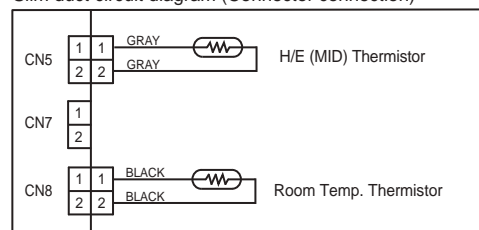
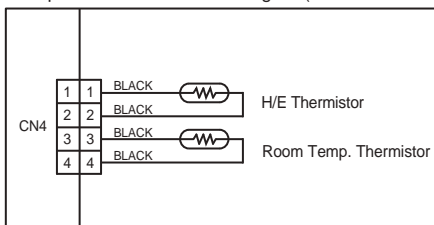


**Test 3 : Check voltage of Controller PCB (DC5.0V)**

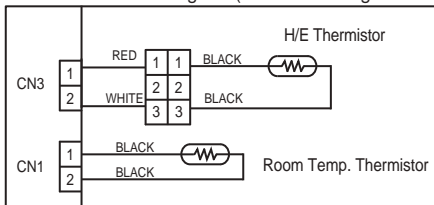


Make sure circuit diagram of each indoor unit and check terminal voltage at Thermistor (DC5.0V)

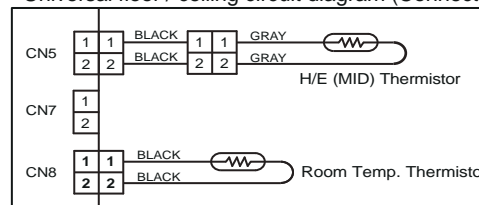
- Compact wall mount circuit diagram(Connector connection)
- Compact cassette circuit diagram (Connector connection)
- Slim duct circuit diagram (Connector connection)



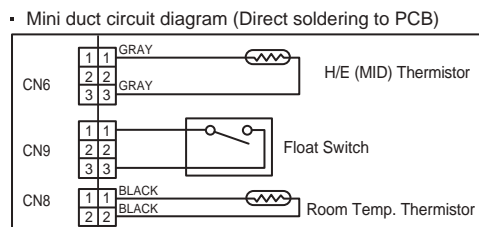
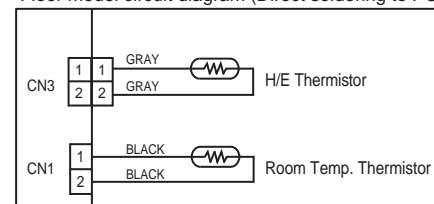
- Wall mount circuit diagram (Direct soldering to PCB)



- Universal floor / ceiling circuit diagram (Connector connection)



- Floor model circuit diagram (Direct soldering to PCB)



**► If the voltage does not appear, replace Controller PCB and execute the check operation again.**



<p><b>Trouble shooting 13</b>  <b>INDOOR UNIT Error Method:</b>  <b>Indoor Heat Ex. Thermistor Error</b></p>	<p><b>Indicate of Display:</b>  <b>Indoor Unit</b>  <b>Operation lamp : 4 time Flash</b>  <b>Timer lamp : 2 time Flash</b>  <b>ERROR CODE : [E : 42]</b></p>	<p><b>Outdoor Unit</b></p> <table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <tr> <th colspan="6">Monitor</th> </tr> <tr> <th>A</th> <th>B</th> <th>C</th> <th>D</th> <th>E</th> <th>F</th> </tr> <tr> <td>● 5</td> <td>● 15</td> <td>○</td> <td>○</td> <td>○</td> <td>●</td> </tr> </table> <p>● : Light ON ○ : Light OFF ● n : n time blinking</p>	Monitor						A	B	C	D	E	F	● 5	● 15	○	○	○	●
Monitor																				
A	B	C	D	E	F															
● 5	● 15	○	○	○	●															

<p><b>Detective Actuators:</b>          Indoor unit controller PCB circuit          Heat exchanger thermistor</p>	<p><b>Detective details:</b>          Heat exchanger thermistor is open or short is detected always.</p>
---	--

**Forecast of Cause:**  
 1. Connector failure connection 2. Thermistor failure 3. Controller PCB failure

**Test 1 : Check connection of Connector**

- Check if connector is loose or removed
- Check erroneous connection
- Check if thermistor cable is open

**>>Reset Power when reinstalling due to removed connector or incorrect wiring.**

↓ **OK**

<p><b>Test 2 : Remove connector and check Thermistor resistance value</b></p> <p>Thermistor Characteristics (Rough value)</p> <table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <tr> <th>Temperature (°C)</th> <th>-30</th> <th>-20</th> <th>-10</th> <th>0</th> <th>10</th> <th>20</th> <th>30</th> <th>40</th> <th>50</th> </tr> <tr> <th>Resistance Value (kΩ)</th> <td>1131.91</td> <td>579.59</td> <td>312.27</td> <td>176.03</td> <td>103.34</td> <td>62.91</td> <td>39.57</td> <td>25.64</td> <td>17.06</td> </tr> </table> <table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <tr> <th>Temperature (°C)</th> <th>60</th> <th>65</th> </tr> <tr> <th>Resistance Value (kΩ)</th> <td>11.64</td> <td>9.69</td> </tr> </table> <p>▶ <b>If Thermistor is either open or shorted, replace it and reset the power.</b></p>	Temperature (°C)	-30	-20	-10	0	10	20	30	40	50	Resistance Value (kΩ)	1131.91	579.59	312.27	176.03	103.34	62.91	39.57	25.64	17.06	Temperature (°C)	60	65	Resistance Value (kΩ)	11.64	9.69	
Temperature (°C)	-30	-20	-10	0	10	20	30	40	50																		
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Temperature (°C)	60	65																									
Resistance Value (kΩ)	11.64	9.69																									

↓ **OK**

<p><b>Test 3 : Check voltage of Controller PCB (DC5.0V)</b></p> <p>Make sure circuit diagram of each indoor unit and check terminal voltage at Thermistor (DC5.0V)</p> <ul style="list-style-type: none"> <li>• Compact wall mount circuit diagram(Connector connection)</li> <li>• Compact cassette circuit diagram (Connector connection)</li> <li>• Slim duct circuit diagram (Connector connection)</li> <li>• Wall mount circuit diagram (Connector connection)</li> <li>• Universal floor / ceiling circuit diagram (Connector connection)</li> <li>• Floor model circuit diagram (Connector connection)</li> <li>• Mini duct circuit diagram (Direct soldering to PCB)</li> </ul> <div style="display: flex; flex-wrap: wrap;"> <div style="width: 50%; border: 1px solid black; padding: 5px; margin-bottom: 5px;"> </div> <div style="width: 50%; border: 1px solid black; padding: 5px; margin-bottom: 5px;"> </div> <div style="width: 50%; border: 1px solid black; padding: 5px; margin-bottom: 5px;"> </div> <div style="width: 50%; border: 1px solid black; padding: 5px; margin-bottom: 5px;"> </div> <div style="width: 50%; border: 1px solid black; padding: 5px; margin-bottom: 5px;"> </div> <div style="width: 50%; border: 1px solid black; padding: 5px;"> </div> </div> <p>▶ <b>If the voltage does not appear, replace Controller PCB and execute the check operation again.</b></p>	
---	--

<p><b>Trouble shooting 14</b>  <b>INDOOR UNIT Error Method:</b>  <b>Indoor Unit Fan Motor Error</b></p>	<p><b>Indicate of Display:</b>  <b>Indoor Unit</b>  <b>Operation lamp : 5 time Flash</b>  <b>Timer lamp : 1 time Flash</b>  <b>ERROR CODE : [E : 51]</b></p>	<p><b>Outdoor Unit</b></p> <table border="1" data-bbox="1053 224 1468 313"> <thead> <tr> <th colspan="6">Monitor</th> </tr> <tr> <th>A</th> <th>B</th> <th>C</th> <th>D</th> <th>E</th> <th>F</th> </tr> </thead> <tbody> <tr> <td>● 5</td> <td>● 15</td> <td>○</td> <td>○</td> <td>○</td> <td>●</td> </tr> </tbody> </table> <p>● : Light ON ○ : Light OFF ● n : n time blinking</p>	Monitor						A	B	C	D	E	F	● 5	● 15	○	○	○	●
Monitor																				
A	B	C	D	E	F															
● 5	● 15	○	○	○	●															

<p><b>Detective Actuators:</b>  Indoor unit controller PCB  Indoor unit fan motor</p>	<p><b>Detective details:</b>  When the condition that actual frequency of indoor fan is below 1/3 of target frequency is continued more than 56 seconds.</p>
---	--

**Forecast of Cause:**

1. Fan rotation failure
2. Fan motor winding open
3. Motor protection by surrounding temperature rise
4. Control PCB failure
5. Indoor unit fan motor failure
6. Power supply PCB

**Test 1 : Check rotation of Fan**

- Rotate the fan by hand when operation is off.  
( Check if fan is caught, dropped off or locked motor )  
**>>If Fan or Bearing is abnormal, replace it.**



**Test 2 : Check ambient temp. around motor**

- Check excessively high temperature around the motor.  
( If there is any surrounding equipment that causes heat )  
**>>Upon the temperature coming down, restart operation.**



**Test 3 : Check Indoor unit fan motor**

- Check Indoor unit fan motor. **(SERVICE PARTS INFORMATION 5)**  
**>>If Indoor unit fan motor is abnormal, replace Indoor unit fan motor.**



**Test 4 : Replace Controller PCB**

▶ **If Test 1- 3 do not improve the symptom, replace Controller PCB.**



**Test 5 : Replace Controller PCB**

▶ **If Check Point 4 do not improve the symptom,replace Controller PCB.**

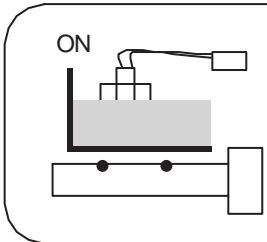
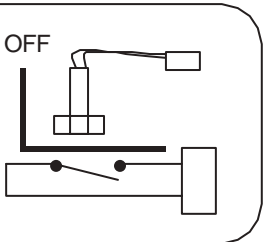
<b>Trouble shooting 15</b> <b>INDOOR UNIT Error Method:</b> <b>Drain Pump Error</b>	<b>Indicate of Display:</b> <b>Indoor Unit</b> <b>Operation lamp : 5 time Flash</b> <b>Timer lamp : 3 time Flash</b> <b>ERROR CODE : [E : 53]</b>	<b>Outdoor Unit</b> <table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th colspan="6">Monitor</th> </tr> <tr> <th>A</th> <th>B</th> <th>C</th> <th>D</th> <th>E</th> <th>F</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">● 5</td> <td style="text-align: center;">● 15</td> <td style="text-align: center;">○</td> <td style="text-align: center;">○</td> <td style="text-align: center;">○</td> <td style="text-align: center;">●</td> </tr> </tbody> </table> <p style="text-align: center; font-size: small;">● : Light ON ○ : Light OFF ● n : n time blinking</p>	Monitor						A	B	C	D	E	F	● 5	● 15	○	○	○	●
Monitor																				
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● 5	● 15	○	○	○	●															

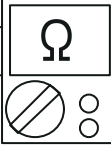
<b>Detective Actuators:</b> Indoor unit controller PCB circuit Float switch	<b>Detective details:</b> When Float switch is ON for more than 3 minutes.
---	---

**Forecast of Cause:**  
 1. Float switch failure 2. Shorted connector/wire 3. Controller PCB failure 4. Drain pump failure 5. Hose clogging

**Test 1 : Check Float Switch**

- Check operation of float switch. (any blocking by dust, etc.)
- Remove Float switch and check ON/OFF switching operation by using a meter.  
 >> **If Float switch is abnormal, replace it.**



↓  
**OK**

**Test 2 : Check Connector (CN 9) / Wire**

- Check loose contact of CN9 /shorted wire (pinched wire).  
 >> **Replace Float switch if the wire is abnormal.**

↓  
**OK**

**Test 3 : Check Drain Hose**

- Check Drain Hose .  
 >> **If there is Hose clogging. Please clear the clog.**

↓  
**OK**

**Test 4 : Check Controller PCB**

- ▶ **If Test 1 - 3 do not improve the symptom, change Controller PCB and execute the check operation again.**

**Attention!!**  
 Wall mount / Compact wall mount / Universal Floor / Ceiling type does not have a float switch. In this case, replace Controller PCB and set up the original address. Please refer to.

<p><b>Trouble shooting 16</b>  <b>INDOOR UNIT Error Method:</b>  <b>Damper(OPEN/CLOSE) Detection</b>  <b>Limit Switch Error</b></p>	<p><b>Indicate or Display:</b>  <b>Indoor Unit</b>  <b>Operation lamp : 5 time Flash</b>  <b>Timer lamp : 7 time Flash</b>  <b>ERROR CODE : [E : 57]</b></p>	<p><b>Outdoor Unit</b></p> <table border="1" data-bbox="1029 280 1452 369"> <tr> <th colspan="6">Monitor</th> </tr> <tr> <th>A</th> <th>B</th> <th>C</th> <th>D</th> <th>E</th> <th>F</th> </tr> <tr> <td>● 5</td> <td>● 15</td> <td>○</td> <td>○</td> <td>○</td> <td>●</td> </tr> </table> <p>● : Light ON ○ : Light OFF ● n : n time blinking</p>	Monitor						A	B	C	D	E	F	● 5	● 15	○	○	○	●
Monitor																				
A	B	C	D	E	F															
● 5	● 15	○	○	○	●															

<p><b>Detective Actuators:</b></p> <p>Indoor unit Controller PCB Circuit  Limit switch  Damper</p>	<p><b>Detective details:</b></p> <p>When limit switch were not able to detect the close though the damper close.  (Upper air flow)  When limit switch were not able to detect the open though the damper open.  (Upper &amp; Lower air flow)</p>
--	--

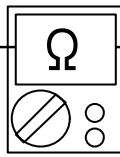
Forecast of Cause :

1. Limit switch failure      2. Shorted connector/ wire      3. Damper faulure  
4. Controller PCB failure

Check Point 1 : Check Limit switch

- Check operation of limit switch. (any blocking by dust, etc.)
- Remove Limit switch and check ON/OFF switching operation by using a meter.

**>>If Limit switch is detective, replace it.**



OK

Check Point 2 : Check Connector (CN18) / Wire

- Check loose contact of CN18 /shorted wire (pinched wire).

**>>Replace Limit switch if the wire is abnormal**

OK

Check Point 3 : Check Damper

- Check the obstruction of damper movement.
- Check the damper movement.

**>>Replace Damper if the damper is abnormal**

OK

Check Point 4 : Replace Controller PCB

**▶ If Check Point 1~3 do not improve the symptom, change Controller PCB.**

<b>Trouble shooting 17</b> <b>INDOOR UNIT Error Method:</b> <b>Damper(OPEN/CLOSE) Simultaneous Detection Limit Switch Error</b>	<b>Indicate or Display:</b> <b>Indoor Unit</b> <b>Operation lamp : 5 time Flash</b> <b>Timer lamp : 7 time Flash</b> <b>ERROR CODE : [E : 57]</b>	<b>Outdoor Unit</b> <table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th colspan="6">Monitor</th> </tr> <tr> <th>A</th> <th>B</th> <th>C</th> <th>D</th> <th>E</th> <th>F</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">● 5</td> <td style="text-align: center;">● 15</td> <td style="text-align: center;">○</td> <td style="text-align: center;">○</td> <td style="text-align: center;">○</td> <td style="text-align: center;">●</td> </tr> </tbody> </table> <p style="text-align: center; font-size: small;">● : Light ON   ○ : Light OFF   ●n : n time blinking</p>	Monitor						A	B	C	D	E	F	● 5	● 15	○	○	○	●
Monitor																				
A	B	C	D	E	F															
● 5	● 15	○	○	○	●															

<b>Detective Actuators:</b> Indoor unit Controller PCB Circuit Limit switch	<b>Detective details:</b> When the limit switch detects open and close at the simultaneous.
---	--

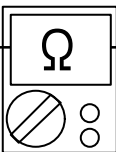
**Forecast of Cause :**

1. Limit switch failure      2. Shorted connector/ wire      3. Controller PCB failure

**Check Point 1 : Check Limit switch**

- Check operation of limit switch. (any blocking by dust, etc.)
- Remove Limit switch and check ON/OFF switching operation by using a meter.

**>>If Limit switch is detective, replace it.**



↓  
OK

**Check Point 2 : Check Connector (CN18) / Wire**

- Check loose contact of CN18 /shorted wire (pinched wire).

**>>Replace Limit switch if the wire is abnormal**

↓  
OK

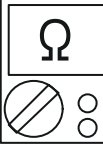
**Check Point 3 : Replace Controller PCB**

**▶ If Check Point 1 & 2 do not improve the symptom, change Controller PCB.**

<p><b>Trouble shooting 18</b>  <b>INDOOR UNIT Error Method:</b>  <b>Intake Grille Error</b></p>	<p><b>Indicate of Display:</b>  <b>Indoor Unit</b>  <b>Operation lamp : 5 time Flash</b>  <b>Timer lamp : 8 time Flash</b>  <b>ERROR CODE : [E : 58]</b></p>	<p><b>Outdoor Unit</b></p> <table border="1" data-bbox="1054 230 1465 315"> <thead> <tr> <th colspan="6">Monitor</th> </tr> <tr> <th>A</th> <th>B</th> <th>C</th> <th>D</th> <th>E</th> <th>F</th> </tr> </thead> <tbody> <tr> <td>● 5</td> <td>● 15</td> <td>○</td> <td>○</td> <td>○</td> <td>●</td> </tr> </tbody> </table> <p>● : Light ON ○ : Light OFF ● n : n time blinking</p>	Monitor						A	B	C	D	E	F	● 5	● 15	○	○	○	●
Monitor																				
A	B	C	D	E	F															
● 5	● 15	○	○	○	●															

<p><b>Detective Actuators:</b>  Indoor unit controller PCB  Micro switch</p>	<p><b>Detective details:</b>  When the Micro switch detected open while running the compressor.</p>
--	---

**Forecast of Cause:**  
1. Micro switch failure    2. Shorted connector/ wire    3. Controller PCB failure

<p><b>Test 1 : Check Limit switch</b></p> <ul style="list-style-type: none"> <li>• Check operation of Micro switch. (any blocking by dust, etc.)</li> <li>• Remove Micro switch and check ON/OFF switching operation by using a meter.</li> </ul> <p><b>&gt;&gt;If Micro switch is detective, replace it.</b></p>	
---	---

↓ OK

<p><b>Test 2 : Check Connector (CN11) / Wire</b></p> <ul style="list-style-type: none"> <li>• Check loose contact of CN11 /shorted wire (pinched wire).</li> </ul> <p><b>&gt;&gt;Replace Micro switch if the wire is abnormal</b></p>
---

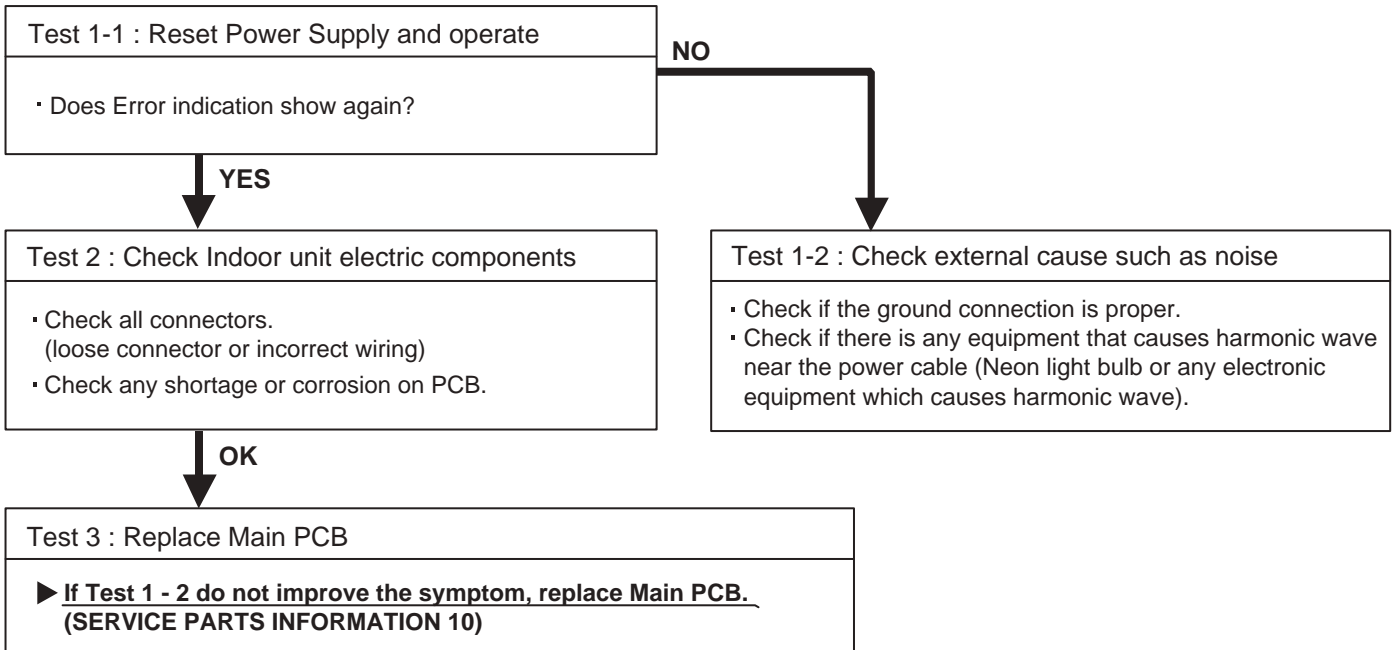
↓ OK

<p><b>Test 3 : Replace Controller PCB</b></p> <p><b>▶ If Test 1 - 2 do not improve the symptom, change Controller PCB.</b></p>
--

<b>Trouble shooting 19</b> <b>OUTDOOR UNIT Error Method:</b> <b>Outdoor Unit Model Information Error</b>	<b>Indicate of Display:</b> <b>Indoor Unit</b> <b>Operation lamp : 6 time Flash</b> <b>Timer lamp : 2 time Flash</b> <b>ERROR CODE : [E : 62]</b>	<b>Outdoor Unit</b> <table border="1" data-bbox="1062 254 1471 339"> <thead> <tr> <th colspan="6">Monitor</th> </tr> <tr> <th>A</th> <th>B</th> <th>C</th> <th>D</th> <th>E</th> <th>F</th> </tr> </thead> <tbody> <tr> <td>● 6</td> <td>● 2</td> <td>○</td> <td>○</td> <td>○</td> <td>●</td> </tr> </tbody> </table> <p>● : Light ON ○ : Light OFF ●n : n time blinking</p>	Monitor						A	B	C	D	E	F	● 6	● 2	○	○	○	●
Monitor																				
A	B	C	D	E	F															
● 6	● 2	○	○	○	●															

<b>Detective Actuators:</b> Outdoor unit main PCB	<b>Detective details:</b> When power is on and there is some below case. ① When model information of EEPROM is incorrect. ② When the access to EEPROM failed.
--	--

**Forecast of Cause:**  
 1. External cause 2. Defective connection of electric components 3. Main PCB failure



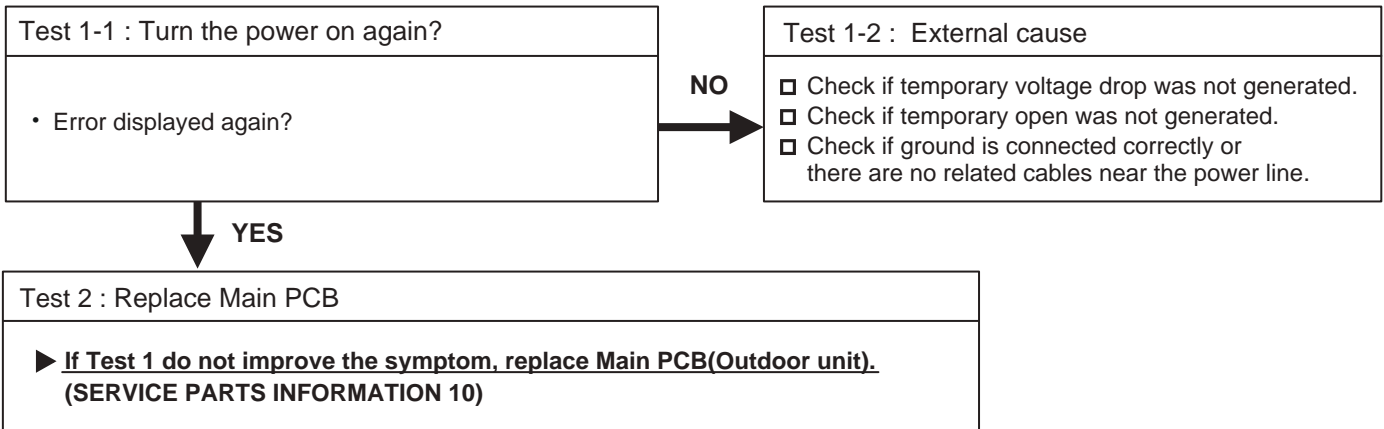
**Note : EEPROM**

EEPROM(Electronically Erasable and Programmable Read Only Memory) is a non-volatile memory which keeps memorized information even if power is turned off. It can change the contents electronically. To change the contents, it uses higher voltage than normal, and it can not change a partial contents. (Rewriting shall be done upon erasing the all contents.) There is a limit in a number of rewriting.

<b>Trouble shooting 20</b> <b><u>OUTDOOR UNIT Error Method:</u></b> <b>EEPROM Access Error</b>	<b><u>Indicate of Display:</u></b> <b>Indoor Unit</b> <b>Operation lamp : - time Flash</b> <b>Timer lamp : - time Flash</b> <b>ERROR CODE : [E : --]</b>	<b>Outdoor Unit</b> <table border="1" data-bbox="1062 254 1471 339"> <thead> <tr> <th colspan="6">Monitor</th> </tr> <tr> <th>A</th> <th>B</th> <th>C</th> <th>D</th> <th>E</th> <th>F</th> </tr> </thead> <tbody> <tr> <td>● 6</td> <td>● 2</td> <td>○</td> <td>○</td> <td>●</td> <td>●</td> </tr> </tbody> </table> <p>● : Light ON ○ : Light OFF ●n : n time blinking</p>	Monitor						A	B	C	D	E	F	● 6	● 2	○	○	●	●
Monitor																				
A	B	C	D	E	F															
● 6	● 2	○	○	●	●															

<b><u>Detective Actuators:</u></b> Outdoor unit Main PCB	<b><u>Detective details:</u></b> When the check run if can not write data to the EEPROM.
---	---

<b><u>Forecast of Cause:</u></b> 1. External cause    2. Main PCB defective
--

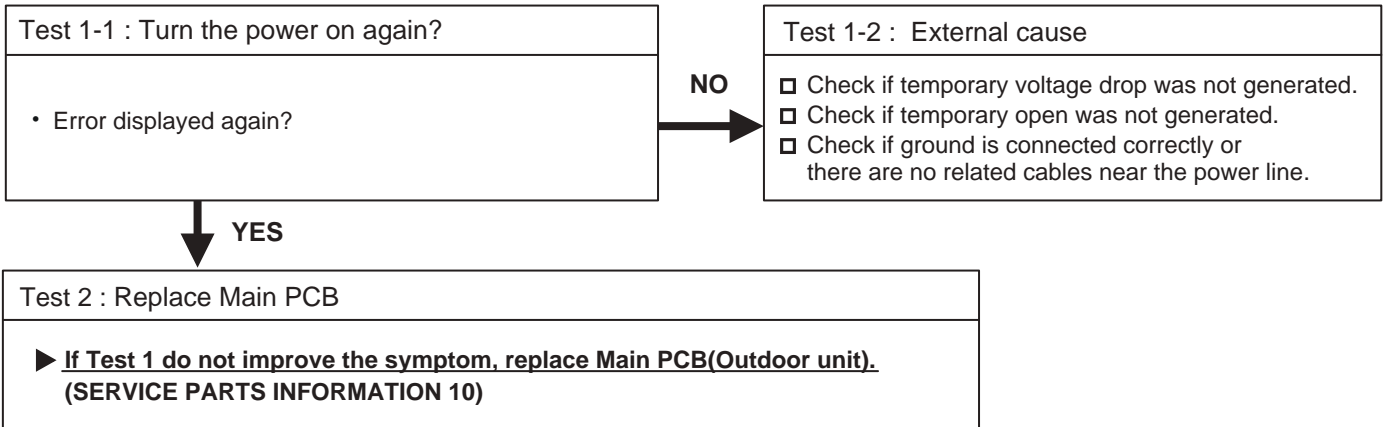




<b>Trouble shooting 21</b> <b>OUTDOOR UNIT Error Method:</b> <b>EEPROM Data Corruption Error</b>	<b>Indicate of Display:</b> <b>Indoor Unit</b> <b>Operation lamp : - time Flash</b> <b>Timer lamp : - time Flash</b> <b>ERROR CODE : [E : --]</b>	<b>Outdoor Unit</b> <table border="1" data-bbox="1062 254 1471 339"> <thead> <tr> <th colspan="6">Monitor</th> </tr> <tr> <th>A</th> <th>B</th> <th>C</th> <th>D</th> <th>E</th> <th>F</th> </tr> </thead> <tbody> <tr> <td>● 6</td> <td>● 2</td> <td>●</td> <td>○</td> <td>○</td> <td>○</td> </tr> </tbody> </table> <p>● : Light ON ○ : Light OFF ●n : n time blinking</p>	Monitor						A	B	C	D	E	F	● 6	● 2	●	○	○	○
Monitor																				
A	B	C	D	E	F															
● 6	● 2	●	○	○	○															

<b>Detective Actuators:</b> Outdoor unit Main PCB	<b>Detective details:</b> When the power is turned on and When the data of the automatic correction was damaged
--	---

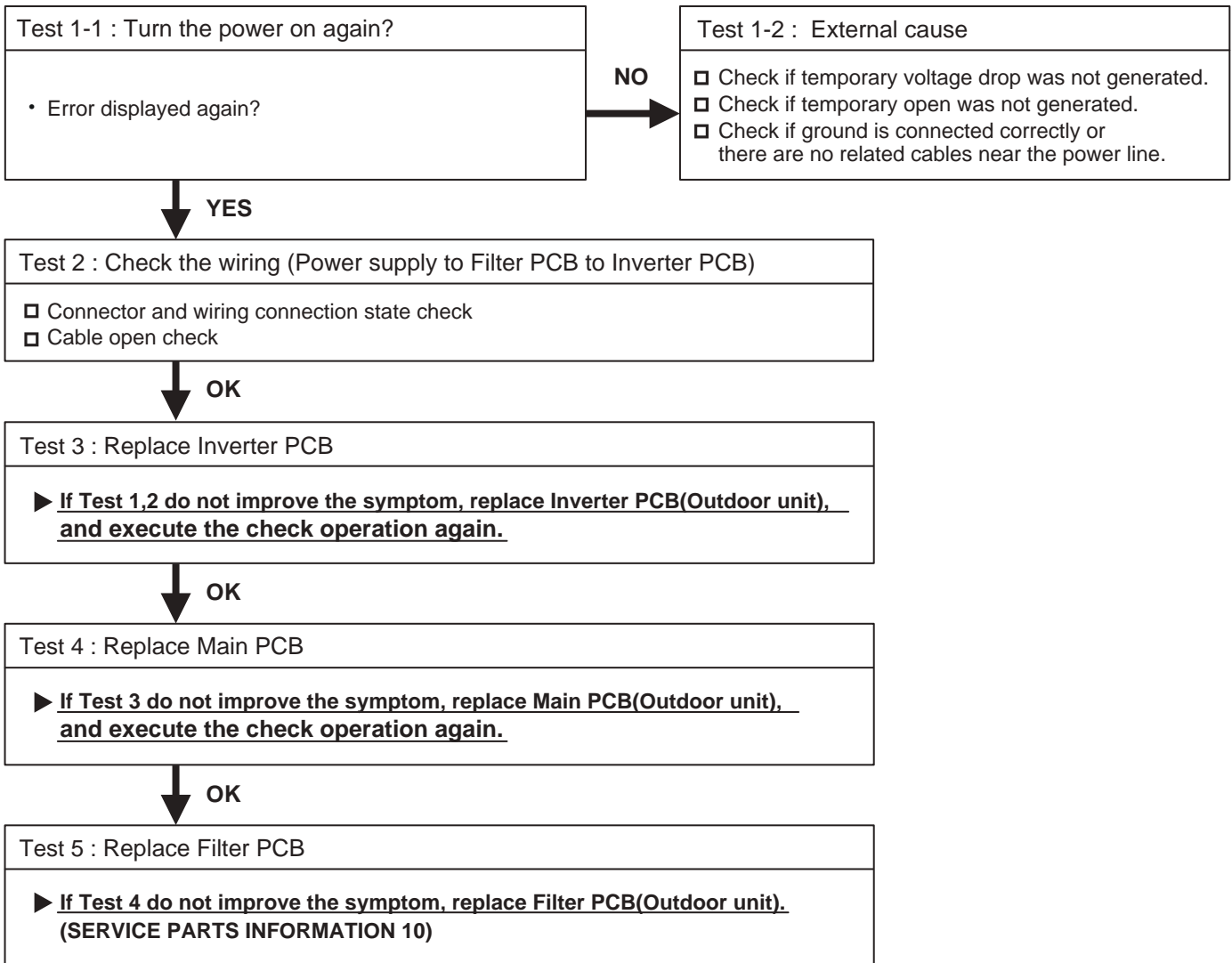
**Forecast of Cause:**  
 1. External cause    2. Main PCB defective



<b>Trouble shooting 22</b> <b>OUTDOOR UNIT Error Method:</b> <b>Inverter Error</b>	<b>Indicate of Display:</b> <b>Indoor Unit</b> <b>Operation lamp : 6 time Flash</b> <b>Timer lamp : 3 time Flash</b> <b>ERROR CODE : [E : 63]</b>	<b>Outdoor Unit</b> <table border="1"> <thead> <tr> <th colspan="6">Monitor</th> </tr> <tr> <th>A</th> <th>B</th> <th>C</th> <th>D</th> <th>E</th> <th>F</th> </tr> </thead> <tbody> <tr> <td>● 6</td> <td>● 3</td> <td>○</td> <td>○</td> <td>○</td> <td>●</td> </tr> </tbody> </table> ● : Light ON ○ : Light OFF ● n : n time blinking	Monitor						A	B	C	D	E	F	● 6	● 3	○	○	○	●
	Monitor																			
A	B	C	D	E	F															
● 6	● 3	○	○	○	●															
<b>Detective Actuators:</b>  Inverter PCB	<b>Detective details:</b>  Error information received from Inverter PCB																			

**Forecast of Cause:**

1. External cause
2. Power supply to Filter PCB to Inverter PCB wiring disconnection, open
3. Filter PCB failure
4. Inverter PCB failure



<b>Trouble shooting 23</b> <b>OUTDOOR UNIT Error Method:</b> <b>Active Filter Error</b>	<b>Indicate of Display:</b>	
	<b>Indoor Unit</b> <b>Operation lamp : 6 time Flash</b> <b>Timer lamp : 4 time Flash</b> <b>ERROR CODE : [E : 64]</b>	<b>Outdoor Unit</b> <b>No Display</b>

<b>Detective Actuators:</b> Outdoor unit main PCB Active filter module	<b>Detective details:</b> ① When inverter input DC voltage is higher than 430V or lower than 110V. ② When a momentary power cut off occurred on low voltage.
--	--

<b>Forecast of Cause:</b> 1. External cause    2. Connector connection failure    3. Main PCB failure    4. Active filter module failure
---

<b>Test 1 : Check external cause at Indoor and Outdoor (Voltage drop or Noise)</b>
<ul style="list-style-type: none"> <li>▪ Instant drop : Check if there is a large load electric apparatus in the same circuit.</li> <li>▪ Momentary power failure : Check if there is a defective contact or leak current in the power supply circuit.</li> <li>▪ Noise : Check if there is any equipment causing harmonic wave near electric line. (Neon bulb or electric equipment that may cause harmonic wave) Check the complete insulation of grounding.</li> </ul>

↓  
**OK**

<b>Test 2 : Check connection of Connector</b>
<ul style="list-style-type: none"> <li>▪ Check if connector is removed.</li> <li>▪ Check erroneous connection.</li> <li>▪ Check if cable is open.</li> </ul> <p><b>&gt;&gt;Upon correcting the removed connector or miss-swiring, reset the power.</b></p>

↓  
**OK**

<b>Test 3 : Check Active filter module</b>
<ul style="list-style-type: none"> <li>▪ Check Active filter module. <b>(SERVICE PARTS INFORMATION 8)</b></li> </ul> <p><b>&gt;&gt;If Active filter module is abnormal, replace it.</b></p>

↓  
**OK**

<b>Test 4 : Replace Main PCB</b>
<p><b>▶ If Test 1 - 3 do not improve the symptom, replace Main PCB. (SERVICE PARTS INFORMATION 10)</b></p>

<b>Trouble shooting 24</b> <b>OUTDOOR UNIT Error Method:</b> <b>IPM Error</b>	<b>Indicate of Display:</b> <b>Indoor Unit</b> <b>Operation lamp : 6 time Flash</b> <b>Timer lamp : 5 time Flash</b> <b>ERROR CODE : [E : 65]</b>	<b>Outdoor Unit</b> <table border="1"> <thead> <tr> <th colspan="6">Monitor</th> </tr> <tr> <th>A</th> <th>B</th> <th>C</th> <th>D</th> <th>E</th> <th>F</th> </tr> </thead> <tbody> <tr> <td>● 6</td> <td>● 5</td> <td>○</td> <td>○</td> <td>●</td> <td>●</td> </tr> </tbody> </table> <p>● : Light ON ○ : Light OFF ●n : n time blinking</p>	Monitor						A	B	C	D	E	F	● 6	● 5	○	○	●	●
	Monitor																			
A	B	C	D	E	F															
● 6	● 5	○	○	●	●															

<b>Detective Actuators:</b> Outdoor unit main PCB Compressor	<b>Detective details:</b> ① When more than normal operating current to IPM in Main PCB flows, the compressor stops. ② After the compressor restarts, if the same operation is repeated within 40 sec, the compressor stops again. ③ If ① and ② repeats 5 times, the compressor stops permanently.
--	--

<b>Forecast of Cause:</b> 1. Defective connection of electric components 2. Outdoor Fan Operation failure 3. Outdoor Heat Exchanger clogged 4. Compressor failure 5. Main PCB failure
--

<b>Test 1 : Check connections of Outdoor Unit Electrical Components</b> • Check if the terminal connection is loose. • Check if connector is removed. • Check erroneous connection. • Check if cable is open. <b>&gt;&gt; Upon correcting the removed connector or miss-wiring, reset the power.</b>
---

↓  
**OK**

<b>Test 2 : Check Outdoor Fan, Heat Exchanger</b> • Is there anything obstructing the air distribution circuit? • Is there any clogging of Outdoor Heat Exchanger? • Is the Fan rotating by hand when operation is off? <b>&gt;&gt; If the Fan Motor is locked, replace it.</b>
---

↓  
**OK**

<b>Test 3 : Check Outdoor Fan</b> • Check Outdoor Fan Motor. (Refer to Trouble shooting 35) <b>&gt;&gt; If the Fan Motor is failure, replace it.</b>
--

↓  
**OK**

<b>Test 4 : Check Transistor PCB</b> • Check IPM. <b>(SERVICE PARTS INFORMATION 9)</b>
---

↓  
**OK**

<b>Test 4 : Check Compressor</b> • Check compressor <b>(SERVICE PARTS INFORMATION 2)</b>
---

↓  
**OK**

<b>Test 5 : Replace Main PCB</b> <b>► If Test 1 - 4 do not improve the symptom, replace Main PCB. (SERVICE PARTS INFORMATION 10)</b>
---

<p><b>Trouble shooting 25</b></p> <p><b>OUTDOOR UNIT Error Method:</b></p> <p><b>Discharge Thermister Error</b></p>	<p><b>Indicate of Display:</b></p> <p><b>Indoor Unit</b></p> <p>Operation lamp : 7 time Flash</p> <p>Timer lamp : 1 time Flash</p> <p>ERROR CODE : [E : 71]</p>	<p><b>Outdoor Unit</b></p> <table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <tr> <th colspan="6">Monitor</th> </tr> <tr> <th>A</th> <th>B</th> <th>C</th> <th>D</th> <th>E</th> <th>F</th> </tr> <tr> <td>● 7</td> <td>● 1</td> <td>○</td> <td>○</td> <td>○</td> <td>●</td> </tr> </table> <p>● : Light ON ○ : Light OFF ● n : n time blinking</p>	Monitor						A	B	C	D	E	F	● 7	● 1	○	○	○	●
Monitor																				
A	B	C	D	E	F															
● 7	● 1	○	○	○	●															

<p><b>Detective Actuators:</b></p> <p>Outdoor unit main PCB circuit</p> <p>Discharge pipe temperature thermistor</p>	<p><b>Detective details:</b></p> <p>When Discharge pipe temperature thermistor open or short-circuit is detected at power ON or while running the compressor.</p>
--	---

**Forecast of Cause:**

1. Connector connection failure 2. Thermistor failure 3. Main PCB failure

**Test 1 : Check connection of Connector**

- Check if connector is removed.
- Check erroneous connection.
- Check if thermistor cable is open.

**>>Upon correcting the removed connector or miss-wiring, reset the power.**



**Test 2 : Remove connector and check Thermistor resistance value**

Thermistor Characteristics (Approx. value)

Temperature (°C)	-30	-20	-10	0	10	20	30	40	50
Resistance Value (kΩ)	1013.11	531.56	292.91	168.60	100.91	62.55	40.01	26.34	17.79

Temperature (°C)	60	70	80	90	100	110	120
Resistance Value (kΩ)	12.30	8.70	6.27	4.60	3.43	2.60	2.00

**► If Thermistor is either open or shorted, replace it and reset the power.**



**Test 3 : Check voltage of Main PCB (DC5.0V)**

Make sure circuit diagram of outdoor unit and check terminal voltage at Thermistor (DC5.0V)

CN61	1 1 2 2 3 3	BLACK BLACK BLACK		THERMISTOR ( OUTDOOR TEMP. )
CN62	1 1 2 2 3 3	BLACK BLACK BLACK		THERMISTOR ( HEX OUT TEMP. )
CN63	1 1 2 2 3 3 4 4	BLACK BLACK BLACK BLACK	  	THERMISTOR ( DISCHARGE TEMP. ) THERMISTOR ( COMP TEMP. )

**► If the voltage does not appear, replace Main PCB.**

<b>Trouble shooting 26</b> <b>OUTDOOR UNIT Error Method:</b> <b>Compressor Thermister Error</b>	<b>Indicate of Display:</b> <b>Indoor Unit</b> <b>Operation lamp : 7 time Flash</b> <b>Timer lamp : 2 time Flash</b> <b>ERROR CODE : [E : 72]</b>	<b>Outdoor Unit</b> <table border="1"> <tr><th colspan="6">Monitor</th></tr> <tr><th>A</th><th>B</th><th>C</th><th>D</th><th>E</th><th>F</th></tr> <tr><td>● 7</td><td>● 2</td><td>○</td><td>○</td><td>○</td><td>●</td></tr> </table> <p>● : Light ON ○ : Light OFF ● n : n time blinking</p>	Monitor						A	B	C	D	E	F	● 7	● 2	○	○	○	●
	Monitor																			
A	B	C	D	E	F															
● 7	● 2	○	○	○	●															

<b>Detective Actuators:</b> Outdoor unit main PCB circuit Compressor temperature thermistor	<b>Detective details:</b> When Compressor temperature thermistor open or short-circuit is detected at power ON or while running the compressor.
---	--

**Forecast of Cause:**  
 1. Connector connection failure 2. Thermistor failure 3. Main PCB failure

**Test 1 : Check connection of Connector**

- Check if connector is removed.
- Check erroneous connection.
- Check if thermistor cable is open.

**>>Upon correcting the removed connector or miss-wiring, reset the power.**



**Test 2 : Remove connector and check Thermistor resistance value**

Thermistor Characteristics (Rough value)

Temperature (°C)	-30	-20	-10	0	10	20	30	40	50
Resistance Value (kΩ)	1013.11	531.56	292.91	168.60	100.91	62.55	40.01	26.34	17.79

Temperature (°C)	60	70	80	90	100	110	120
Resistance Value (kΩ)	12.30	8.70	6.27	4.60	3.43	2.60	2.00

**► If Thermistor is either open or shorted, replace it and reset the power.**



**Test 3 : Check voltage of Main PCB (DC5.0V)**

Make sure circuit diagram of outdoor unit and check terminal voltage at Thermistor (DC5.0V)

CN61	1	1	BLACK		THERMISTOR ( OUTDOOR TEMP. )
	2	2	BLACK		
	3	3	BLACK		
CN62	1	1	BLACK		THERMISTOR ( HEX OUT TEMP. )
	2	2	BLACK		
	3	3	BLACK		
CN63	1	1	BLACK		THERMISTOR ( DISCHARGE TEMP. )
	2	2	BLACK		
	3	3	BLACK		THERMISTOR ( COMP TEMP. )
	4	4	BLACK		

**► If the voltage does not appear, replace Main PCB.**

<b>Trouble shooting 27</b> <b>OUTDOOR UNIT Error Method:</b> <b>Heat Ex. OUT Thermistor Error</b>	<b>Indicate of Display:</b> <b>Indoor Unit</b> <b>Operation lamp : 7 time Flash</b> <b>Timer lamp : 3 time Flash</b> <b>ERROR CODE : [E : 73]</b>	<b>Outdoor Unit</b> <table border="1"> <tr><th colspan="6">Monitor</th></tr> <tr><th>A</th><th>B</th><th>C</th><th>D</th><th>E</th><th>F</th></tr> <tr><td>● 7</td><td>● 3</td><td>○</td><td>○</td><td>●</td><td>●</td></tr> </table> <p>● : Light ON ○ : Light OFF ● n : n time blinking</p>	Monitor						A	B	C	D	E	F	● 7	● 3	○	○	●	●
	Monitor																			
A	B	C	D	E	F															
● 7	● 3	○	○	●	●															

<b>Detective Actuators:</b> Outdoor unit main PCB circuit Heat Ex. temperature thermistor	<b>Detective details:</b> When Heat Ex. temperature thermistor open or short-circuit is detected at power ON or while running the compressor.
---	--

**Forecast of Cause:**  
 1. Connector connection failure 2. Thermistor failure 3. Main PCB failure

**Test 1 : Check connection of Connector**

- Check if connector is removed.
- Check erroneous connection.
- Check if thermistor cable is open.

**>>Upon correcting the removed connector or miss-wiring, reset the power.**



**Test 2 : Remove connector and check Thermistor resistance value**

Thermistor Characteristics (Approx. value)

Temperature (°C)	-30	-20	-10	0	10	20	30	40	50
Resistance Value (kΩ)	95.58	50.31	27.81	16.05	9.63	5.98	3.84	2.53	1.71

Temperature (°C)	60	70	80
Resistance Value (kΩ)	1.19	0.84	0.61

**► If Thermistor is either open or shorted, replace it and reset the power.**



**Test 3 : Check voltage of Main PCB (DC5.0V)**

Make sure circuit diagram of outdoor unit and check terminal voltage at Thermistor (DC5.0V)

CN61	1 1 2 2 3 3	BLACK BLACK BLACK		THERMISTOR ( OUTDOOR TEMP. )
CN62	1 1 2 2 3 3	BLACK BLACK BLACK		THERMISTOR ( HEX OUT TEMP. )
CN63	1 1 2 2 3 3 4 4	BLACK BLACK BLACK BLACK	  	THERMISTOR ( DISCHARGE TEMP. ) THERMISTOR ( COMP TEMP. )

**► If the voltage does not appear, replace Main PCB.**

<b>Trouble shooting 28</b> <b>OUTDOOR UNIT Error Method:</b> <b>Outdoor Thermister Error</b>	<b>Indicate of Display:</b> <b>Indoor Unit</b> <b>Operation lamp : 7 time Flash</b> <b>Timer lamp : 4 time Flash</b> <b>ERROR CODE : [E : 74]</b>	<b>Outdoor Unit</b> <table border="1"> <thead> <tr> <th colspan="6">Monitor</th> </tr> <tr> <th>A</th> <th>B</th> <th>C</th> <th>D</th> <th>E</th> <th>F</th> </tr> </thead> <tbody> <tr> <td>● 7</td> <td>● 4</td> <td>○</td> <td>○</td> <td>○</td> <td>●</td> </tr> </tbody> </table> <p>● : Light ON ○ : Light OFF ● n : n time blinking</p>	Monitor						A	B	C	D	E	F	● 7	● 4	○	○	○	●
	Monitor																			
A	B	C	D	E	F															
● 7	● 4	○	○	○	●															

<b>Detective Actuators:</b> Outdoor unit main PCB circuit Outdoor temperature thermistor	<b>Detective details:</b> When Outdoor temperature thermistor open or short-circuit is detected at power ON or while running the compressor.
--	---

**Forecast of Cause:**  
 1. Connector connection failure 2. Thermistor failure 3. Main PCB failure

**Test 1 : Check connection of Connector**

- Check if connector is removed.
- Check erroneous connection.
- Check if thermistor cable is open.

**>>Upon correcting the removed connector or miss-wiring, reset the power.**



**Test 2 : Remove connector and check Thermistor resistance value**

Thermistor Characteristics (Approx. value)

Temperature (°C)	-30	-20	-10	0	10	20	30	40	50
Resistance Value (kΩ)	224.33	115.24	62.28	35.21	20.72	12.64	7.97	5.18	3.45

Temperature (°C)	60	70	80
Resistance Value (kΩ)	2.36	1.65	1.18

**► If Thermistor is either open or shorted, replace it and reset the power.**



**Test 3 : Check voltage of Main PCB (DC5.0V)**

Make sure circuit diagram of outdoor unit and check terminal voltage at Thermistor (DC5.0V)

CN61	1 1 2 2 3 3	BLACK BLACK BLACK			THERMISTOR ( OUTDOOR TEMP. )
CN62	1 1 2 2 3 3	BLACK BLACK BLACK			THERMISTOR ( HEX OUT TEMP. )
CN63	1 1 2 2 3 3 4 4	BLACK BLACK BLACK BLACK			THERMISTOR ( DISCHARGE TEMP. ) THERMISTOR ( COMP TEMP. )

**► If the voltage does not appear, replace Main PCB.**



<p><b>Trouble shooting 29</b></p> <p><b>OUTDOOR UNIT Error Method:</b></p> <p><b>2-Way Valve Thermistor Error</b></p>	<p><b>Indicate of Display:</b></p> <p><b>Indoor Unit</b></p> <p>Operation lamp : 7 time Flash          Timer lamp : 6 time Flash  <b>ERROR CODE : [E : 76]</b></p>	<p><b>Outdoor Unit</b></p> <table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <tr> <th colspan="6">Monitor</th> </tr> <tr> <th>A</th> <th>B</th> <th>C</th> <th>D</th> <th>E</th> <th>F</th> </tr> <tr> <td>● 7</td> <td>● 6</td> <td>○</td> <td>○</td> <td>○</td> <td>●</td> </tr> </table> <p>● : Light ON   ○ : Light OFF   ● n : n time blinking</p>	Monitor						A	B	C	D	E	F	● 7	● 6	○	○	○	●
Monitor																				
A	B	C	D	E	F															
● 7	● 6	○	○	○	●															

<p><b>Detective Actuators:</b></p> <p>Outdoor unit main PCB circuit          2 Way valve temperature thermistor</p>	<p><b>Detective details:</b></p> <p>When 2 Way valve temperature thermistor open or short-circuit is detected at power ON or while running the compressor.</p>
---	--

**Forecast of Cause:**

1. Connector connection failure   2. Thermistor failure   3. Main PCB failure

**Test 1 : Check connection of Connector**

- Check if connector is removed.
- Check erroneous connection.
- Check if thermistor cable is open.

**>>Upon correcting the removed connector or miss-wiring, reset the power.**



**Test 2 : Remove connector and check Thermistor resistance value**

Ω

Thermistor Characteristics (Approx. value)

Temperature (°C)	-30	-20	-10	0	10	20	30	40	50
Resistance Value (kΩ)	1013.11	531.56	292.91	168.60	100.91	62.55	40.01	26.34	17.79

Temperature (°C)	60	70	80
Resistance Value (kΩ)	12.30	8.70	6.27

► **If Thermistor is either open or shorted, replace it and reset the power.**



**Test 3 : Check voltage of Main PCB (DC5.0V)**

DC

Make sure circuit diagram of outdoor unit and check terminal voltage at Thermistor (DC5.0V)

**For AO\*G36LBLA5**

CN64	1	1	BLACK		VALVE THERMISTOR B, A
	2	2	BLACK		2-WAY VALVE A
	3	3	BLACK		3-WAY VALVE A
	4	4	BLACK		2-WAY VALVE B
	5	5	BLACK		3-WAY VALVE B
	6	6	BLACK		
	7	7	BLACK		
	8	8	BLACK		
CN65	1	1	BLACK		VALVE THERMISTOR D, C
	2	2	BLACK		2-WAY VALVE C
	3	3	BLACK		3-WAY VALVE C
	4	4	BLACK		2-WAY VALVE D
	5	5	BLACK		3-WAY VALVE D
	6	6	BLACK		
	7	7	BLACK		
	8	8	BLACK		
	9	9	BLACK		
CN66	1	1	BLACK		VALVE THERMISTOR E
	2	2	BLACK		2-WAY VALVE E
	3	3	BLACK		3-WAY VALVE E
	4	4	BLACK		
	5	5	BLACK		
	6	6	BLACK		
	7	7	BLACK		
	8	8	BLACK		
	9	9	BLACK		

**For AO\*G45LBLA6**

CN64	1	1	BLACK		VALVE THERMISTOR B, A
	2	2	BLACK		2-WAY VALVE A
	3	3	BLACK		3-WAY VALVE A
	4	4	BLACK		2-WAY VALVE B
	5	5	BLACK		3-WAY VALVE B
	6	6	BLACK		
	7	7	BLACK		
	8	8	BLACK		
CN65	1	1	BLACK		VALVE THERMISTOR D, C
	2	2	BLACK		2-WAY VALVE C
	3	3	BLACK		3-WAY VALVE C
	4	4	BLACK		2-WAY VALVE D
	5	5	BLACK		3-WAY VALVE D
	6	6	BLACK		
	7	7	BLACK		
	8	8	BLACK		
	9	9	BLACK		
CN66	1	1	BLACK		VALVE THERMISTOR E, F
	2	2	BLACK		2-WAY VALVE E
	3	3	BLACK		3-WAY VALVE E
	4	4	BLACK		2-WAY VALVE F
	5	5	BLACK		3-WAY VALVE F
	6	6	BLACK		
	7	7	BLACK		
	8	8	BLACK		
	9	9	BLACK		

► **If the voltage does not appear, replace Main PCB.**

<p><b>Trouble shooting 30</b>  <b>OUTDOOR UNIT Error Method:</b>  <b>3-Way Valve Thermistor Error</b></p>	<p><b>Indicate of Display:</b>  <b>Indoor Unit</b>  <b>Operation lamp : 7 time Flash</b>  <b>Timer lamp : 6 time Flash</b>  <b>ERROR CODE : [E : 76]</b></p>	<p><b>Outdoor Unit</b></p> <table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <tr> <th colspan="6">Monitor</th> </tr> <tr> <th>A</th> <th>B</th> <th>C</th> <th>D</th> <th>E</th> <th>F</th> </tr> <tr> <td>● 7</td> <td>● 6</td> <td>○</td> <td>○</td> <td>●</td> <td>○</td> </tr> </table> <p>● : Light ON ○ : Light OFF ● n : n time blinking</p>	Monitor						A	B	C	D	E	F	● 7	● 6	○	○	●	○
Monitor																				
A	B	C	D	E	F															
● 7	● 6	○	○	●	○															

<p><b>Detective Actuators:</b>          Outdoor unit main PCB circuit          3 Way valve temperature thermistor</p>	<p><b>Detective details:</b>          When 3 Way valve temperature thermistor open or short-circuit is detected at power ON or while running the compressor.</p>
---	--

**Forecast of Cause:**  
 1. Connector connection failure 2. Thermistor failure 3. Main PCB failure

**Test 1 : Check connection of Connector**

- Check if connector is removed.
- Check erroneous connection.
- Check if thermistor cable is open.

**>>Upon correcting the removed connector or miss-wiring, reset the power.**



**Test 2 : Remove connector and check Thermistor resistance value**

Thermistor Characteristics (Approx. value)

Temperature (°C)	-30	-20	-10	0	10	20	30	40	50
Resistance Value (kΩ)	1013.11	531.56	292.91	168.60	100.91	62.55	40.01	26.34	17.79

Temperature (°C)	60	70	80
Resistance Value (kΩ)	12.30	8.70	6.27

**► If Thermistor is either open or shorted, replace it and reset the power.**



**Test 3 : Check voltage of Main PCB (DC5.0V)**

Make sure circuit diagram of outdoor unit and check terminal voltage at Thermistor (DC5.0V)

**For AO\*G36LBLA5**

CN64	1	1	BLACK		VALVE THERMISTOR B, A
	2	2	BLACK		2-WAY VALVE A
	3	3	BLACK		3-WAY VALVE A
	4	4	BLACK		VALVE THERMISTOR D, C
	5	5	BLACK		2-WAY VALVE B
	6	6	BLACK		3-WAY VALVE B
	7	7	BLACK		VALVE THERMISTOR E
	8	8	BLACK		2-WAY VALVE C

CN65	1	1	BLACK		VALVE THERMISTOR D, C
	2	2	BLACK		2-WAY VALVE C
	3	3	BLACK		3-WAY VALVE C
	4	4	BLACK		VALVE THERMISTOR F, E
	5	5	BLACK		2-WAY VALVE D
	6	6	BLACK		3-WAY VALVE D
	7	7	BLACK		VALVE THERMISTOR F, E
	8	8	BLACK		2-WAY VALVE D
	9	9	BLACK		3-WAY VALVE D

CN66	1	1	BLACK		VALVE THERMISTOR F, E
	2	2	BLACK		2-WAY VALVE E
	3	3	BLACK		3-WAY VALVE E
	4	4	BLACK		VALVE THERMISTOR F, E
	5	5	BLACK		2-WAY VALVE E
	6	6	BLACK		3-WAY VALVE E
	7	7	BLACK		VALVE THERMISTOR F, E
	8	8	BLACK		2-WAY VALVE F
	9	9	BLACK		3-WAY VALVE F

**For AO\*G45LBLA6**

CN64	1	1	BLACK		VALVE THERMISTOR B, A
	2	2	BLACK		2-WAY VALVE A
	3	3	BLACK		3-WAY VALVE A
	4	4	BLACK		VALVE THERMISTOR D, C
	5	5	BLACK		2-WAY VALVE B
	6	6	BLACK		3-WAY VALVE B
	7	7	BLACK		VALVE THERMISTOR D, C
	8	8	BLACK		2-WAY VALVE C

CN65	1	1	BLACK		VALVE THERMISTOR D, C
	2	2	BLACK		2-WAY VALVE C
	3	3	BLACK		3-WAY VALVE C
	4	4	BLACK		VALVE THERMISTOR F, E
	5	5	BLACK		2-WAY VALVE D
	6	6	BLACK		3-WAY VALVE D
	7	7	BLACK		VALVE THERMISTOR F, E
	8	8	BLACK		2-WAY VALVE D
	9	9	BLACK		3-WAY VALVE D

CN66	1	1	BLACK		VALVE THERMISTOR F, E
	2	2	BLACK		2-WAY VALVE E
	3	3	BLACK		3-WAY VALVE E
	4	4	BLACK		VALVE THERMISTOR F, E
	5	5	BLACK		2-WAY VALVE E
	6	6	BLACK		3-WAY VALVE E
	7	7	BLACK		VALVE THERMISTOR F, E
	8	8	BLACK		2-WAY VALVE F
	9	9	BLACK		3-WAY VALVE F

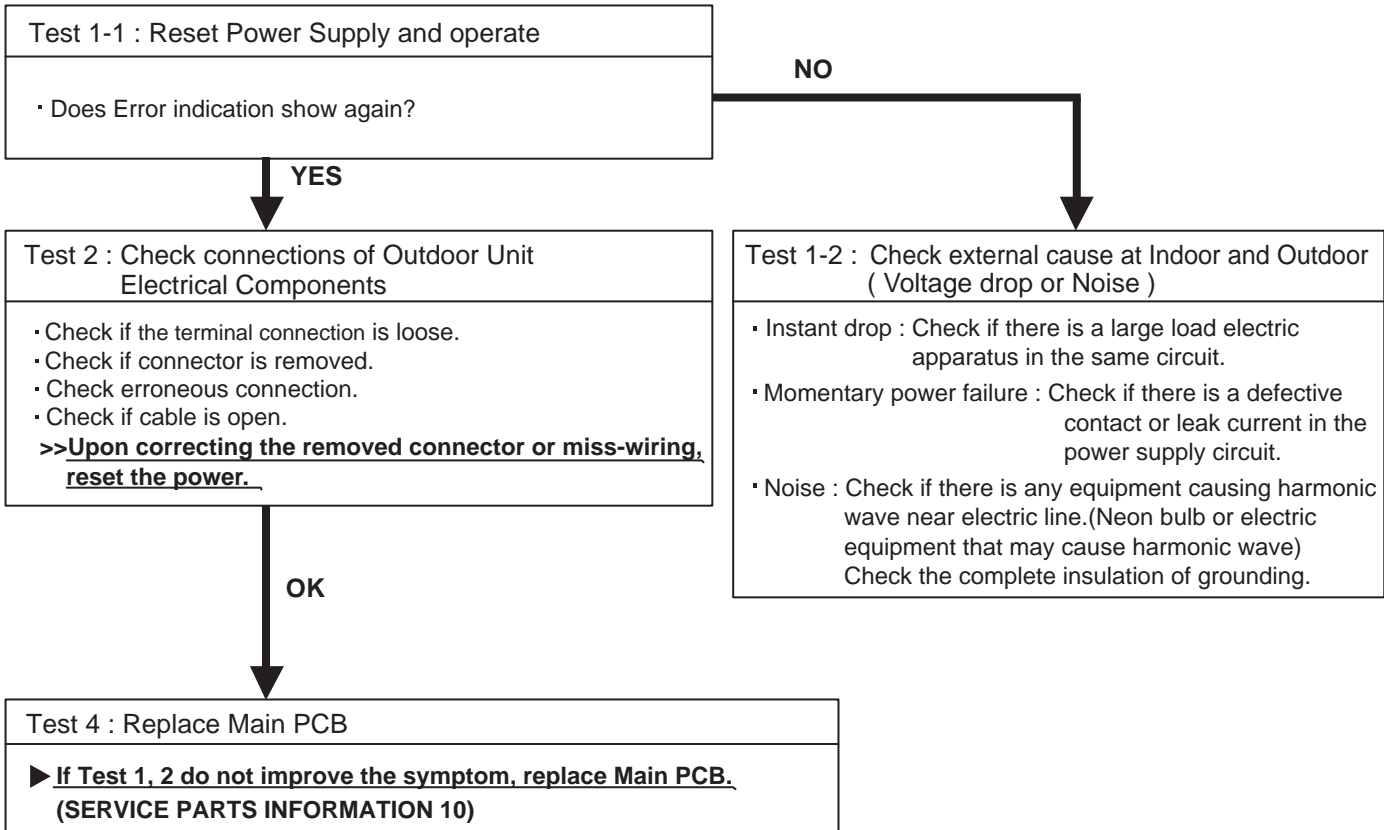
**► If the voltage does not appear, replace Main PCB.**

<b>Trouble shooting 31</b> <b>OUTDOOR UNIT Error Method:</b> <b>CT Error</b>	<b>Indicate of Display:</b> <b>Indoor Unit</b> <b>Operation lamp : 8 time Flash</b> <b>Timer lamp : 4 time Flash</b> <b>ERROR CODE : [E : 84]</b>	<b>Outdoor Unit</b> <table border="1"> <thead> <tr> <th colspan="6">Monitor</th> </tr> <tr> <th>A</th> <th>B</th> <th>C</th> <th>D</th> <th>E</th> <th>F</th> </tr> </thead> <tbody> <tr> <td>● 8</td> <td>● 4</td> <td>○</td> <td>○</td> <td>○</td> <td>●</td> </tr> </tbody> </table> <p>● : Light ON ○ : Light OFF ●n : n time blinking</p>	Monitor						A	B	C	D	E	F	● 8	● 4	○	○	○	●
	Monitor																			
A	B	C	D	E	F															
● 8	● 4	○	○	○	●															

<b>Detective Actuators:</b> Outdoor unit main PCB	<b>Detective details:</b> When Input Current Sensor has detected 0A, while Inverter Compressor is operating at higher than 60 rps, after 1 minutes upon starting the Compressor. ( Except during the defrost operation )
--	---

**Forecast of Cause:**

1. Defective connection of electric components    2. External cause    3. Main PCB failure



<b>Trouble shooting 32</b> <b>OUTDOOR UNIT Error Method:</b> <b>Discharge Pressure Sensor Error</b>	<b>Indicate of Display:</b> <b>Indoor Unit</b> <b>Operation lamp : 8 time Flash</b> <b>Timer lamp : 6 time Flash</b> <b>ERROR CODE : [E : 86]</b>	<b>Outdoor Unit</b> <table border="1" style="margin: 5px auto; border-collapse: collapse; text-align: center;"> <tr><th colspan="6">Monitor</th></tr> <tr><th>A</th><th>B</th><th>C</th><th>D</th><th>E</th><th>F</th></tr> <tr><td>● 8</td><td>● 6</td><td>○</td><td>○</td><td>○</td><td>●</td></tr> </table> <p style="font-size: small; margin-top: 5px;">● : Light ON ○ : Light OFF ●n : n time blinking</p>	Monitor						A	B	C	D	E	F	● 8	● 6	○	○	○	●
Monitor																				
A	B	C	D	E	F															
● 8	● 6	○	○	○	●															

<b>Detective Actuators:</b> Discharge pressure sensor	<b>Detective details:</b> <ul style="list-style-type: none"> <li>• When any of the following conditions is satisfied, a discharge pressure sensor error is generated.           <ol style="list-style-type: none"> <li>① 30 seconds or more have elapsed since the outdoor unit power was turned on and pressure sensor detected value &lt; 0.3V continued for 30 seconds or more</li> <li>② 30 seconds or more have elapsed since the outdoor unit power was turned on and pressure sensor detected value ≥ 5.0V was detected.</li> </ol> </li> </ul>
--	--

**Forecast of Cause:**

1. Discharge pressure sensor connector disconnection, open
2. Discharge pressure sensor failure
3. Main PCB failure

Test 1 : Check the discharge pressure sensor connection state

- Connector connection state check
- Cable open check




Test 2 : Check the discharge pressure sensor

- Sensor characteristics check

\*For the characteristics of the discharge pressure sensor, refer to the **(SERVICE PARTS INFORMATION 4)**.




Test 3 : Check voltage of Main PCB (DC5.0V)

**DC**  


- Main PCB (CN92:1-2) voltage value = 5V

Remove the PRESSURE SENSOR from Main PCB, check the voltage.

	1	1	RED	PRESSURE SENSOR 	
CN92	2	2	WHITE		
	3	3	BLACK		

Discharge pressure sensor (CN92:1-2)

▶ **If the voltage does not appear, replace Main PCB, and execute the check operation again.**

<b>Trouble shooting 33</b> <b>OUTDOOR UNIT Error Method:</b> <b>Over Current Error</b>	<b>Indicate of Display:</b> <b>Indoor Unit</b> <b>Operation lamp : 9 time Flash</b> <b>Timer lamp : 4 time Flash</b> <b>ERROR CODE : [E : 94]</b>	<b>Outdoor Unit</b> <table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th colspan="6">Monitor</th> </tr> <tr> <th>A</th> <th>B</th> <th>C</th> <th>D</th> <th>E</th> <th>F</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">● 9</td> <td style="text-align: center;">● 4</td> <td style="text-align: center;">○</td> <td style="text-align: center;">○</td> <td style="text-align: center;">○</td> <td style="text-align: center;">●</td> </tr> </tbody> </table> <p style="text-align: center; font-size: small;">● : Light ON   ○ : Light OFF   ●n : n time blinking</p>	Monitor						A	B	C	D	E	F	● 9	● 4	○	○	○	●
Monitor																				
A	B	C	D	E	F															
● 9	● 4	○	○	○	●															

<b>Detective Actuators:</b> Outdoor unit main PCB circuit Compressor	<b>Detective details:</b> “Protection stop by overcurrent generation after inverter compressor start processing completed” generated consecutively 5 times. * The number of generations is reset if the start-up of the compressor succeeds.
--	--

**Forecast of Cause:**

1. Outdoor Heat Exchanger clogged
2. Outdoor Fan Operation failure
3. Main PCB
4. Inverter compressor failure (lock, winding short)

**Test 1 : Check ambient temp. around motor, Heat Exchanger**

- Check excessively high temperature around the motor.  
(If there is any surrounding equipment that causes heat)
- Is there anything obstructing the air distribution circuit?
- Is there any clogging of Outdoor Heat Exchanger?

**>> Upon the temperature coming down, restart operation.**



**Test 2 : Check Outdoor Fan**

- Is the Fan rotating by hand when operation is off?

**>> If the Fan Motor is locked, replace it.**



**Test 3 : Replace Main PCB**

**▶ If Test 1 - 2 do not improve the symptom, change Main PCB.**



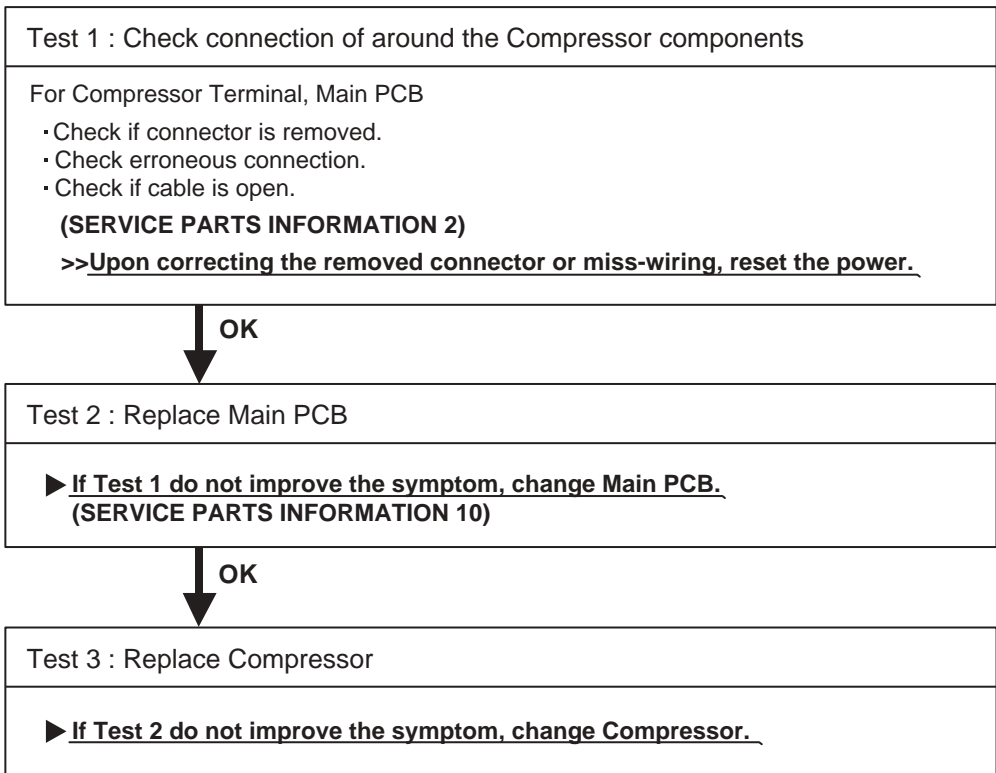
**Test 4 : Replace Compressor**

**▶ If Test 3 do not improve the symptom, change Compressor.**

<b>Trouble shooting 34</b> <b><u>OUTDOOR UNIT Error Method:</u></b> <b>Compressor Control Error</b>	<b><u>Indicate of Display:</u></b> <b>Indoor Unit</b> <b>Operation lamp : 9 time Flash</b> <b>Timer lamp : 5 time Flash</b> <b>ERROR CODE : [E : 95]</b>	<b>Outdoor Unit</b> <table border="1" data-bbox="1062 254 1468 339"> <thead> <tr> <th colspan="6">Monitor</th> </tr> <tr> <th>A</th> <th>B</th> <th>C</th> <th>D</th> <th>E</th> <th>F</th> </tr> </thead> <tbody> <tr> <td>● 9</td> <td>● 5</td> <td>○</td> <td>○</td> <td>○</td> <td>●</td> </tr> </tbody> </table> <p>● : Light ON ○ : Light OFF ●n : n time blinking</p>	Monitor						A	B	C	D	E	F	● 9	● 5	○	○	○	●
Monitor																				
A	B	C	D	E	F															
● 9	● 5	○	○	○	●															

<b><u>Detective Actuators:</u></b> Outdoor unit main PCB Compressor	<b><u>Detective details:</u></b> ① While running the compressor, if the detected rotor location is out of phase with actual rotor location more than 105°, the compressor stops. ② After the compressor restarts, if the same operation is repeated within 40 sec, the compressor stops again. ③ If ① and ② repeats 5 times, the compressor stops permanently.
---	---

**Forecast of Cause:**  
 1. Defective connection of electric components    2. Main PCB failure    3. Compressor failure



<b>Trouble shooting 35</b> <b>OUTDOOR UNIT Error Method:</b> <b>Outdoor Unit Fan Motor Error</b>	<b>Indicate of Display:</b> <b>Indoor Unit</b> <b>Operation lamp : 9 time Flash</b> <b>Timer lamp : 7 time Flash</b> <b>ERROR CODE : [E : 97]</b>	<b>Outdoor Unit</b> <table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <tr> <th colspan="6">Monitor</th> </tr> <tr> <th>A</th> <th>B</th> <th>C</th> <th>D</th> <th>E</th> <th>F</th> </tr> <tr> <td>● 9</td> <td>● 7</td> <td>○</td> <td>○</td> <td>●</td> <td>●</td> </tr> </table> <p>● : Light ON   ○ : Light OFF   ●n : n time blinking</p>	Monitor						A	B	C	D	E	F	● 9	● 7	○	○	●	●
Monitor																				
A	B	C	D	E	F															
● 9	● 7	○	○	●	●															

<b>Detective Actuators:</b> Outdoor unit main PCB circuit Outdoor unit fan motor	<b>Detective details:</b> ① When outdoor unit fan rotation speed is less than 100 rpm in 20 seconds after fan motor starts, fan motor stops. ② After fan motor restarts, if the same operation within 60 sec is repeated 3 times in a row, compressor and fan motor stops. ③ If ① and ② repeats 5 times in a row, compressor and fan motor stops permanently.
--	--

**Forecast of Cause:**

1. Fan rotation failure   2. Motor protection by surrounding temperature rise   3. Main PCB failure  
 4. Outdoor unit fan motor failure

**Test 1 : Check rotation of Fan**

- Rotate the fan by hand when operation is off.  
(Check if fan is caught, dropped off or locked motor)
- >>If Fan or Bearing is abnormal, replace it.**



**Test 2 : Check ambient temp. around motor**

- Check excessively high temperature around the motor.  
(If there is any surrounding equipment that causes heat)
- >>Upon the temperature coming down, restart operation.**



**Test 3 : Check Outdoor unit fan motor**

- Check Outdoor unit fan motor. **(PARTS INFORMATION 6)**
- >>If Outdoor Fan Motor is abnormal, replace Outdoor fan motor and Main PCB.**



**Test 4 : Check Output Voltage of Main PCB**

- Check outdoor unit circuit diagram and the voltage. (Measure at Main PCB side connector)

1	1	RED
2	2	
3	3	
4	4	BLACK
5	5	WHITE
6	6	YELLOW
7	7	BROWN

CN243

FAN MOTOR

FM

Read wire	DC voltage
Red - Black	260 - 400V
White - Black	15 ± 1.5V

**DC**

**► If the voltage is not correct, replace Main PCB. (SERVICE PARTS INFORMATION 10)**

<p><b>Trouble shooting 36</b>  <b>OUTDOOR UNIT Error Method:</b>  <b>4-Way Valve Error</b></p>	<p><b>Indicate of Display:</b>  <b>Indoor Unit</b>  <b>Operation lamp : 9 time Flash</b>  <b>Timer lamp : 9 time Flash</b>  <b>ERROR CODE : [E : 99]</b></p>	<p><b>Outdoor Unit</b></p> <table border="1" data-bbox="1050 230 1465 315"> <thead> <tr> <th colspan="6">Monitor</th> </tr> <tr> <th>A</th> <th>B</th> <th>C</th> <th>D</th> <th>E</th> <th>F</th> </tr> </thead> <tbody> <tr> <td>● 9</td> <td>● 9</td> <td>○</td> <td>○</td> <td>○</td> <td>●</td> </tr> </tbody> </table> <p>● : Light ON ○ : Light OFF ● n : n time blinking</p>	Monitor						A	B	C	D	E	F	● 9	● 9	○	○	○	●
Monitor																				
A	B	C	D	E	F															
● 9	● 9	○	○	○	●															

<p><b>Detective Actuators:</b></p> <ul style="list-style-type: none"> <li>Indoor unit main PCB</li> <li>Heat Ex. temperature thermistor</li> <li>Room temperature thermistor</li> <li>4-Way valve</li> </ul>	<p><b>Detective details:</b></p> <p>When the indoor unit Heat Ex. temperature is compared with the room temperature, and either following condition is detected continuously 2 times, compressor stops.</p> <ul style="list-style-type: none"> <li>Cooling operation  [Indoor Heat Ex. temperature] - [Room temperature] &gt; 10°C</li> <li>Heating operation  [Indoor Heat Ex. temperature] - [Room temperature] &lt; -10°C</li> </ul> <p>If the same operation is repeated 5 times, the compressor stops permanently.</p>
--	---

**Forecast of Cause:**

1. Connector connection failure   2. Thermistor failure   3. Coil failure   4. 4-way valve failure  
5. Main PCB failure   6. Controller PCB failure

**Test 1 : Check connection of Connector**

- Check if connector is removed.
- Check erroneous connection.
- Check if thermistor cable is open.

**>> Upon correcting the removed connector or miss-wiring, reset the power.**



**Test 2 : Check thermistor of Indoor unit**

- Isn't it fallen off the holder?
- Is there a cable pinched?

**>> Check characteristics of thermistor, (Refer to Trouble shooting 12. 13), If defective, replace the thermistor.**



**Test 3 : Check the solenoid coil and 4-way valve**

[ Solenoid coil ]

- Remove CN202 from PCB and check the resistance value of coil.  
Resistance value is about 2085Ω±10% ( 20°C)

**>> If it is Open or abnormal resistance value, replace Solenoid Coil.**

[ 4-way valve ]

- Check each piping temperature, and the location of the valve by the temperature difference.

**>> If the value location is not proper, replace 4-way valve.**



**Test 4 : Check the voltage of 4-way valve**

- Check the CN202 voltage of Main PCB  
**Check if AC198V(AC220V-10%) - 264V(AC240V+10%) appears at CN 202 of Main PCB.**

[ Heating operation ]  
**>> If it is not voltage, Replace Main PCB. (SERVICE PARTS INFORMATION 10)**

[ Cooling operation ]  
**>> If it is voltage, Replace Main PCB. (SERVICE PARTS INFORMATION 10)**



**Test 5 : Replace Controller PCB**

**► If Test 1- 4 do not improve the symptom, replace Controller PCB of Indoor unit .**



<p><b>Trouble shooting 37</b>  <b>OUTDOOR UNIT Error Method:</b>  <b>Coil (expansion valve ) Error</b></p>	<p><b>Indicate of Display:</b>  <b>Indoor Unit</b>  <b>Operation lamp : 9 time Flash</b>  <b>Timer lamp : 10 time Flash</b>  <b>ERROR CODE : [E : 9A]</b></p>	<p><b>Outdoor Unit</b></p> <table border="1" data-bbox="1050 230 1465 315"> <thead> <tr> <th colspan="6">Monitor</th> </tr> <tr> <th>A</th> <th>B</th> <th>C</th> <th>D</th> <th>E</th> <th>F</th> </tr> </thead> <tbody> <tr> <td>● 9</td> <td>● 10</td> <td>○</td> <td>○</td> <td>○</td> <td>●</td> </tr> </tbody> </table> <p>● : Light ON ○ : Light OFF ● n : n time blinking</p>	Monitor						A	B	C	D	E	F	● 9	● 10	○	○	○	●
Monitor																				
A	B	C	D	E	F															
● 9	● 10	○	○	○	●															

<p><b>Detective Actuators:</b>          EEV Coil          Main PCB</p>	<p><b>Detective details:</b>          Coil (Expansion valve) driver circuit open detected.</p>
--	--

<p><b>Forecast of Cause:</b></p> <ol style="list-style-type: none"> <li>1. EEV coil loose connection</li> <li>2. EEV wires cut or pinched.</li> <li>3. Defective EEV coil</li> <li>4. Main PCB (DC12V) output abnormal</li> </ol>
---

<p><b>Test 1 : Check the connection of EEV connector</b></p> <ul style="list-style-type: none"> <li>• Check if the connector is loose connection or not.</li> </ul>
---

OK

<p><b>Test 2 : Check the EEV wire</b></p> <ul style="list-style-type: none"> <li>• Check if the wire of EEV has damage or not. (Slash, Braking of wire, Pinching, etc.)</li> </ul>	<p>NG → Replace EEV Coil</p>
--	------------------------------

OK

<p><b>Test 3 : Check the EEV Coil</b></p> <ul style="list-style-type: none"> <li>• Check if the circuit of EEV coil winding is good or not. (Refer to the service parts information 3)</li> </ul>	<p>NG → Replace EEV Coil</p>
---	------------------------------

OK

<p><b>Test 4 : Check the output of EEV on the Main PCB</b></p> <ul style="list-style-type: none"> <li>• Check if the DC12V is on between the Pin No.1 of CN111-115 and GND Pin. (Disconnect the wire of EEV when you check the output of EEV)</li> </ul>
--

NG

<ul style="list-style-type: none"> <li>• Replace Main PCB <b>(SERVICE PARTS INFORMATION 10)</b></li> </ul>
--

OK

<p><b>Test 5 : Noise, momentary open, voltage drop</b></p> <ul style="list-style-type: none"> <li>• Check if temporary voltage drop was not generated.</li> <li>• Check if momentary open was not generated.</li> <li>• Check if ground is connection correctly or there are no related cables near the power line.</li> </ul>
--

<b>Trouble shooting 38</b> <b>OUTDOOR UNIT Error Method:</b> <b>Discharge Temperature Error</b>	<b>Indicate of Display:</b> <b>Indoor Unit</b> <b>Operation lamp : 10 time Flash</b> <b>Timer lamp : 1 time Flash</b> <b>ERROR CODE : [E : A1]</b>	<b>Outdoor Unit</b> <table border="1"> <thead> <tr> <th colspan="6">Monitor</th> </tr> <tr> <th>A</th> <th>B</th> <th>C</th> <th>D</th> <th>E</th> <th>F</th> </tr> </thead> <tbody> <tr> <td>● 10</td> <td>● 1</td> <td>○</td> <td>○</td> <td>○</td> <td>●</td> </tr> </tbody> </table> <p>● : Light ON ○ : Light OFF ● n : n time blinking</p>	Monitor						A	B	C	D	E	F	● 10	● 1	○	○	○	●
	Monitor																			
A	B	C	D	E	F															
● 10	● 1	○	○	○	●															

<b>Detective Actuators:</b> Outdoor unit main PCB Discharge pipe temperature thermistor	<b>Detective details:</b> Protection stop by Discharge pipe temperature thermistor $\geq 110^{\circ}\text{C}$ during compressor operation generated 2 times within 24 hours.
---	---

**Forecast of Cause:**

1. 3-way valve not opened
2. EEV defective, strainer clogged
3. Outdoor unit operation failure, foreign matter on heat exchanger
4. Discharge temperature thermistor failure
5. Insufficient refrigerant
6. Main PCB failure

<Cooling operation>

**Test 1 : Check if 3-way valve(gas side) is open.**

- If the 3-way valve(gas side) was closed, open the 3-way valve(gas side) and check operation.

OK

**Test 2 : Check the EEV, strainer**

- EEV open?
- Strainer clogging check  
(SERVICE PARTS INFORMATION 3)

OK

**Test 3 : Check the outdoor unit fan,heat exchanger**

- Check for foreign object at heat exchanger
- Check if fan can be rotated by hand.
- Motor check (SERVICE PARTS INFORMATION 6)

OK

**Test 4 : Check the discharge thermistor**

- Discharger thermistor characteristics check.  
(Check by disconnecting thermistor from PCB.)
- \* For the characteristics of the thermistor, refer to the "Trouble shooting 25".

OK

**Test 5 : Check the refrigerant amount**

- Leak check

<Heating operation>

**Test 1 : Check if 3-way valve(liquid side) is open.**

- If the 3-way valve(liquid side) was closed, open the 3-way valve(liquid side) and check operation.

OK

**Test 2 : Check the EEV, strainer**

- EEV open?
- Strainer clogging check  
(SERVICE PARTS INFORMATION 3)

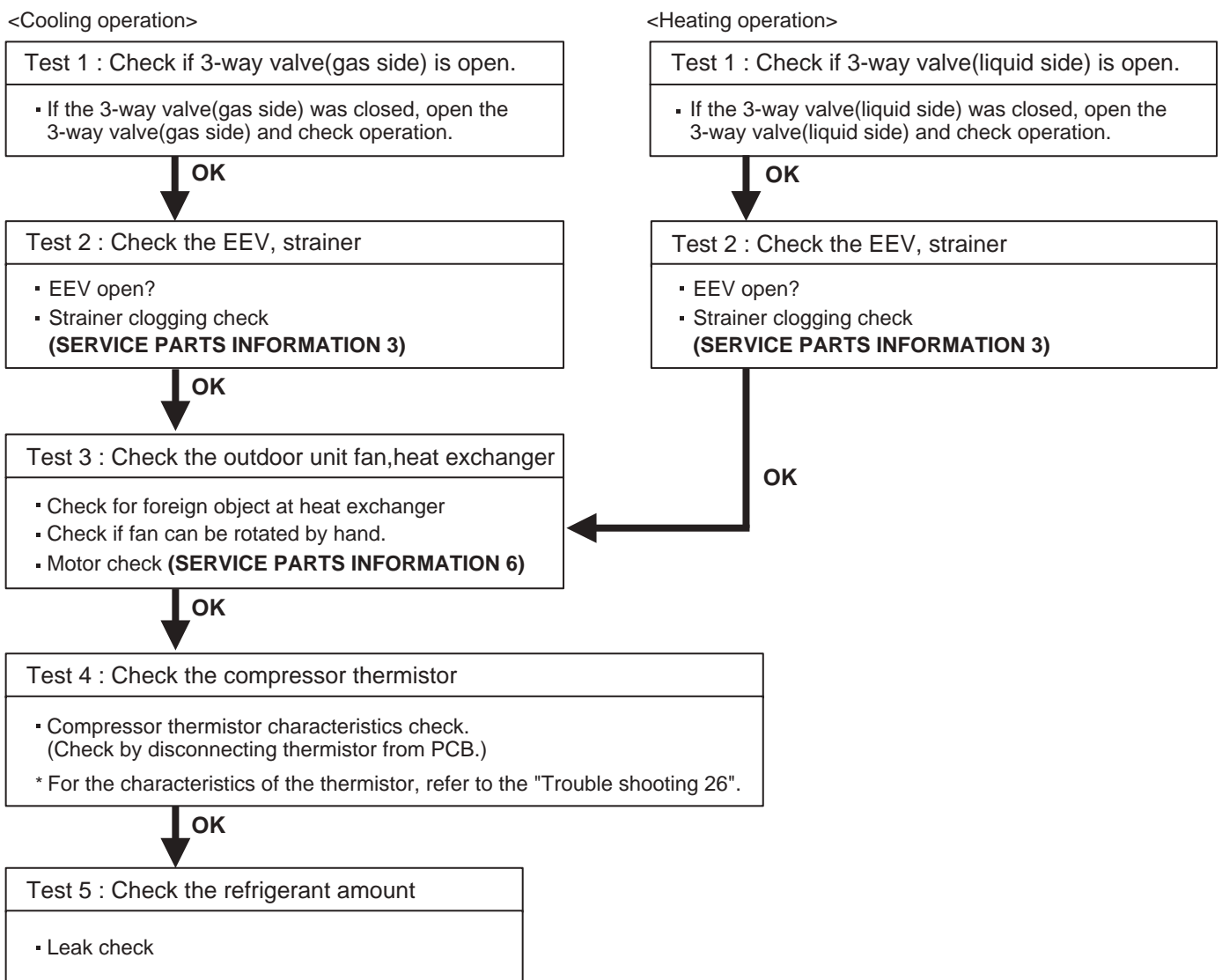
OK



<b>Trouble shooting 39</b> <b>OUTDOOR UNIT Error Method:</b> <b>Compressor Temperature Error</b>	<b>Indicate of Display:</b> <b>Indoor Unit</b> <b>Operation lamp : 10 time Flash</b> <b>Timer lamp : 3 time Flash</b> <b>ERROR CODE : [E : A3]</b>	<b>Outdoor Unit</b> <table border="1"> <thead> <tr> <th colspan="6">Monitor</th> </tr> <tr> <th>A</th> <th>B</th> <th>C</th> <th>D</th> <th>E</th> <th>F</th> </tr> </thead> <tbody> <tr> <td>● 10</td> <td>● 3</td> <td>○</td> <td>○</td> <td>○</td> <td>●</td> </tr> </tbody> </table> ● : Light ON ○ : Light OFF ● n : n time blinking	Monitor						A	B	C	D	E	F	● 10	● 3	○	○	○	●
	Monitor																			
A	B	C	D	E	F															
● 10	● 3	○	○	○	●															

<b>Detective Actuators:</b> Compressor temperature thermistor	<b>Detective details:</b> Protection stop by Compressor temperature thermistor $\geq 108^{\circ}\text{C}$ during compressor operation generated 2 times within 24 hours.
--	---

<b>Forecast of Cause:</b> 1. 3-way valve not opened      2. EEV defective, strainer clogged 3. Outdoor unit operation failure, foreign matter on heat exchanger      4. Compressor temperature thermistor failure 5. Insufficient refrigerant      6. Main PCB failure
---



## 2-3 TROUBLE SHOOTING WITH NO ERROR CODE

### Trouble shooting 40

No Operation (Power is ON)

#### Forecast of Cause :

1. Setting / Connection failure.
2. External cause.
3. Electrical components defective.

#### Test 1 : Check indoor and outdoor installation condition

- Indoor Unit - Check incorrect wiring between Indoor Unit - Remote Control.  
Or, check if there is an open cable connection.
  - Are these Indoor unit, Outdoor unit, and Remote control suitable model numbers to connect?
- >> If there is some abnormal condition, correct it by referring to Installation manual and Data & Technical Manual.**

OK

Turn off Power and check/ correct followings.

- Is there loose or removed communication line of Indoor unit and Outdoor unit?

OK

#### Test 2 : Check external cause at Indoor and Outdoor (Voltage drop or Noise)

- Instant drop ----- Check if there is a large load electric apparatus in the same circuit.
- Momentary power failure ----- Check if there is a defective contact or leak current in the power supply circuit.
- Noise ----- Check if there is any equipment causing harmonic wave near electric line.  
(Neon bulb or electric equipment that may cause harmonic wave)  
Check the complete insulation of grounding.

OK

#### Test 3 : Check Wired Remote Controller and Controller PCB

DC



- Check Voltage at terminal 1-3 of Controller PCB or Communication PCB.  
(Power supply to Remote Control)  
Compact Cassette, Slim Duct, Universal Floor, Ceiling Type : CN14  
Wall Mount : CN16  
Compact Wall Mount Type : CNC01(UTY-TWBXF)

- >> If it is DC12V, Remote Control is failure. (Controller PCB is normal) >> Replace Remote Control**
- >> If it is DC 0V, Controller PCB is failure. (Check Remote Control once again)**
  - >> Check Indoor unit fan motor. (SERVICE PARTS INFORMATION 5)**
  - If it is normal, replace Controller PCB.**
  - If it is abnormal, replace Indoor unit fan motor and Controller PCB.**
- >> If the symptom does not change by above Check 1, 2, 3, replace Main PCB of Outdoor unit. (SERVICE PARTS INFORMATION 10)**

#### For AR\* G07/09/12/14/18LSLAP

- Check Voltage at CN300 (terminal 1-3) of Controller PCB.(3 wire remote controller)
- Check Voltage at CN300 (terminal 1-2) of Controller PCB.(2 wire remote controller)  
(Power supply to Remote control)
- >> If it is DC12V, Remote Control is failure. (Controller PCB is normal) >> Replace Remote Control**  
**If it does not operate properly after Remote Control exchange, replace Controller PCB**
- >> If it is DC 0V, Controller PCB is failure. (Check Remote Control once again)**
  - >> Check Indoor unit fan motor. (PARTS INFORMATION 4)**
  - If it is normal, replace Controller PCB.**
  - If it is abnormal, replace Indoor unit fan motor and Controller PCB.**
- >> If the symptom does not change by above Check 1, 2, 3, replace Main PCB of Outdoor unit.**

## Trouble shooting 41

Outdoor unit - No Power

### Forecast of Cause :

1. Power supply failure.
2. External cause.
3. Electrical components defective.

### Test 1 : Check Installation Condition

- Isn't the breaker down?
  - Check loose or removed connection cable.
- >>If abnormal condition is found, correct it by referring to Installation Manual or Data & Technical Manual.**

OK

### Test 2 : Check external cause at Indoor and Outdoor (Voltage drop or Noise)

- Instant drop ----- Check if there is a large load electric apparatus in the same circuit.
- Momentary power failure ----- Check if there is a defective contact or leak current in the power supply circuit.
- Noise ----- Check if there is any equipment causing harmonic wave near electric line.  
(Neon bulb or electric equipment that may cause harmonic wave)  
Check the complete insulation of grounding.

OK

### Test 3 : Check Electrical Components



- Check the voltage of power supply.
- >> Check if AC198 - 264V appears at Outdoor Unit Terminal L1 - L2.**

YES

- Check Fuse in Main PCB.
- >> If Fuse is open, check if the wiring between Terminal and Main PCB is loose, and replace Fuse.**

YES

- Check Active Filter Module. (PARTS INFORMATION 8)
- >> If Active Filter Module is abnormal, replace it.**

OK

### Test 4 : Replace Main PCB

- ▶ **If Test 1- 3 do not improve the symptom, replace Main PCB.**  
(SERVICE PARTS INFORMATION 10)

## Trouble shooting 42

No Cooling / No Heating

### Forecast of Cause :

1. Indoor / Outdoor unit error.
2. Effect by surrounding environment.
3. Connection pipe / Connection wire failure
4. Refrigeration cycle failure.

### Test 1 : Check Indoor Unit

- Does Indoor unit FAN run on HIGH FAN?
- Is Air filter dirty?
- Is Heat exchanger clogged?
- Check if Energy save function is operated.



### Test 2 : Check Outdoor Unit Operation

- Check if Outdoor unit is operating
- Check any objects that obstruct the air flow route.
- Check clogged Heat exchanger.
- Is the Valve open?



### Test 3 : Check Site Condition

- Is capacity of Indoor unit fitted to Room size?
- Any windows open? Or direct sunlight ?



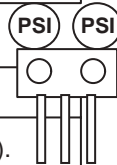
### Test 4 : Check Indoor/ Outdoor Installation Condition

- Check connection pipe (specified pipe length & Pipe diameter?)
- Check any loose or removed communication line.
- >> **If there is an abnormal condition, correct it by referring to Installation Manual or Data & Technical Manual.**



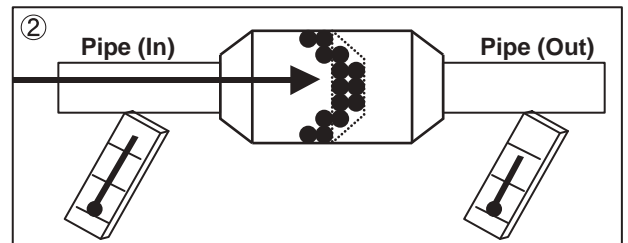
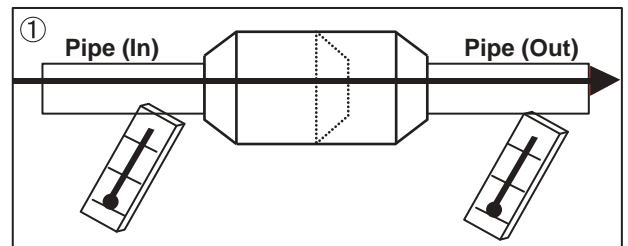
### Test 5 : Check Refrigeration Cycle

- Check if Strainer is clogged (Refer to the figure at right).
- Measure Gas Pressure and if there is a leakage, correct it.
- >> **When recharging the refrigerant, make sure to perform vacuuming, and recharge the specified amount.**
- Check EEV (**SERVICE PARTS INFORMATION 3**)
- Check Compressor (**SERVICE PARTS INFORMATION 1,2**)



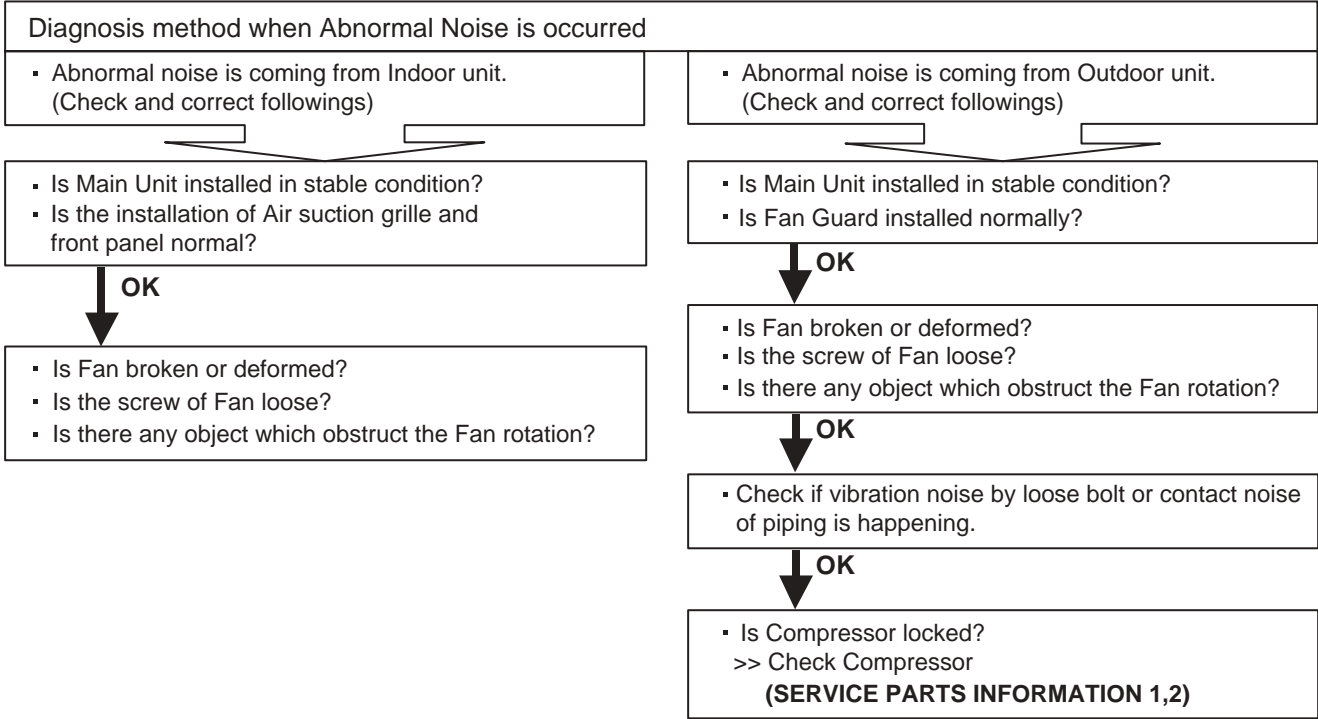
### Attention

Strainer normally does not have temperature difference between inlet and outlet as shown in ①, but if there is a difference like shown in ②, there is a possibility of inside clogged. In this case, replace Strainer.



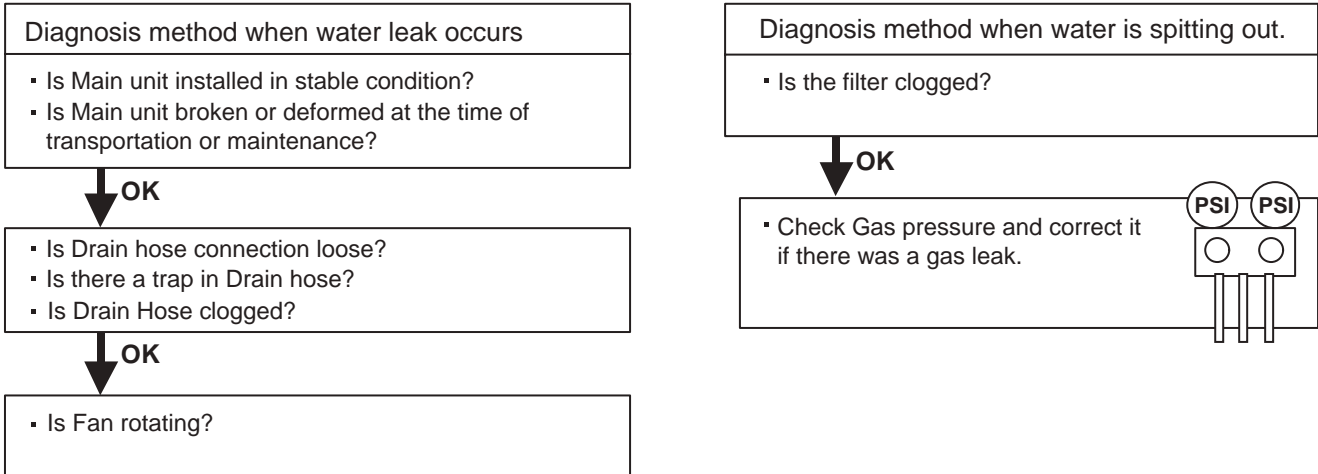
**Trouble shooting 43**  
Abnormal Noise

Forecast of Cause :  
1. Abnormal installation (Indoor / Outdoor unit).  
2. Fan failure (Indoor / Outdoor unit).  
3. Compressor failure (Outdoor unit).

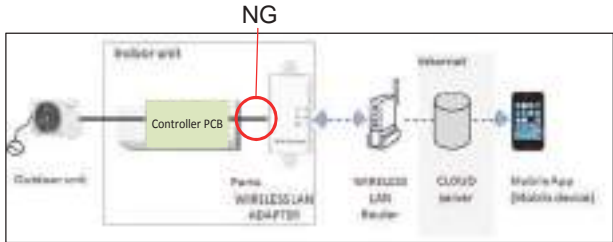


**Trouble shooting 44**  
Water Leaking

Forecast of Cause :  
1. Erroneous installation.  
2. Drain hose failure.



## 2-4 TROUBLE SHOOTING WITH ERROR CODE (For WIRELESS LAN ADAPTER)

<p><b>Trouble shooting 45</b>  <b>INDOOR UNIT Error Method:</b>          External Communication Error          (Communication Error of between Indoor Unit to Wireless LAN adapter)</p>	<p><b>Indicate of Display:</b></p> <table border="0"> <tr> <td style="vertical-align: top;"> <p><b>Indoor Unit :</b>            Operation lamp: 1 times Flash,            Timer lamp : 8 times Flash  <b>ERROR CODE : [ 18 ]</b></p> </td> <td style="vertical-align: top;"> <p><b>Wireless LAN adapter :</b>            LED 1 (Green) : Flashing Fast            LED 2 (Orange) : ON</p> </td> </tr> </table>	<p><b>Indoor Unit :</b>            Operation lamp: 1 times Flash,            Timer lamp : 8 times Flash  <b>ERROR CODE : [ 18 ]</b></p>	<p><b>Wireless LAN adapter :</b>            LED 1 (Green) : Flashing Fast            LED 2 (Orange) : ON</p>
<p><b>Indoor Unit :</b>            Operation lamp: 1 times Flash,            Timer lamp : 8 times Flash  <b>ERROR CODE : [ 18 ]</b></p>	<p><b>Wireless LAN adapter :</b>            LED 1 (Green) : Flashing Fast            LED 2 (Orange) : ON</p>		
<p><b>Detective Actuators:</b></p> <p>Wireless LAN adapter PCB          Controller PCB</p>	<p><b>Detective details:</b></p> <p>After receiving a signal from the wireless LAN adapter, the same a signal has not been received for 15sec.</p> 		

### Forecast of Cause:

1. Connection between A/C and Wireless LAN adapter failure
2. Wireless LAN adapter PCB failure
3. Controller PCB failure

### Check Point 1 : Check the connection

- Check any loose or removed connection of between the Wireless LAN adapter PCB and Controller PCB  
 >If there is abnormal condition, correct it.
- Check the connection condition on the Controller PCB  
 >If there is loose connector, open cable or miswiring, correct it.



### Check Point 2 : Replace wireless LAN adapter

- ▶ If Check Point 1 do not improve the symptom, replace Wireless LAN adapter and Please cancel the air conditioner of the registration on the Mobile App.  
 After the replace adapter, Please perform the pairing on the app.
- >>Air conditioning de-registration method, refer to page "02 - 65"  
 >>Pairing method, refer to page "02 - 66"

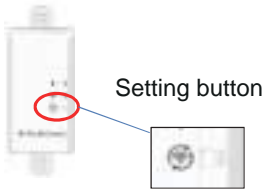


### Check Point 3 : Replace Controller PCB

- ▶ If Check Point 2 do not improve the symptom, replace controller PCB.



<p><b>Trouble shooting 46</b>  <b><u>INDOOR UNIT Error Method:</u></b>          Wireless LAN adapter Error</p>	<p><b><u>Indicate of Display:</u></b></p> <table border="0"> <tr> <td data-bbox="662 238 1052 360"> <b>Indoor Unit :</b>            Operation lamp: No indication            Timer lamp : No indication            ERROR CODE : [ No indication ]         </td> <td data-bbox="1068 238 1474 330"> <b>Wireless LAN adapter :</b>            LED 1 (Green) : Flashing Fast            LED 2 (Orange) : Flashing Fast         </td> </tr> </table>	<b>Indoor Unit :</b> Operation lamp: No indication Timer lamp : No indication ERROR CODE : [ No indication ]	<b>Wireless LAN adapter :</b> LED 1 (Green) : Flashing Fast LED 2 (Orange) : Flashing Fast
<b>Indoor Unit :</b> Operation lamp: No indication Timer lamp : No indication ERROR CODE : [ No indication ]	<b>Wireless LAN adapter :</b> LED 1 (Green) : Flashing Fast LED 2 (Orange) : Flashing Fast		

<p><b><u>Detective Actuators:</u></b></p> <p>Wireless LAN adapter setting button          Wireless LAN adapter PCB</p>	<p><b><u>Detective details:</u></b></p> <p>When the Setting button becomes ON for consecutive 60 or more seconds.</p> <div data-bbox="1208 500 1474 691" style="text-align: right;">  </div>
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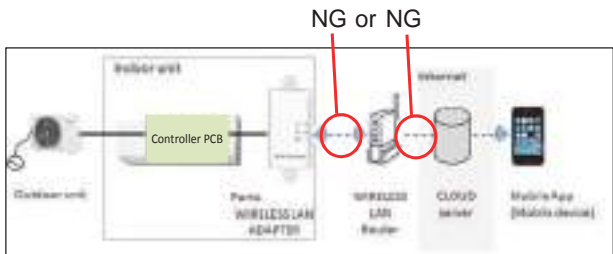
<p><b><u>Forecast of Cause:</u></b></p> <ol style="list-style-type: none"> <li>1. Wireless LAN adapter setting button failure</li> <li>2. Wireless LAN adapter PCB failure</li> </ol>
---

<p><b>Check Point 1 : Check the setting button</b></p> <ul style="list-style-type: none"> <li>▪ Check if Setting button is kept pressed.             <ul style="list-style-type: none"> <li>&gt; If the Settings button is held down by the foreign matter,  <u>Please remove the foreign matter or remove the cause of the button press.</u></li> </ul> </li> </ul>
--



<p><b>Check Point 2 : Replace wireless LAN adapter</b></p> <ul style="list-style-type: none"> <li>▶ If Check Point 1 do not improve the symptom, replace Wireless LAN adapter and <u>Please cancel the air conditioner of the registration on the Mobile App.</u>  <u>After the replace adapter, Please perform the pairing on the app.</u></li> </ul> <p>&gt;&gt;Air conditioning de-registration method, refer to page "02 - 65"          &gt;&gt;Pairing method, refer to page "02 - 66"</p>
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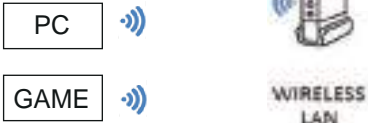
<b>Trouble shooting 47</b> <b>INDOOR UNIT Error Method:</b> Network Communication Error (Communication Error of between Wireless LAN Router to Wireless LAN adapter)	<b>Indicate of Display:</b> Indoor Unit : Operation lamp: No indication Timer lamp : No indication <b>ERROR CODE : [ No indication ]</b>	<b>Wireless LAN adapter :</b> LED 1 (Green) : ON LED 2 (Orange) : <b>Flashing Fast</b>
--	--	--

<b>Detective Actuators:</b> Wireless LAN router Wireless LAN adapter PCB	<b>Detective details:</b> When the Not connection between Wireless LAN adapter and Wireless LAN router. <div style="text-align: center;">  </div>
--	---

<b>Forecast of Cause:</b> <ol style="list-style-type: none"> <li>1. Connection cable failure of Wireless LAN router.</li> <li>2. Connection between Wireless LAN adapter and Wireless LAN router failure</li> <li>3. Wireless LAN router failure</li> <li>4. Wireless LAN adapter PCB failure</li> </ol>
--

<b>Check Point 1 : Check the connection cable</b> • Check the connection cable on the Wireless LAN router. >If there is loose connector, open cable or miswiring, correct it.
---

↓ **OK**

<b>Check Point 2-1 : Check the connection status</b> • Check the connection status to the Internet and Wireless LAN router. >If the Wireless LAN Router is not connected to the Internet, <u>Please check the transmission between</u> "Wi-Fi products of other than Air conditioner" and "Wireless LAN router".	Ex. ) Wi-Fi products	
--	----------------------	---

↓ **OK**

↓ **NO**

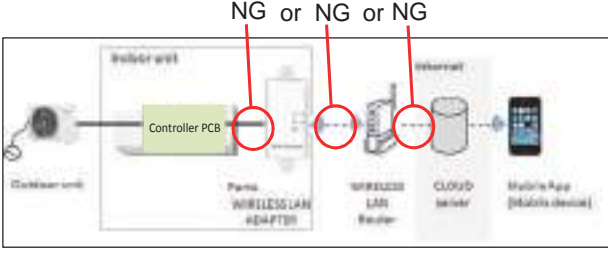
<b>Check Point 2-2 : Check the transmission state</b> • Check the Wireless transmission state of Wireless LAN router.(LED status) >If the wireless transmission from the Wireless LAN router has not been outgoing, <u>Please the inquiry to "Wireless LAN router maker".</u>
--

<b>Check Point 3 : Turn on power again of Air conditioner</b> ► If Check Point 1,2 do not improve the symptom, <u>turn on power again</u> of the Air conditioner, please wait 60 seconds.
--

↓ **OK**

<b>Check Point 4 : Replace Wireless LAN adapter</b> ► If Check Point 3 do not improve the symptom, replace Wireless LAN adapter and <u>Please cancel the air conditioner of the registration on the Mobile App.</u> <u>After the replace adapter, Please perform the pairing on the app.</u> >>Air conditioning de-registration method, refer to page "02 - 65" >>Pairing method, refer to page "02 - 66"
--

<p><b>Trouble shooting 48</b>  <b>INDOOR UNIT Error Method:</b>          Communication Error          ("Trou. 45" and "Trou. 47" are simultaneous Error)</p>	<p><b>Indicate of Display:</b></p> <table border="0"> <tr> <td data-bbox="662 238 1047 355"> <b>Indoor Unit :</b>            Operation lamp: 1 time Flash            Timer lamp : 8 time Flash            ERROR CODE : [ 18 ]         </td> <td data-bbox="1063 238 1485 355"> <b>Wireless LAN adapter :</b>            LED 1 (Green) : Flashing Fast            LED 2 (Orange) : Flashing Fast         </td> </tr> </table>	<b>Indoor Unit :</b> Operation lamp: 1 time Flash Timer lamp : 8 time Flash ERROR CODE : [ 18 ]	<b>Wireless LAN adapter :</b> LED 1 (Green) : Flashing Fast LED 2 (Orange) : Flashing Fast
<b>Indoor Unit :</b> Operation lamp: 1 time Flash Timer lamp : 8 time Flash ERROR CODE : [ 18 ]	<b>Wireless LAN adapter :</b> LED 1 (Green) : Flashing Fast LED 2 (Orange) : Flashing Fast		

<p><b>Detective Actuators:</b></p> <p>Wireless LAN router          Wireless LAN adapter PCB          Indoor unit Controller PCB</p>	<p><b>Detective details:</b></p> <p>When the "External Communication Error" and "Network Communication Error" has occurred at the same time.</p> 
---	---

- Forecast of Cause:**
1. Connection cable failure of Wireless LAN router,
  2. Wireless LAN router failure
  3. Connection between A/C and Wireless LAN adapter failure
  4. Connection between Wireless LAN adapter and Wireless LAN router failure
  5. Wireless LAN adapter PCB failure,
  6. Controller PCB failure

**Check Point 1 : Check the connection cable**

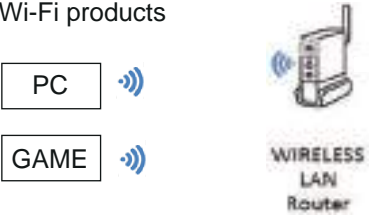
- Check the connection cable on the Wireless LAN router.
- >If there is loose connector, open cable or miswiring, correct it.

**OK**

**Check Point 2 : Check the connection status and transmission state**

Check the connection status to the Internet and Wireless LAN router.  
 >If the Wireless LAN Router is not connected to the Internet,  
Please check the transmission between "Wi-Fi products of other than Air conditioner" and "Wireless LAN router".  
 > When there is no problem with Wi-Fi products >> Refer to "Check Point 4".

Ex. ) Wi-Fi products



• Check the Wireless transmission state of Wireless LAN router.(LED status)  
 >If the wireless transmission from the Wireless LAN Router has not been outgoing,  
Please the inquiry to "Wireless LAN router maker".

Did the display pattern will change?  
 Wireless LAN adapter : LED 1 (Green) : Flashing Fast , LED 2 (Orange) :ON

**NO**

**YES**

**Check Point 3-1 : Turn on power again of Air conditioner**

- If Check Point 1,2 do not improve the symptom,  
turn on power again of the Air conditioner,please wait 60 seconds.
- > When the flashing pattern of the LED 2(Orange) is "ON" >> Refer to "Check Point 3-2".
- > When the flashing pattern of the LED 2(Orange) is "Flashing Fast" >> Refer to "Check Point 4".

To NEXT PAGE

CONTINUATION

YES

Check Point 3-2 : Check the connection

- Check any loose or removed connection of between the Wireless LAN adapter PCB and Controller PCB  
>If there is abnormal condition, correct it.
- Check the connection condition on the Controller PCB  
>If there is loose connector, open cable or miswiring, correct it.

OK

Check Point 4 : Replace Wireless LAN adapter

- ▶ If Check Point 2,3 do not improve the symptom, replace Wireless LAN adapter and Please cancel the air conditioner of the registration on the Mobile App.  
After the replace adapter, Please perform the pairing on the app.  
>>Air conditioning de-registration method, refer to page "02 - 65"  
>>Pairing method, refer to page "02 - 66"

OK

Check Point 5 : Replace Controller PCB

- ▶ If Check Point 4 do not improve the symptom, replace controller PCB.

<b>Trouble shooting 49</b> <b>INDOOR UNIT Error Method:</b> Wireless LAN adapter Non-Energized	<b>Indicate of Display:</b> <table border="0"> <tr> <td data-bbox="662 236 1047 358"> <b>Indoor Unit :</b>            Operation lamp: 1 time Flash            Timer lamp : 8 time Flash            ERROR CODE : [ 18 ]         </td> <td data-bbox="1047 236 1508 358"> <b>Wireless LAN adapter :</b>            LED 1 (Green) : OFF            LED 2 (Orange) : OFF         </td> </tr> </table>	<b>Indoor Unit :</b> Operation lamp: 1 time Flash Timer lamp : 8 time Flash ERROR CODE : [ 18 ]	<b>Wireless LAN adapter :</b> LED 1 (Green) : OFF LED 2 (Orange) : OFF
<b>Indoor Unit :</b> Operation lamp: 1 time Flash Timer lamp : 8 time Flash ERROR CODE : [ 18 ]	<b>Wireless LAN adapter :</b> LED 1 (Green) : OFF LED 2 (Orange) : OFF		

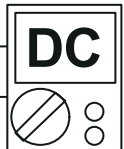
<b>Detective Actuators:</b> Indoor unit Controller PCB Wireless LAN adapter PCB	<b>Detective details:</b> When the does not output the DC12 voltage from Controller PCB.
---	---

<b>Forecast of Cause:</b> <ol style="list-style-type: none"> <li>1. Indoor unit Controller PCB failure</li> <li>2. Wireless LAN adapter PCB failure</li> <li>3. Wiring connection failure</li> </ol>
--

<b>Check Point 1 : Check the connection</b> <ul style="list-style-type: none"> <li>▪ Check any loose or removed connection of between the Wireless LAN adapter PCB and Controller PCB            &gt;If there is abnormal condition, correct it.</li> <li>Check the connection condition on the Controller PCB            &gt;If there is loose connector, open cable or miswiring, correct it.</li> </ul>
---



<b>Check Point 2 : Check the Wireless LAN adapter PCB and Controller PCB</b> <ul style="list-style-type: none"> <li>▪ Check Voltage at CN12 (terminal 1-2) of Controller PCB.            &gt;If it is DC 0V, Controller PCB is failure.            ► <u>Replace Controller PCB.</u></li> <li>&gt;If it is DC12V, Wireless LAN adapter PCB failure.            ► <u>Replace Wireless LAN adapter and please cancel the air conditioner of the registration on the Mobile App.</u>  <u>After the replace adapter, Please perform the pairing on the App.</u></li> <li>&gt;&gt;Air conditioning de-registration method, refer to page "02 - 65"</li> <li>&gt;&gt;Pairing method, refer to page "02 - 66"</li> </ul>
---



## Air Conditioning De-registration Method

If you replace the Wireless LAN adapter, you will need to de-register all of the conditioner information on the App. Unregister method is as follows.

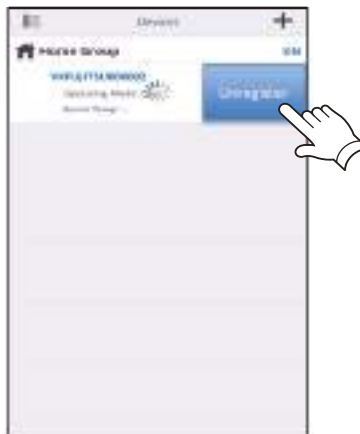
- 1 Launch the mobile app(FGL air).



- 2 Please long-push the registered "Device name" of Air Conditioner.



- 3 Then will display the "Unregister" button. Please tap the "Unregister" button.



- 4 Please tap the "Yes" .



- 5 Air Conditioner Unregister is complete.

# Air conditioner registration Pairing Method

Choose from the following modes to connect your Air conditioner to your Wireless LAN router.

**Note:**

- Before starting this setting, wait for **60 seconds** or more after the power supply is connected to the air conditioner (via breaker or plug).
- Check that the smartphone or tablet PC is linked to the wireless router you are connecting the air conditioner.  
The setting will not work if it is not connected to the same wireless router.
- The display screen design may differ depending on the version of the mobile app.
- To control 2 or more air conditioners with the same smartphone or tablet PC, repeat the setup of the chosen mode.

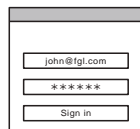
## Button Mode

\*Lighting pattern: ○ OFF ● ON ● Flashing

1 Launch the mobile app(FGL air).



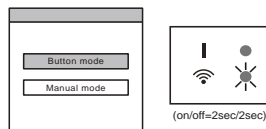
2 Sign in with your Email address and password (as registered in "4.2. User registration") following the screen on the mobile app.



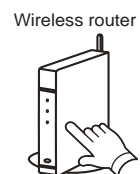
3 Press the [+] button to add a new air conditioner.



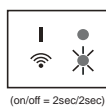
4 Confirm that LED 2 is flashing.(On/off at 2-second intervals.) Then select [Button mode] on the screen.  
If LED 1 and 2 are off, push the Setting button once.



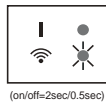
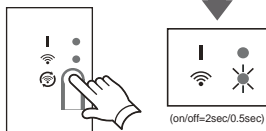
5 Press the WPS button on the wireless router that you are connecting to.  
Refer to the operating manual of the wireless router for the location of the button and how to press it.



6 Confirm that LED 2 is flashing.  
(On/off at 2-second intervals.)  
Then press and hold the Setting button on the WLAN adapter for 3 seconds.



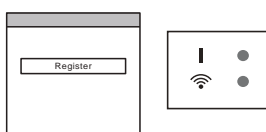
LED 2 lighting will change.  
(on/off: 2sec/2sec → 2sec/0.5sec)



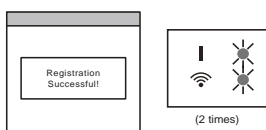
Confirm that the LED 1 and 2 is both on to proceed.



7 Press [Register] to start the connection with the wireless router.



LED 1 and 2 will both flash 2 times, and a message will appear when setup is complete.



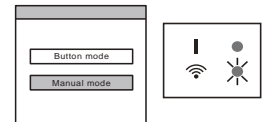
## Manual mode

\*Lighting pattern: ○ OFF ● ON ● Flashing

1~3 See steps 1 to 3 in "4.3.1. Button mode"

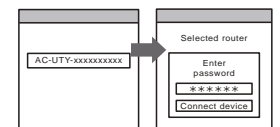
4 Select [Manual mode].

If LED 1 and 2 are off, push the Setting button once.



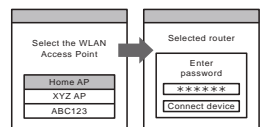
### [For Android]

5 Select the SSID of the air conditioner you are connecting to.

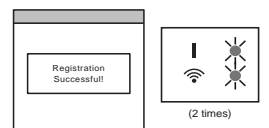


6 Input the PIN code written on the WLAN label.

7 Select the SSID of the wireless router you are connecting to.  
Input the wireless router (WLAN access point) password then press [Connect device].

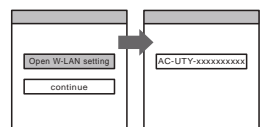


8 LED 1 and 2 will both flash 2 times, and a message will appear when setup is complete.

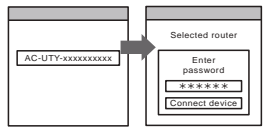


### [For iOS]

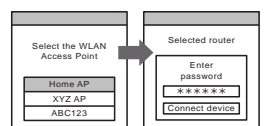
5 Select [Open W-LAN setting] or activate the wireless LAN by pressing the Home button -> [Setting] -> [Wi-fi].  
Select the SSID of the air conditioner you are connecting to.



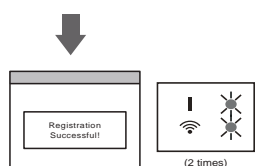
6 Input the PIN code written on the WLAN label.



7 Select the SSID of the wireless router you are connecting to.  
Input the wireless router (WLAN Access Point) password then press [Connect device].



LED 1 and 2 will both flash 2 times, and a message will appear when setup is complete.

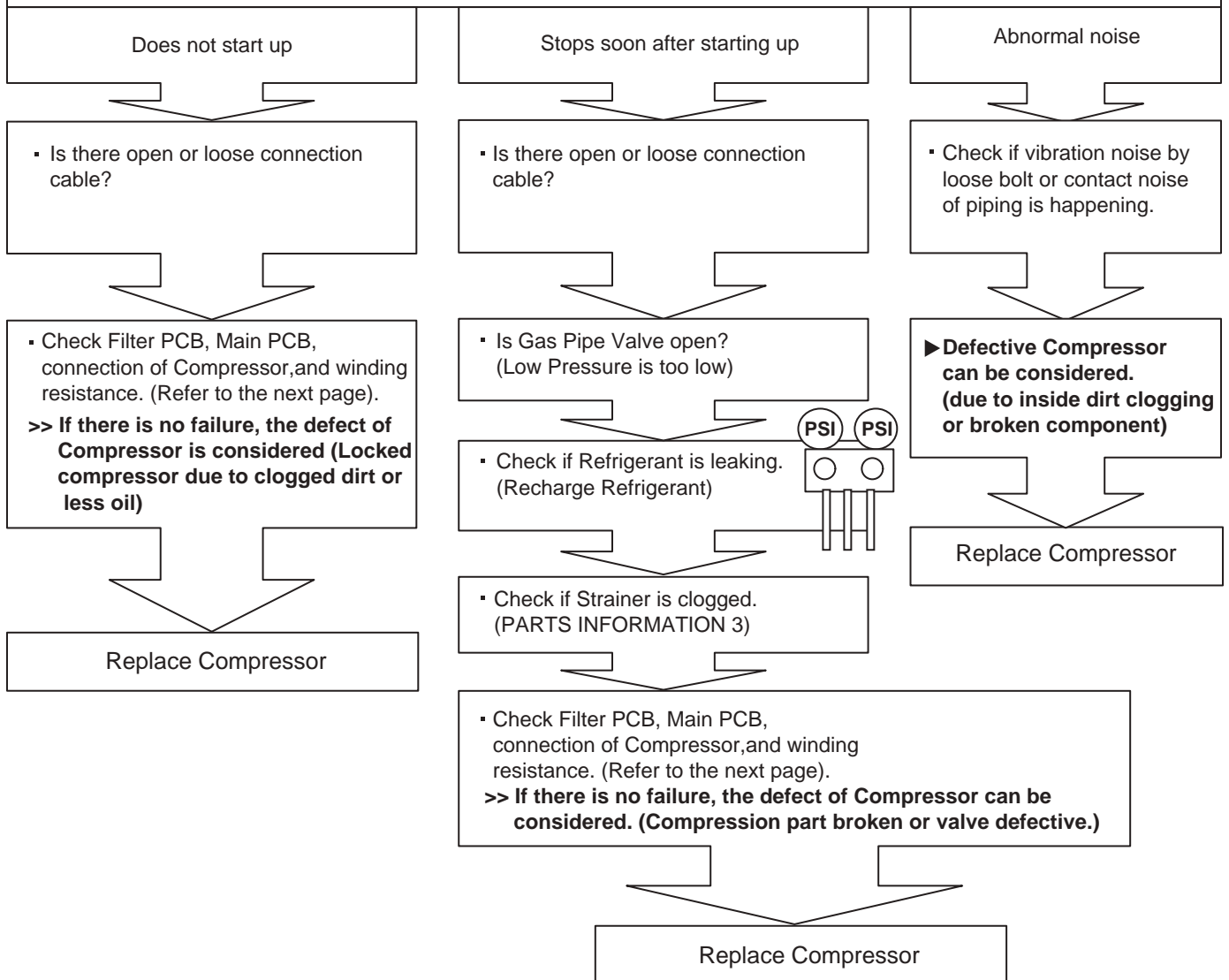


## 2-4 SERVICE PARTS INFORMATION

### SERVICE PARTS INFORMATION 1

#### Compressor

Diagnosis method of Compressor ( If Outdoor Unit LED displays Error, refer to Trouble shooting )



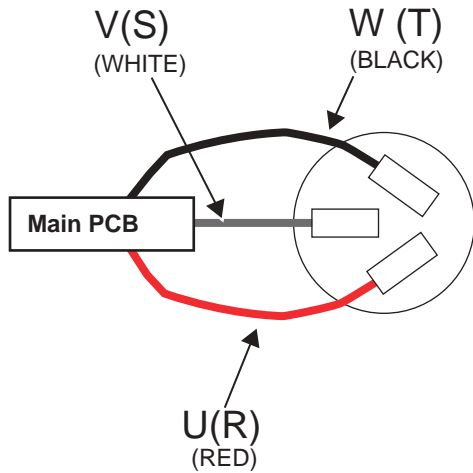


## SERVICE PARTS INFORMATION 2

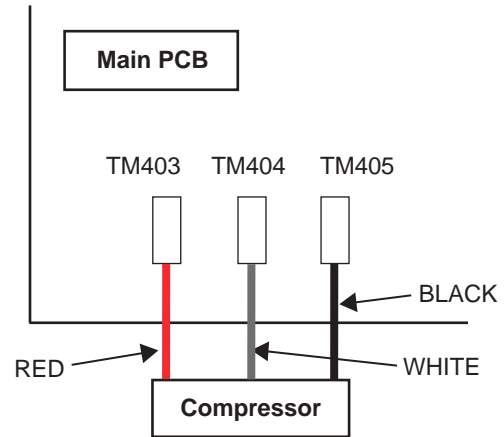
### Compressor

#### Test 1 : Check Connection

- Check terminal connection of Compressor (loose or incorrect wiring)



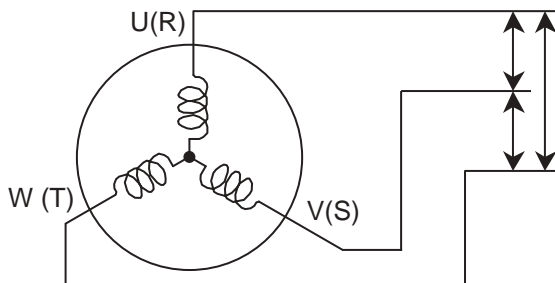
- Check terminal connection of Main PCB (loose or incorrect wiring)



#### Test 2 : Check Winding Resistance

- Check winding resistance of each terminal

► **If the resistance value is  $0\Omega$  or infinite, replace Compressor.**



Resistance Value :  $0.642\Omega \pm 8\%$  (20°C)

#### Test 3 : Replace Main PCB

► **If the symptom does not change with above Check 1, 2, replace Main PCB.**  
(SERVICE PARTS INFORMATION 10)

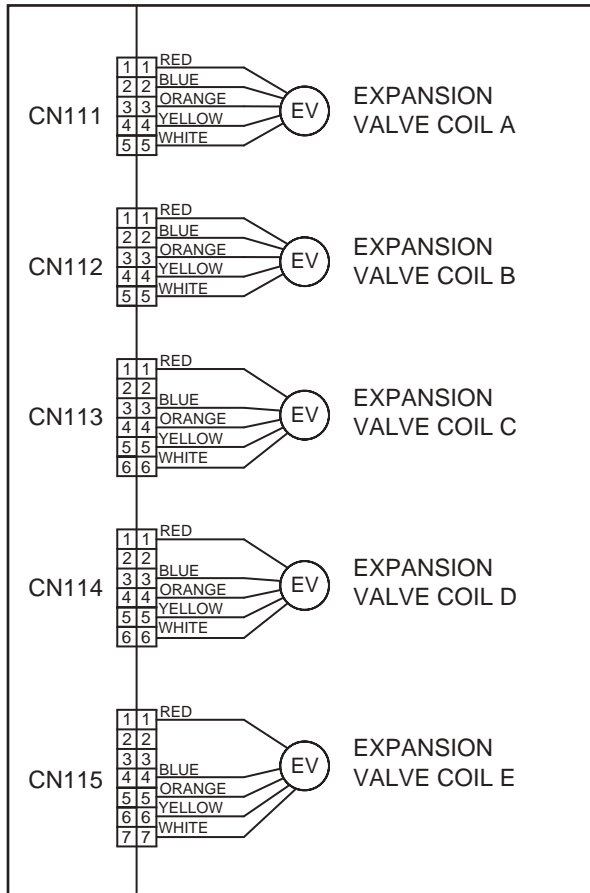
### SERVICE PARTS INFORMATION 3

#### Outdoor unit electronic expansion valve (EEV)

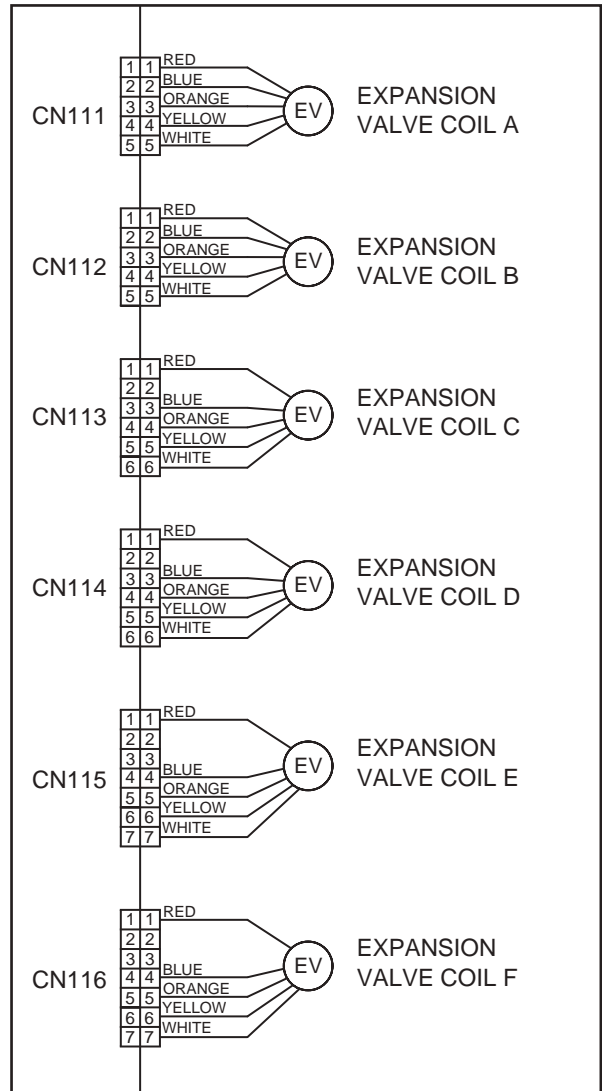
#### Test 1 : Check Connections

- Check connection of connector  
( Loose connector or open cable )

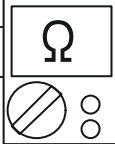
For AO\*G36LBLA5



For AO\*G45LBLA6



Test 2 : Check Coil of EEV



· Remove connector, check each winding resistance of Coil.

Read wire	Resistance value
White - Red	<b>46 Ω ± 4 Ω</b> at 20°C
Yellow - Blue	
Orange - Red	
Blue - Orange	

▶ **If Resistance value is abnormal, replace EEV.**

Test 3 : Check Voltage from Main PCB.



· Remove Connector and check Voltage (DC12V)

▶ **If it does not appear, replace Main PCB.**

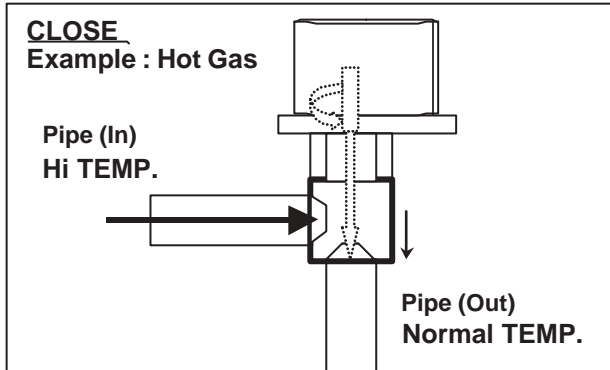
Test 4 : Check Noise at start up

· Turn on Power and check operation noise.

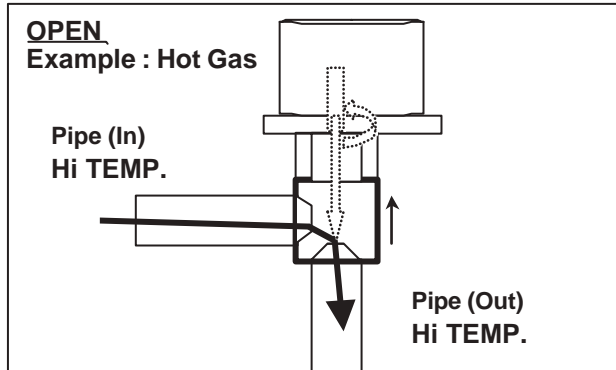
▶ **If an abnormal noise does not show, replace Main PCB.**  
(SERVICE PARTS INFORMATION 10)

Test 5 : Check Opening and Closing Operation of Valve

When Valve is closed,  
it has a temp. difference between Inlet and Outlet.

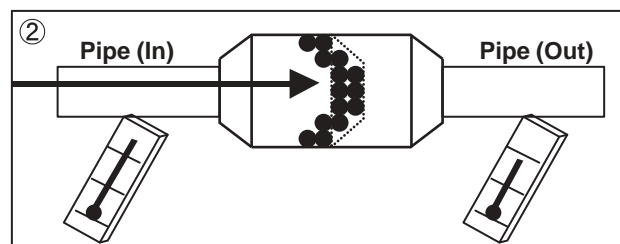
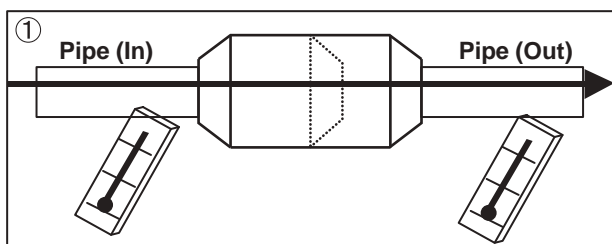


If it is open,  
it has no temp. difference between Inlet and Outlet.



Test 6 : Check Strainer

Strainer normally does not have temperature difference between inlet and outlet as shown in ①, but if there is a difference as shown in ②, there is a possibility of inside clogged. In this case, replace Strainer.



## SERVICE PARTS INFORMATION 4

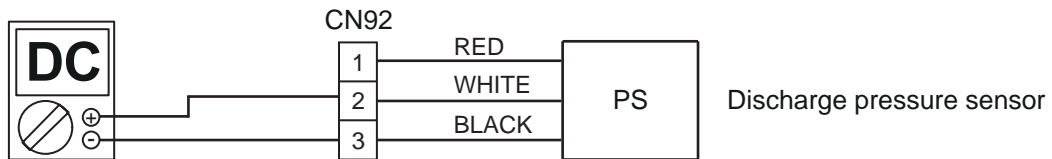
### Discharge pressure sensor

Test 1 : Check the voltage from Main PCB

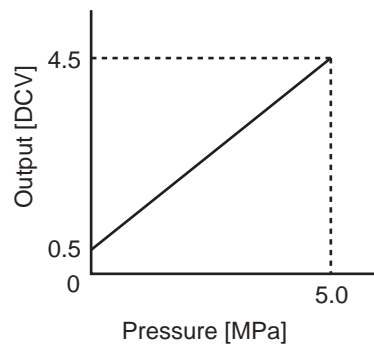
DC



- With the connector connected to the Main PCB, measure the voltage between CN 92 : 2 - 3 of the Main PCB



- Characteristics of pressure sensor



## SERVICE PARTS INFORMATION 5

Indoor unit fan motor

Test 1 : Check rotation of Fan

- Rotate the fan by hand when operation is off.  
(Check if fan is caught, dropped off or locked motor)
- >>If Fan or Bearing is abnormal, replace it.**

Test 2 : Check resistance of Indoor Fan Motor

- Refer to below. Circuit-test "Vm" and "GND" terminal.  
(Vm: DC voltage, GND: Ground terminal)
- >>If they are short-circuited (below 300 k $\Omega$ ), replace Indoor fan motor and Controller PCB.**

For Wall Mount, Compact Wall Mount Type

Pin number (wire color)	Terminal function (symbol)
1 (Blue)	Feed back (FG)
2 (Yellow)	Speed command (Vsp)
3 (White)	Control voltage (Vcc)
4 (Black)	Ground terminal (GND)
5	No function
6 (Red)	DC voltage (Vm)

For Cassette, Duct, Universal Floor/Ceiling Type

Pin number (wire color)	Terminal function (symbol)
1 (Brown)	Feed back (FG)
2 (Yellow)	Speed command (Vsp)
3 (White)	Control voltage (Vcc)
4 (Black)	Ground terminal (GND)
5	No function
6 (Red)	DC voltage (Vm)

## SERVICE PARTS INFORMATION 6

Outdoor unit fan motor

Test 1 : Check rotation of Fan

- Rotate the fan by hand when operation is off.  
(Check if fan is caught, dropped off or locked motor)
- >>If Fan or Bearing is abnormal, replace it.**

Test 2 : Check resistance of Outdoor Fan Motor

- Refer to below. Circuit-test "Vm" and "GND" terminal.  
(Vm: DC voltage, GND: Ground terminal)
- >>If they are short-circuited (below 300 kΩ), replace Outdoor fan motor and Main PCB.  
(SERVICE PARTS INFORMATION 10)**

Pin number (wire color)	Terminal function (symbol)
1 (Red)	DC voltage (Vm)
2	No function
3	No function
4 (Black)	Ground terminal (GND)
5 (White)	Control voltage (Vcc)
6 (Yellow)	Speed command (Vsp)
7 (Brown)	Feed back (FG)

## SERVICE PARTS INFORMATION 8

### Active filter module

#### Test 1 : Check Open or Short-circuit and Diode (D1)



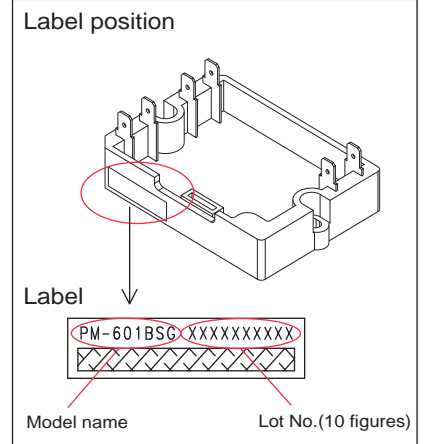
· Remove connector, check the open or short-circuit and the diode in the module

Check the open or short-circuit

Table.1 Each type standard value

Terminal		Resistance value	
		Type A	Type B
multimeter (+)	multimeter (-)	SACT32010 [ HITACHI ] LACT33020 [ HITACHI ]	PM-604 [ FGEL ] PM-703 [ FGEL ]
		PM-601 [ FGEL ] <u>LOT No. - 1302931395</u>	PM-601 [ FGEL ] <u>LOT No. 1302931396 -</u>
+ (+IN)*	- (-IN)*	360kΩ ± 20%	360kΩ ± 20%
- (-IN)*	N1 (N)*	0 Ω	0 Ω
※ P	+ (+IN)*	720kΩ ± 20%	900kΩ ± 20%
L1	L2	1.01MΩ / 0.76MΩ (Ref. value 1) (Ref. value 2)	1.01MΩ / 0.76MΩ (Ref. value 1) (Ref. value 2)
P	N1 (N)*	360kΩ ± 20%	540kΩ ± 20%
L1, L2	Control Box	∞ Ω	∞ Ω
※ L2	N1 (N)*	1.65MΩ / 1.14MΩ (Ref. value 1) (Ref. value 2)	1.65MΩ / 1.14MΩ (Ref. value 1) (Ref. value 2)

#### LOT No. of PM-601 [ FGEL ] type



\* ( ) is FGEL terminal name.

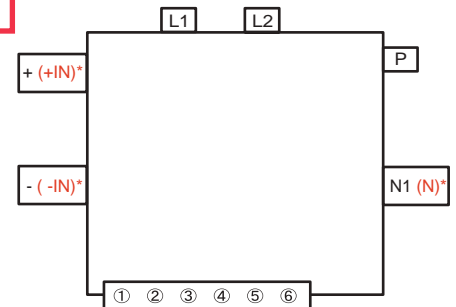
Table.2 Standard value is changed by the tool specification  
(Type A and B are the same value)

Terminal		Resistance value
multimeter (+)	multimeter (-)	
※ L2	P	1.32MΩ / 0.66MΩ (Ref. value 1) (Ref. value 2)
※ P	L2	1.01MΩ / 0.76MΩ (Ref. value 1) (Ref. value 2)

※ By kind of multimeter , the value may change significantly.

Ref. value 1  
Specifications for Multimeter  
Manufacturer : FLUKE  
Model name : FLUKE11  
Power source : DC9V.

Ref. value 2  
Specifications for Multimeter  
Manufacturer : SANWA  
Model name : PM3  
Power source : DC3V.



► If it is abnormal,replace ACTIVE FILTER MODULE

#### Test 2 : Check the Output DC voltage (between P and N)



· Check the Output DC voltage (between P and N) of compressor stopping and operating.

>> If the output voltage of compressor operating is less than the output voltage of compressor stopping,  
Active Filter Module is defective. >> Replace Active Filter Module

**SERVICE PARTS INFORMATION 9**

IPM  
(Mounted on Transistor PCB)

Test 1 : Check the Transistor of PCB ( for Resistance )

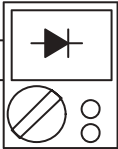


- ① Disconnect the connection wires between the Transistor PCB - Capacitor PCB and Transistor PCB - Inverter Compressor.
- ② Set the tester to the "Resistance" mode, and measure the resistance between the following terminals.  
 IC400-30 (P) - TM403(U) / TM404(V) / TM405(W)  
 IC400-24 (N) - TM403(U) / TM404(V) / TM405(W)
- ③ Judge the result of ② as follows:



Terminal		Resistance value
Tester(+)	Tester(-)	
P	U	Over 2kΩ (Including ∞Ω)
P	V	
P	W	
U	P	Over 20kΩ (Including ∞Ω)
V	P	
W	P	
N	U	
N	V	Over 2kΩ (Including ∞Ω)
N	W	
U	N	
V	N	Over 2kΩ (Including ∞Ω)
W	N	

Test 2 : Check the Transistor of PCB ( for Diode )



- ④ Set the tester to the "Diode" mode, and measure the voltage value between the following terminals.
- ⑤ Judge the result of ④ as follows:

Terminal		Tester display
Tester(+)	Tester(-)	
P	U	∞
P	V	
P	W	
U	P	0.3V ~ 0.7V
V	P	
W	P	
N	U	
N	V	∞
N	W	
U	N	
V	N	∞
W	N	

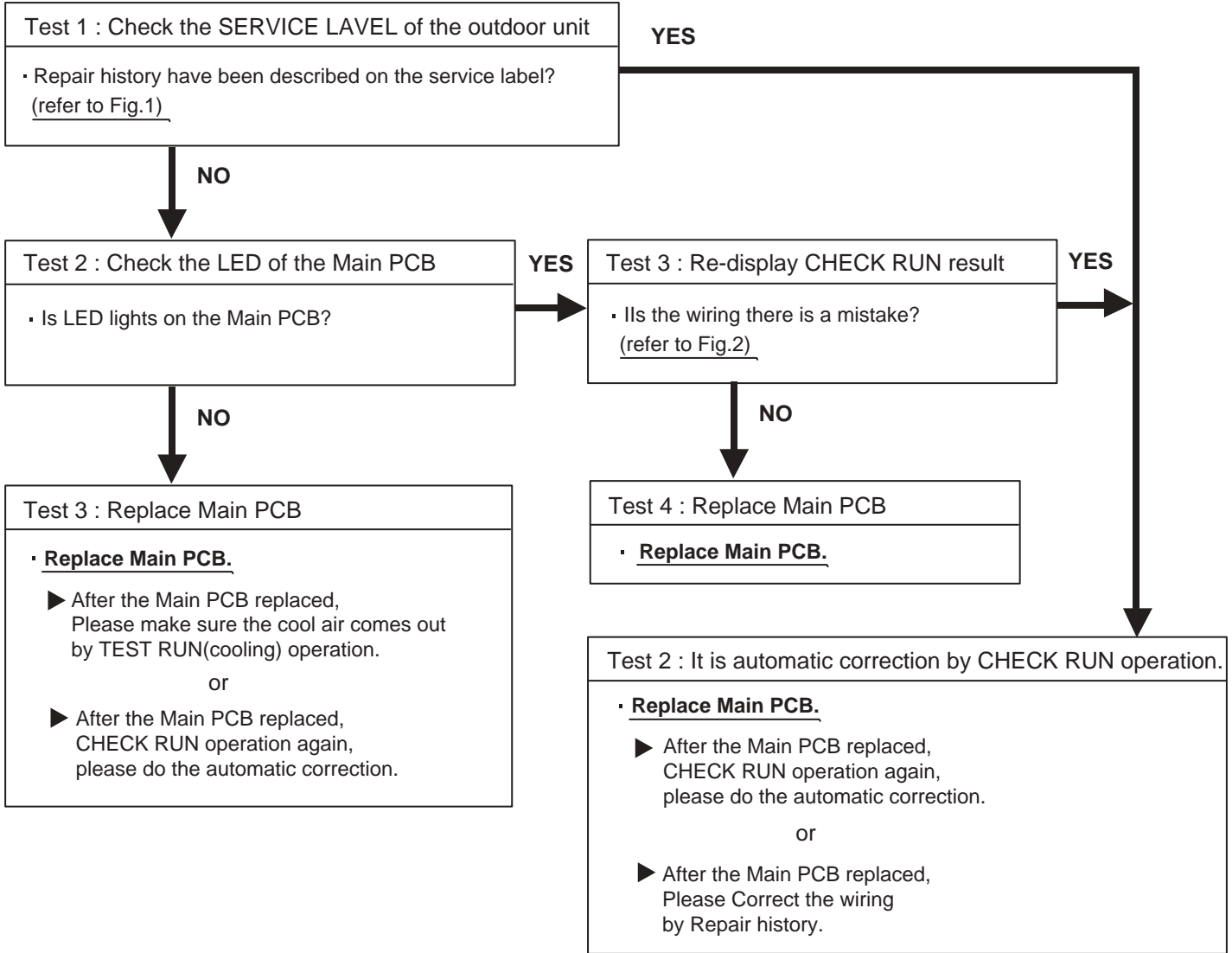


**SERVICE PARTS INFORMATION 10**

CAUTION of if the replace Main PCB(Outdoor unit)

**CAUTION**

If you are replace the Main PCB of the outdoor unit, please do the following things!  
After the replaced Main PCB, normal operation is not possibility.



**Example ) when the 4 indoor units are connected**

Fig.1 : SERVICE LEVEL

• Repair history (Ex.)

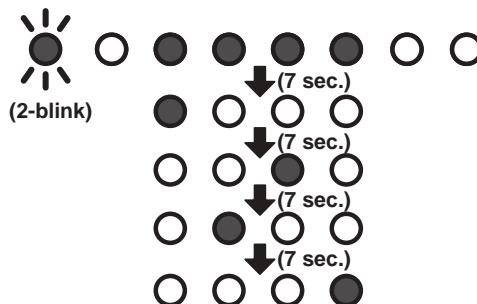
A	B	C	D	E	F
Ⓐ	Ⓒ	Ⓑ	Ⓓ	Ⓔ	Ⓕ

Reverse connection of Terminal B and Terminal C.

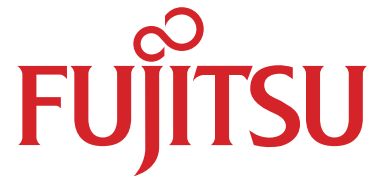
Fig.2 : Display of CHECK RUN operation

• Check results (Ex.)

POWER /MODE	ERROR	MONITOR					
		A	B	C	D	E	F
☀	●	●	●	●	●	○	○



Reverse connection of Terminal B and Terminal C.



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