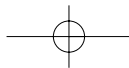


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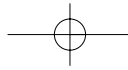
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1. SPECIFICATIONS

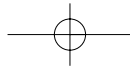
◆ TAS-09SVH

MODEL			TAS-09SVH	
ITEM				
Function			Cooling & Heating	
Power			AC 208~230V / 60Hz	
Capacity	Cooling	W	2600(1,700~3,100)	
		Btu/h	8,800(5,800~10,600)	
	Heating	W	2,700(1,400~3,500)	
		Btu/h	9,200(4,700~11,800)	
Dehumidification		l/h	0.842	
Electrical data	Input Current	Cooling	5.0	
		Heating	5.0	
	Power Input	Cooling	590(350~940)	
		Heating	780(290~1,300)	
Compressor	Type		Rotary	
	Model		G4C090LUBJR	
Fan motor			Indoor Unit	Outdoor Unit
	Type		Cross flow fan	Propeller fan
	Motor Model Number		FMA3131DWB(SCD)	FMA6531DWB(SCD)
Refrigerant (R-410A)	Control		Capillary & EEV	
	Charge Q'ty	lb	2.31	
Connection	Type		Flare	
	OD(Liquid/Gas)	in(mm)	1/4(6.35)	3/8(9.52)
Dimensions(W x H x D)		in	33.5 x 11 x 6.7	30.3 x 21.3 x 11.2
Net Weight		lb	23.1	80.5



◆ TAS-12SVH

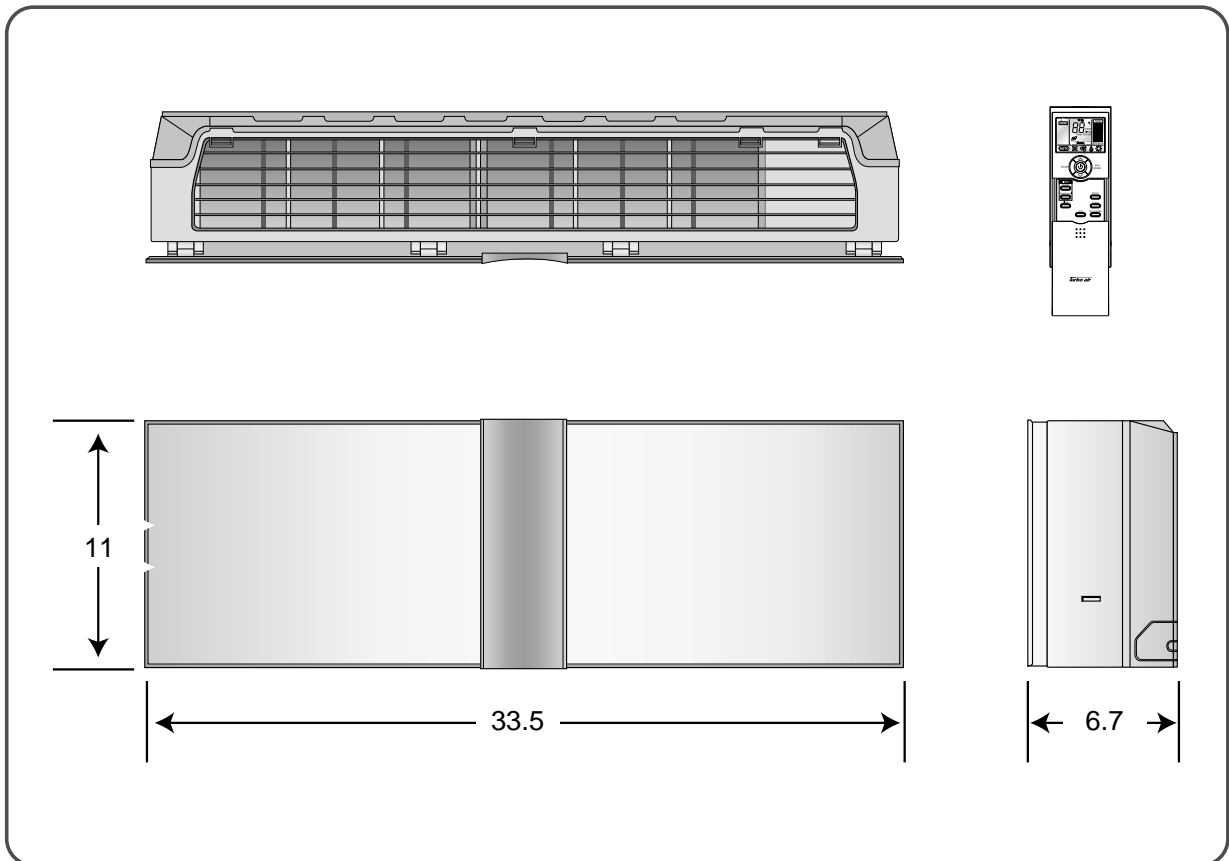
MODEL			TAS-12SVH	
ITEM				
Function			Cooling & Heating	
Power			AC 208~230V / 60Hz	
Capacity	Cooling	W	3,500(1,800~3,800)	
		Btu/h	11,800(6,100~12,800)	
	Heating	W	3,500(1,400~4,200)	
		Btu/h	11,800(4,700~14,300)	
Dehumidification		l/h	1.1	
Electrical data	Input Current	Cooling	5.5	
		Heating	5.3	
	Power Input	Cooling	930(400~1,300)	
		Heating	880(410~1,550)	
Compressor	Type		Rotary	
	Model		G4A110LUAJR	
Fan motor			Indoor Unit	Outdoor Unit
	Type		Cross flow fan	Propeller fan
	Motor Model Number		FMA3131DWB(SCD)	FMA6531DWB(SCD)
Refrigerant (R-410A)	Control		Capillary & EEV	
	Charge Q'ty	lb	2.2	
Connection	Type		Flare	
	OD(Liquid/Gas)	in(mm)	1/4(6.35)	3/8(9.52)
Dimensions(W x H x D)		in	33.5 x 11 x 6.7	30.3 x 21.3 x 11.2
Net Weight		kg	23.1	80.5

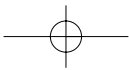


2. OUTLINE AND DIMENSIONS

1 INDOOR UNIT

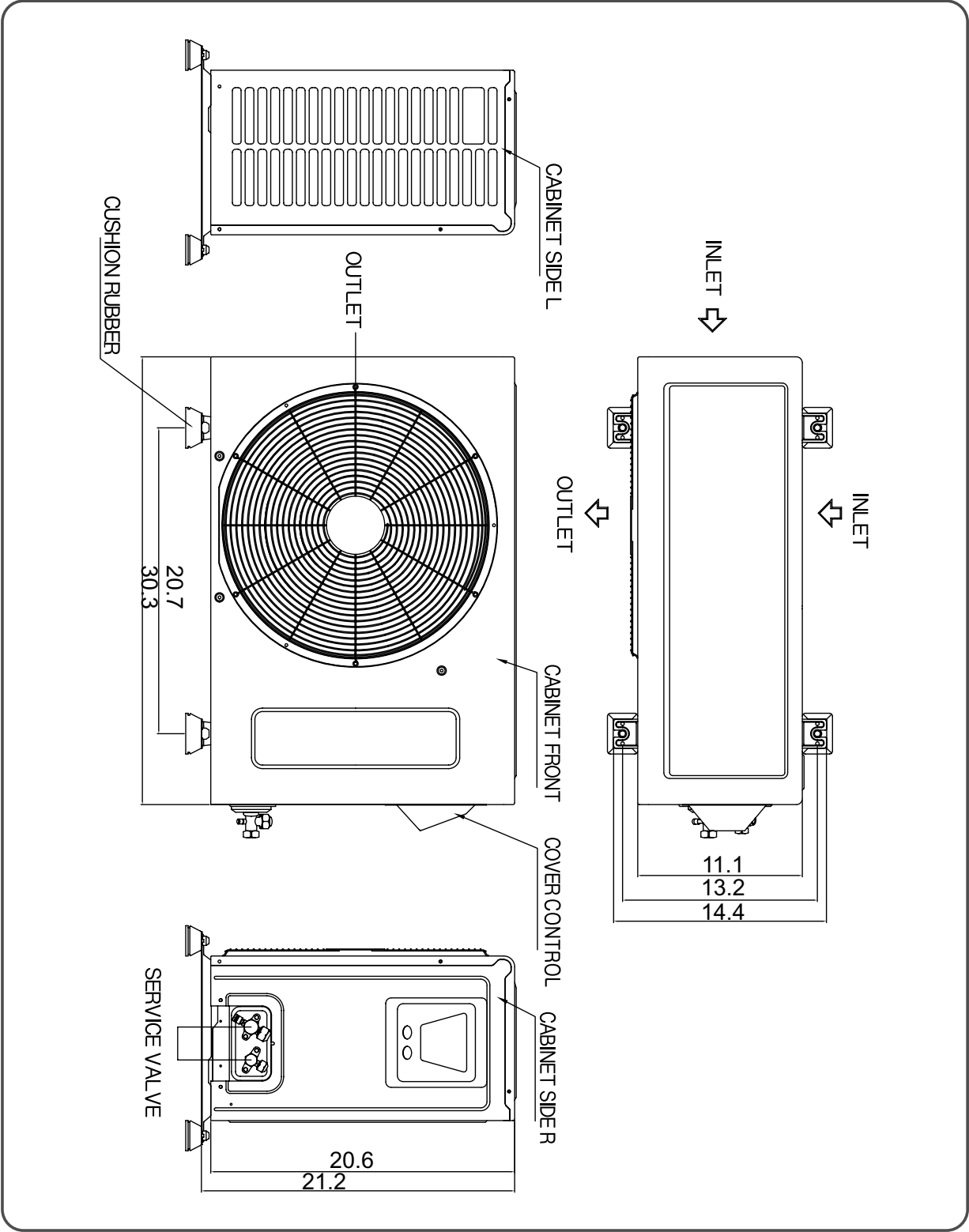
◆ TAS-09SVH/12SVH

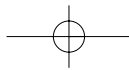




2 OUTDOOR UNIT

◆ TAS-09SVH/12SVH



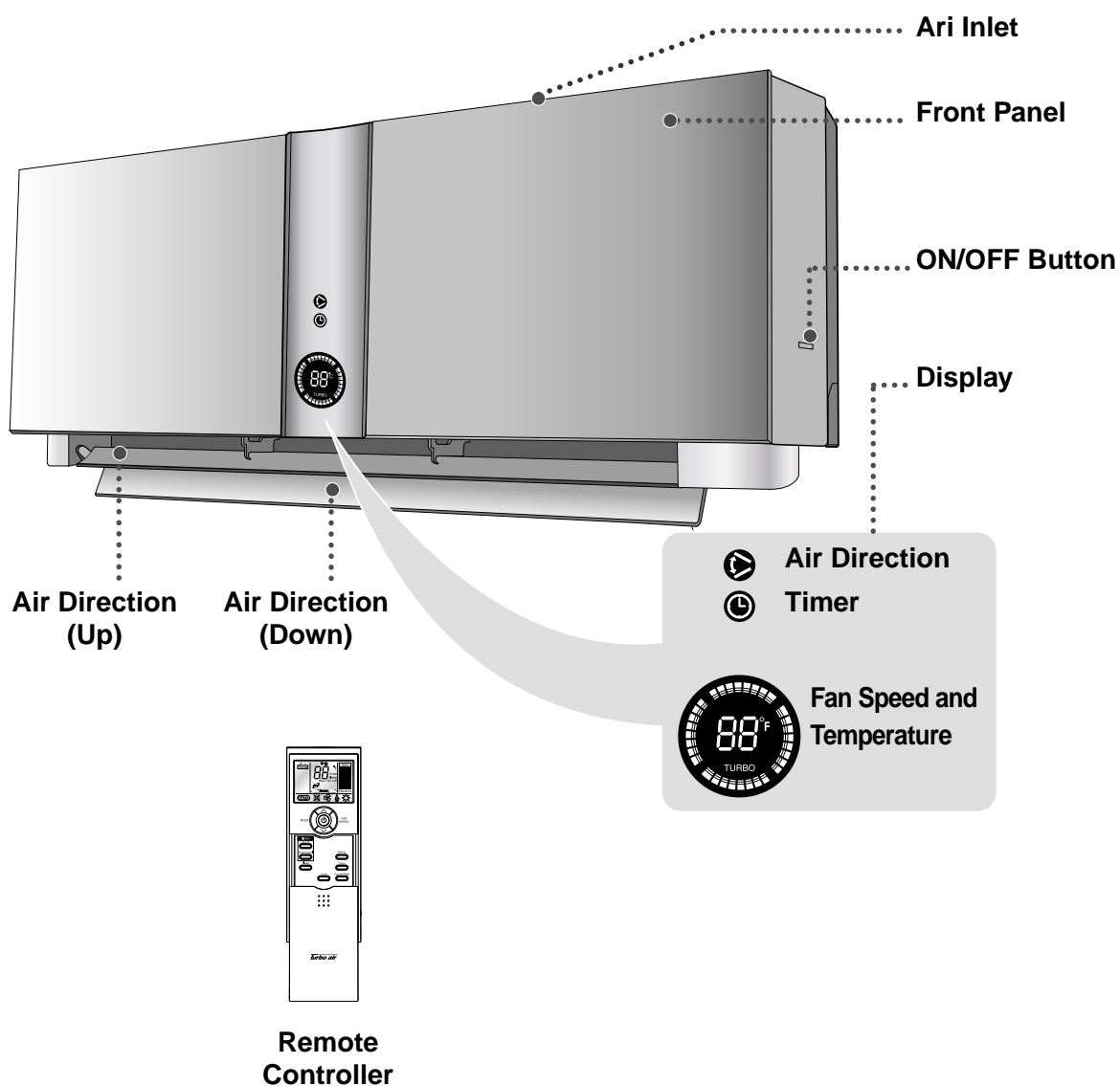


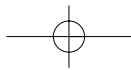
3. OPERATION

1 NAME AND FUNCTION OF PARTS

Indoor Unit

◆ TAS-09SVH/12SVH





Indoor Unit Display

Remote Control Signal Receiver

This place is the part to receive the signal if it receives the signal.



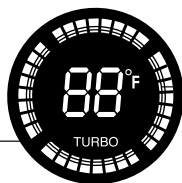
Air Direction lamp

Lights when the operation is going air swing



Timer lamp

Lights during the time reservation mode.



Fan speed and temperature lamp

Turbo lamp

Lights when the operation is going Turbo

Switch Panel

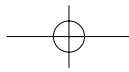
ON/OFF



- There is a switch panel at side of Frame Grille.

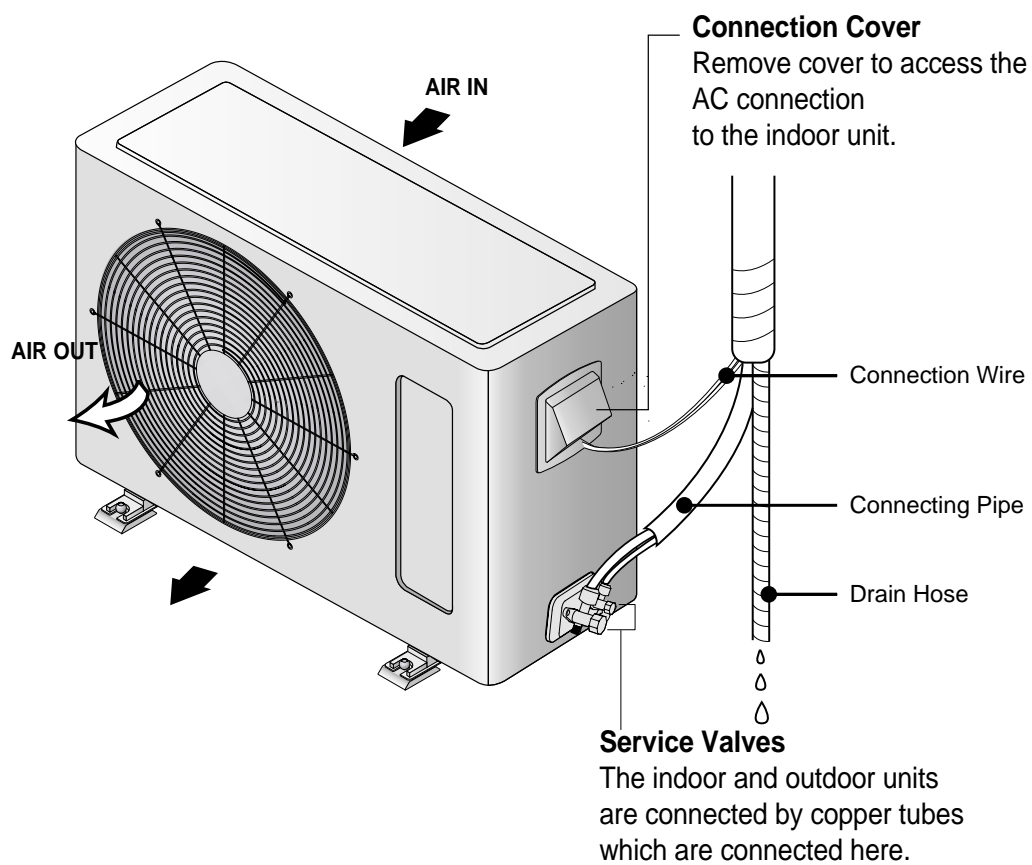
Emergency

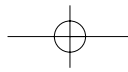
Emergency switch can be used when the remote controller is lost or will not work or installer is testing airconditioner after installation. If when unit is in emergency mode remote control will not work, please turn off and on the product.



Outdoor Unit

◆ TAS-09SVH/12SVH

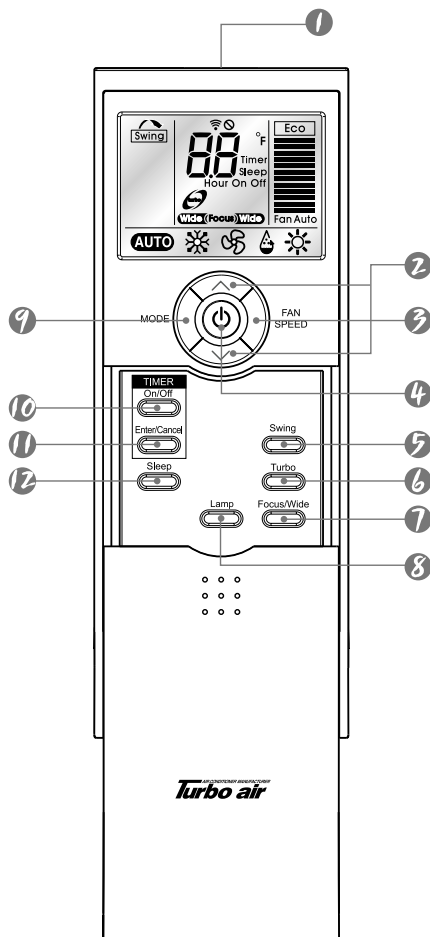




2 REMOTE CONTROLLER

Name of Each Button

Remote Controller



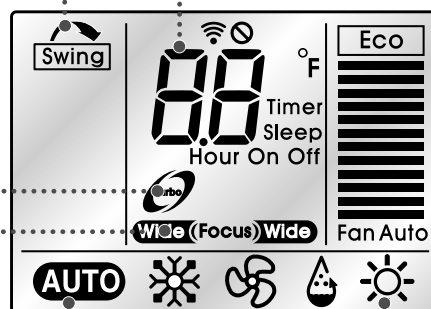
- 1 Signal transmitter**
It sends signals to the indoor unit.
- 2 Temperature setting buttons**
Press to raise or lower the desire temperature.
- 3 Fan speed setting button**
Press to select the fan speed in five steps.
"(Auto, Low, Middle, Hige, Eco) "
- 4 On/Off button**
Press this button once to start operation.
Press once again to stop it.
- 5 Air swing button**
Press this button once to auto operation of flap front.
Press once again to stop of flap front.
- 6 Turbo button**
Press to select super power operation mode
- 7 Focus/Wide button**
Press to select air direction.
- 8 Lamp button**
Press to control the luminosity of the led display on unit.
- 9 Mode selection button**
Press to cycle through the modes.
[Auto/Cool/Fan/Dehumifier/heat]
- 10 Timer On/Off button**
Press to set the unit off or on time.
"(0.5,1,1.5,2,2.5,3,4,5,6,8,10,12,16,20,24)"
- 11 Timer Enter/Cancel timer button**
Press to enter a timer setting or to cancel timer setting.
- 12 Sleep button**
Press to set the unit for the sleep mode.

Remote Display

Air Direction Indicator
Lights to indicate the air direction

Turbo Indicator
Lights to indicate the turbo mode

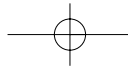
Air Direction Indicators
Lights to indicate the air will flow focus and wide.



Temperature & Reservation Time Indicator
Lights to indicate the temperature or time

Fan speeds indicators
Lights to indicate the fan speed

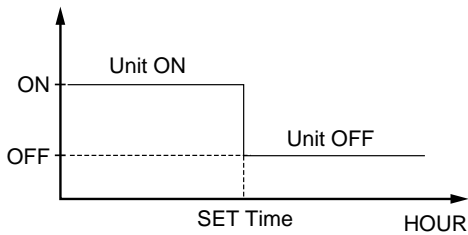
Mode Indicators
(Auto/Cool/Fan/Dehumifier/heat)
Lights to indicate the mode selected



3 DESCRIPTION OF FUNCTIONS

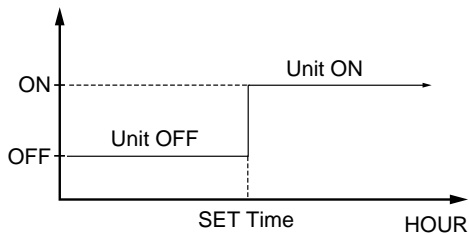
OFF-Timer

If you set time in OFF-Timer Mode, the unit will stop at the set time.



ON-Timer

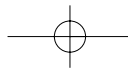
If you set time in ON-Timer Mode, the unit will run at the set time.



Buzzer

If the Indoor Unit Display receive the signal of Remote Controller, you can hear the musical scale sounds.

- (1) In the case of receiving ON/OFF signal-"Do-Mi-Sol-Do/Do-Sol-Mi-Do"
- (2) Temperature control : Mi-Sol and so on : Sol



Temperature display

1. The temperature display indicates the temperature of a room while the unit is in operation.
2. The room temperatures are displayed if you use a remote control or the emergency switch after showing the set temperature for 5 seconds.
3. Range of the temperatures: 18°F~98°F (18°F < Lo, 98°F > Hi)
4. Trial operation mode is indicated.

Operation mode	Indicators
Trial cooling mode	Co
Trial heating mode	Ht

> Refer to the trial operation mode for further information.



Temperature display

Compressor Control

1. The inverter controls cooling/heating capacity by controlling the speed of the compressor (DC Type).

Mode	Compressor control range(rps)	
	9K	12K
Cooling	30~70	30~70
Heating	30~85	30~85

2. When the compressor begins to operate, the operation shall last at least 4 minutes though the set temperature is achieved.
3. After the compressor stops to operate after the set temperature is achieved, the following conditions determine its re-operation.
 Cooling mode: room temp.-set temp. $\geq 36^{\circ}\text{F}$
 Heating mode: room temp.-set temp. $\leq 32^{\circ}\text{F}$
4. The speed of the compressor is set automatically by the microcomputer and the compressor may stop when the prevention mode is in operation.

3 min. Time Delay of Compressor

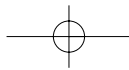
In normal operation, there is a time delay of three minutes between turn off and turning back on including initial power up.

EEV Control

1. EEV controlled by the controller speed.

	9 / 12k
Range of EEV control	70~350pulse

2. EEV is automatically controlled 30 seconds before the compressor operation after initial power-up and one full-open of EEV.
3. EEV is fully closed 1 minute after the compressor stops as the set operation stops.



Fan Speed (Indoor Unit)

- (1) Motor speed (turbo speed, high speed, middle speed, low speed).
- (2) Remote controller setting fan speed. (Auto, L, M, H, Eco, turbo)
- (3) Relation of operating mode between fan speed.

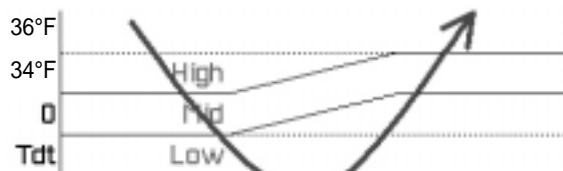
	FAN ONLY	COOL	DEHUMI- DIFICATION	AUTO	HEAT
H	H	H	L	H	H
M	M	M	L	M	M
L	L	L	L	L	L
Auto	X	Auto	L	Auto	Auto
Eco	Eco	Eco	L	Eco	Eco

(4) Automatic Operation

If the unit is set in 'AUTO' mode, the unit operates automatically according to the room temperature to keep the room temperature comfortable.

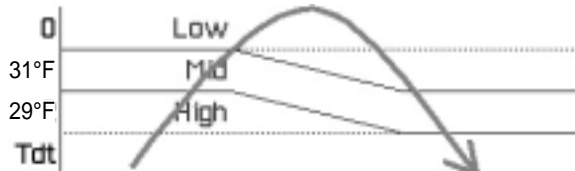
- Controlling factors: Automatically controlled by room and set temperatures.

1) Cooling mode



$$Tdt = RT - DT$$

2) Heating mode



Fan speed(Outdoor Unit)

- Controlling factors: Automatically controlled by room and set temperatures.

1) Cooling/dehumidification mode

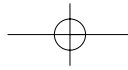


Tao

2) Heating mode

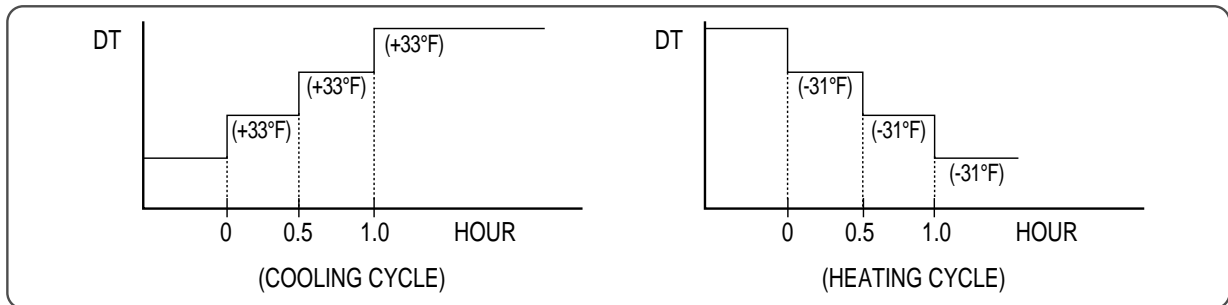


Tao



Sleep Mode

- (1) When you are select sleep switch with time setting(within four hours), and the unit controls the room to the desired temperature. (The unit will not operate after time setting)
- (2) As follow picture, setting temperature has risen by 33°F in the cooling cycle and goes down 31°F in the heating cycle every an half hour.



- (3) To cancel sleep mode, press the SLEEP button again or press the MODE button once.: the SLEEP indicator will disappear in the display.

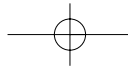
Emergency Operation

- (1) When the remote controller is lost, damaged or the battery is discharged, the Emergency operation can be used to run the unit.
- (2) The setting conditions of Emergency operation are as follows.

	Operation
mode	RT ≥ 72°F: Cooling RT < 72°F : Heating
preset temp.	64°F: Cooling, 92°F: Heating
Fan speed	Auto

Trial operation

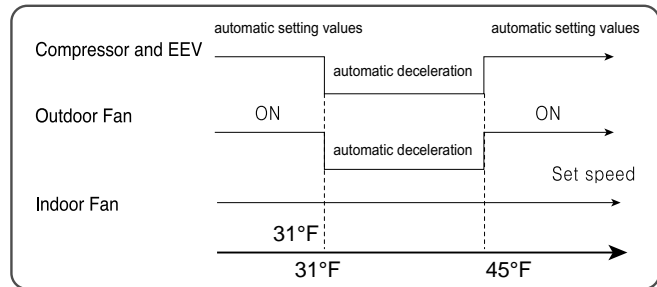
1. Operation condition: Operated right after the emergency switch is on. Trial operation can not be selected while in operation)
 - 1) Press the switch once (for 5 seconds): cooling (only when setting is stopped)
 - Trial mode is operated 5 seconds after the switch is pressed.
 - 2) Press the switch one more: heating
 - 3) Press the switch one more: OFF
2. DISPLAY: only Cooling(Co) and Heating (Ht) are indicated.
3. Operation time: 20 minutes (Automatically off after 20 minutes)



Frost Prevention of Indoor Unit (Cooling mode)

When the unit operates at low ambient temperature, frost may appear on the Evaporator. When the indoor coil temperature is lower than 31°F at the end of 5 minutes of continuous compressor operation from the start, the microcomputer of the unit stops the compressor to protect the unit from the frost. The control procedure for indoor coil freeze protection.

- 1) The compressor and EEV decelerate until the temperature of indoor coil reaches 45°F or higher.
- 2) Indoor fan operates according to user set speed.
- 3) The normal operation returns when the indoor coil temperature is higher than 45°F or equal to 45°F.



(Indoor coil temperature)

Auto Mode

(1) In Auto Mode

After the indoor fan is operated for 20 seconds in the Auto Mode the unit will operate automatically by selecting operating Mode according to the room temperature

(RT: Room temperature)

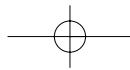
Judgement	OPERATING MODE
$DT-36^{\circ}\text{F} > RT$	Heating
$DT-36^{\circ}\text{F} \leq RT \leq DT+38^{\circ}\text{F}$	Dehumidifier
$DT+38^{\circ}\text{F} < RT$	Cooling

> If A/C is in operation before the auto mode setting, the previous mode is selected.

(2) Selecting Operating Mode Again

- In case of operating mode is Cooling : room temperature meets Heating range($DT-36^{\circ}\text{F} > RT$) at the end of 10 minutes of continuous compressor stop, then the unit select operating mode again.
The unit will automatically by Heating mode.
- In case of operating mode is Heating or Dehumidifier : room temperature meets Cooling range($RT+38^{\circ}\text{F} < RT$) -----> Cooling mode

(3) Range of setting temperature: 72°F ~ 80°F



Turbo Mode

1. Turbo mode can not be selected if the air conditioner is not set.
2. The previous mode decides the Turbo operation mode.

Judgement	Operating mode
If Turbo is selected while in cooling/dehumidification mode (including an automatic mode)	Turbo Cooling Turbo Heating
If Turbo is selected while in fan mode ($RT \geq 72^{\circ}\text{F}$)	
If Turbo is selected while in heating mode (including an automatic mode)	
If Turbo is selected while in fan mode ($RT \leq 72^{\circ}\text{F}$)	

3. Operating mode

Mode		Turbo cooling	Turbo heating
Set time		64°F(Fixed)	92°F(Fixed)
Fan direction		Cooling location (selectable)	heating location (selectable)
Operation time		30minutes	30minutes
Load	COMP	70 RPS	Automatic setting *note1
	IDF	Turbo (fixed)	Turbo (fixed)
	Current control	Focused	Focused
	4way	OFF	ON

> The compressor speed is automatically controlled if the prevention function is on while in Turbo mode.

> The compressor speed is automatically set by ODU air temperatures .(60,78,88rps)

Dehumidification Mode

Set temperature: 76°F(Controlled range : 64°F ~ 92°F)

	COMP control	IDF control
	Cooling	Cooling
	30RPS	Light Fan
	OFF after 3-minute operation	Monitoring

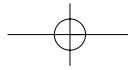
RT-DT

Air Discharge Direction(only remocon operation)

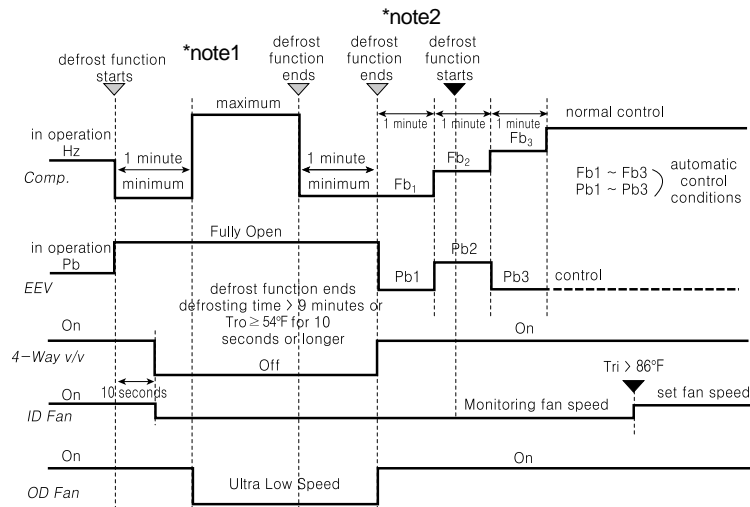
The air discharge direction procedure is below.

fan auto : default ---> Up/Down ---> Fixed ---> Up/Down

Wide/Focus : default ---> Wide ---> Focus ---> default

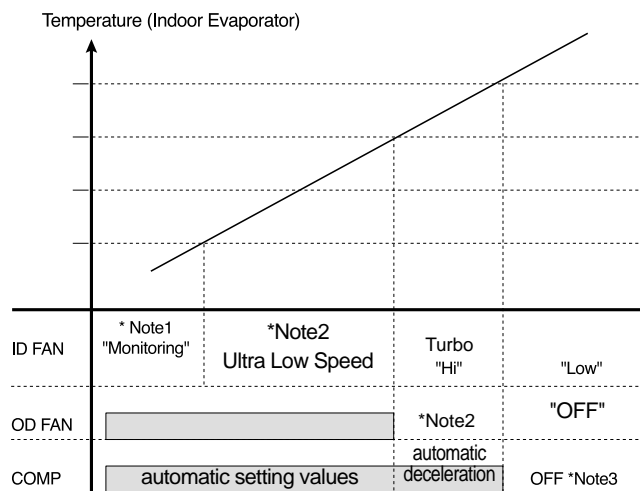


Defrost Function Chart for Outdoor Condenser(Heating mode)



- Note1 : The defrost function starts when the indoor Evaporator of Temperature is lower than 28.4°F max (Initial temperatures vary according to ODU air temperatures due to the changeable capacity) at the 45 minutes of continuous Compressor operating from start.
- Note2 : The Indoor Evaporator of Temperature is over 54°F or 9 minute later.

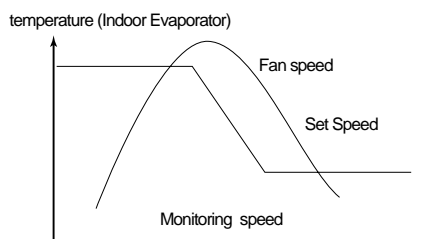
Max Load Heating Operation Diagram(Heating mode)



- Note1 : 30s ON. 120s OFF when the Compressor is OFF.
- Note2 : The Fan is operating normally when the temperature is below 121°F.
- Note3 : The Temperature is over 140°F and 1 minute later.

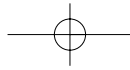
Cooling air prevention of Heating mode

1. If the indoor fan operates when compressor stop in Heating mode, user will be sensitive to the cold.
temperature (Indoor Evaporator)
2. The indoor fan speed is lowered by one level if the room temperature is $\leq 50^{\circ}\text{F}$ and the outdoor temperature is $\leq 23^{\circ}\text{F}$.



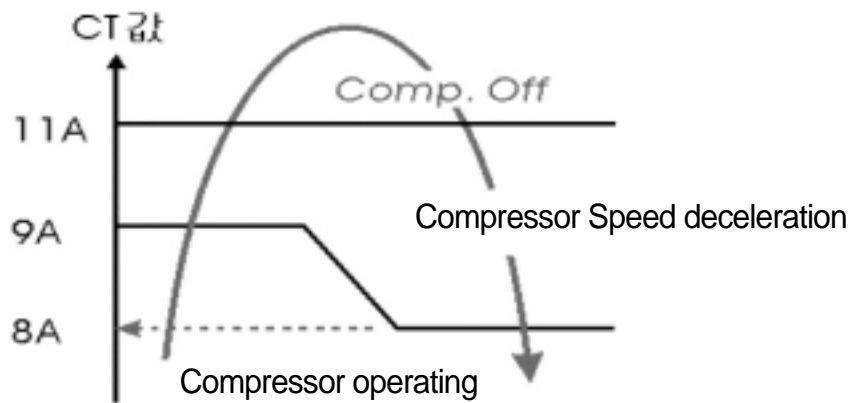
Set fan speed	Operated fan speed
Turbo, High	Middle
Middle, Low	Low

> The outdoor fan is set to Low.



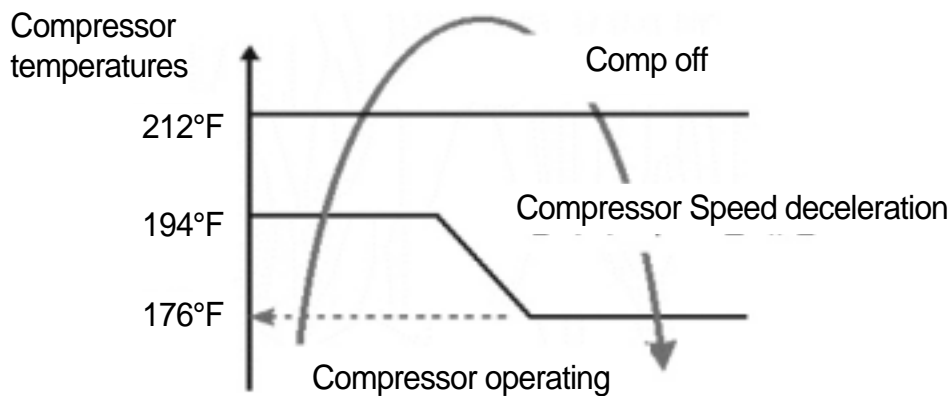
Over-current prevention function

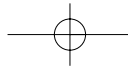
- In case an excess current occurs while the air conditioner is in operation, the compressor speed automatically decelerates (in order to protect a magnetodiode such as power IC).



Overheating prevention function

- In case excess heat occurs while the air conditioner is in operation, the compressor speed automatically decelerates (in order to protect the compressor)





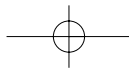
Self-Diagnostic Function

The control will contain diagnostic test to verify the integrity of the system.

(1) Error Code Display Pattern

- The LED of the indoor unit shows the temperatures when the air conditioner is in normal operation or the below when in the self diagnostic function.

devision	LED display	case	A/C state	description
Indoor error	E0	room sensor error	All off	short circuit or disconnection of the room temperature sensor open or short (OPEN: $\leq 0.3V$, SHORT: $\geq 4.7V$)
	E1	I/D coil sensor error	All off	short circuit or disconnection of the heat exchanger sensor open or short (OPEN: $\leq 0.3V$, SHORT: $\geq 4.7V$)
	E5	communication error	All off	Communication between the in/outdoor units has failed for 3 minutes or longer
	E6	indoor fan motor error	All off	The indoor fan operates at < 100 rpm
	E7	4way valve error	All off	The temperature of I/D coil sensor goes up by $36^{\circ}F$ (cooling mode) or down by $36^{\circ}F$ (heating) after the compressor begins to operate.
	E8	Incorrect wiring of sensors	All off	The indoor air temperature sensor and heat exchanger sensor have been switched (The $\blacktriangle T$ value of the room sensor is $\geq 50^{\circ}F$ 5 minutes after the compressor begins to operate)
Outdoor error	o0	ODU air sensor error	All off	short circuit or disconnection of the outdoor temperature sensor open or short(OPEN: $\leq 0.3V$, SHORT: $\geq 4.7V$)
	o1	condensor sensor error	All off	short circuit or disconnection of the heat exchanger sensor open or short(OPEN: $\leq 0.3V$, SHORT: $\geq 4.7V$)
	o2	Compressor discharge sensor error	All off	short circuit or disconnection of the discharge temperature sensor open or short(OPEN: $\leq 0.3V$, SHORT: $\geq 4.7V$)
	o6	outdoor fan motor error	All off	The outdoor fan operates at < 100 rpm
Outdoor Driver error	d1	Initial compressor operation erro	All off	The compressor fails to start operation
	d2	Compressor operation error	All off	The compressor fails to operate while other conditions are met
	d3	Compressor EMG error	All off	The electric current is $\geq 40A$ while the compressor is in operation
	d5	Inverter overheating error	All off	The electric current is $\geq 11A$ while the compressor is in operation
	d8	DC Link voltage error	All off	DC Link voltage is $\leq 187V$ or $\geq 400V$



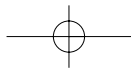
Diagnostic Function

- 1) You can use diagnostic test to verify the unit when the unit is OFF abnormally.
Diagnostic Code will display for 5 seconds as press ON/OFF on remote controller and ON/OFF(emergency) switch on Frame panel after the unit is OFF abnormally.

Diagnostic Code	Case	Note
Error code	the unit stop by error code	check the self Diagnostic
F1	the unit stop by Remote controller	normal
F2	the unit stop by ON/OFF switch on the Frame Grille	normal
F3	the unit stop by time stop function	normal

- 2) And you can use diagnostic test to verify the unit when the unit is operating abnormally.
Diagnostic code will display for 5 seconds as press ON/OFF switch(emergency) on Frame Grille for 5 seconds when the unit is operating abnormally.

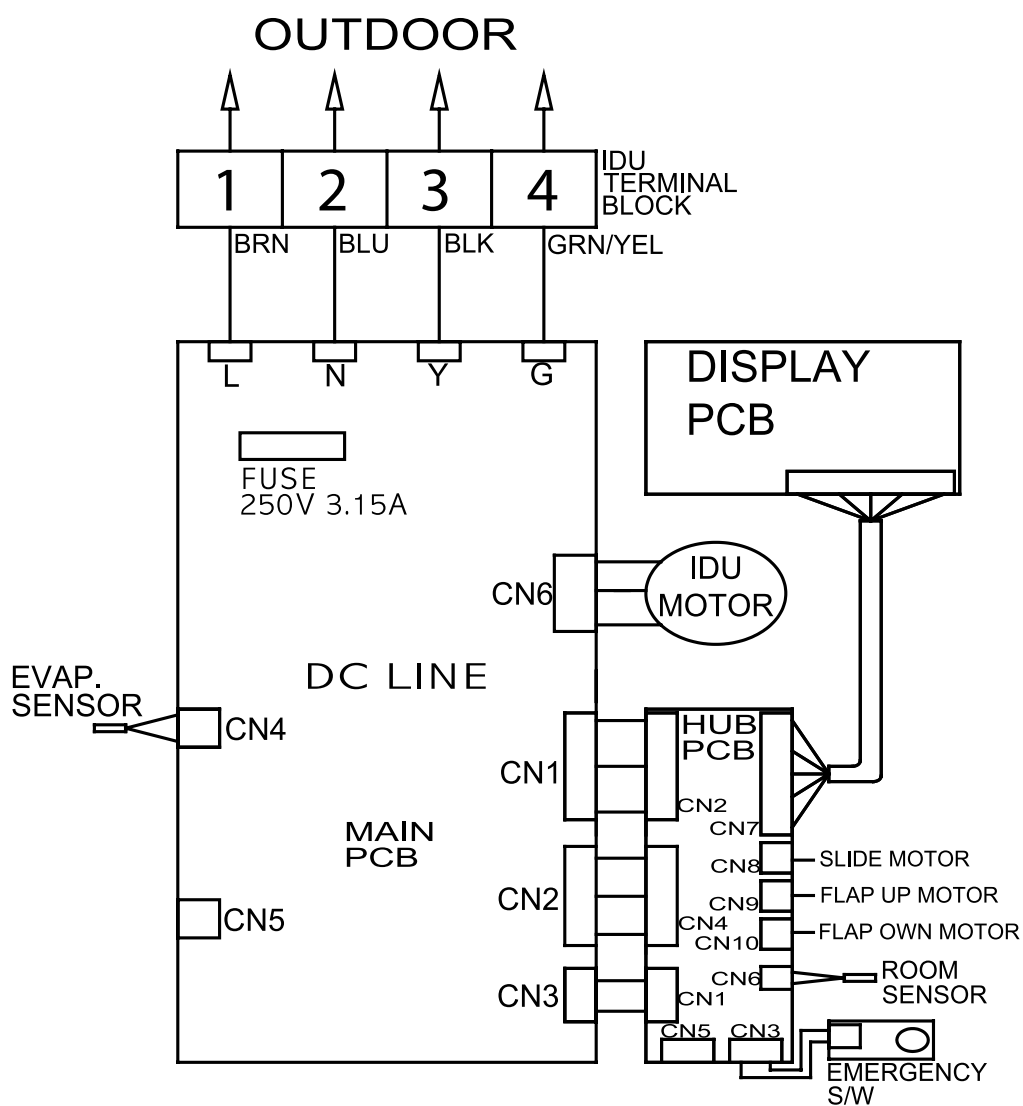
Diagnostic code	case
P1	Defrost prevention function is operating
P2	Freezing cold prevention
P3	Max load Heating function is operating
P4	Defrost function is operating
P5	Overheating prevention
P6	Over-current prevention
P7	Compressor overheating prevention



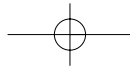
4. WIRING DIAGRAM

Indoor Unit

◆ TAS-09SVH, TAS-12SVH

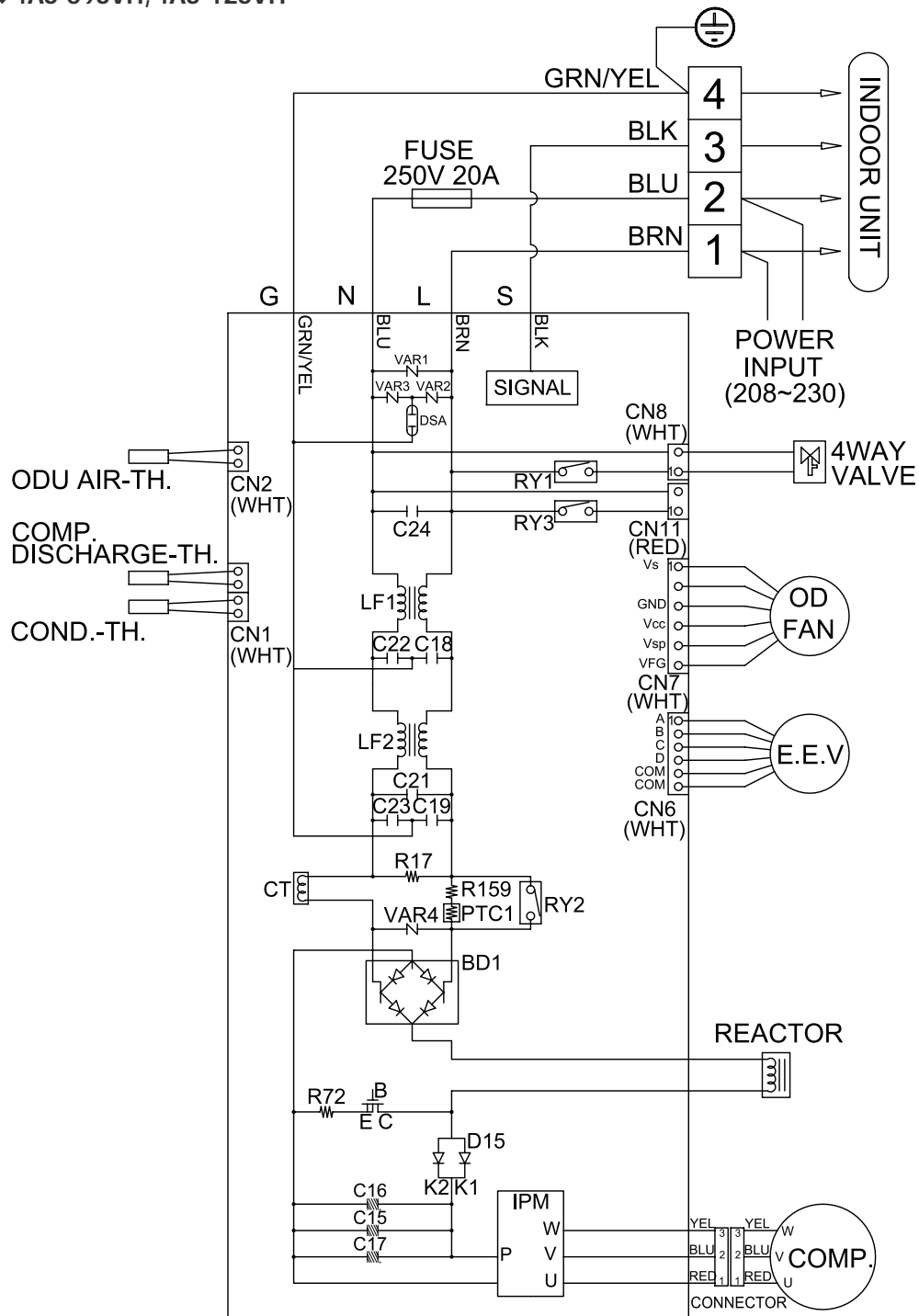


311359V300

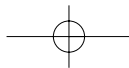


Outdoor Unit

◆ TAS-09SVH, TAS-12SVH



311359V310

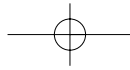


1 MAIN ELECTRIC PARTS

✓ **Caution** : In this Manual, some parts can be changed for improving, their performance without notice in the parts list.

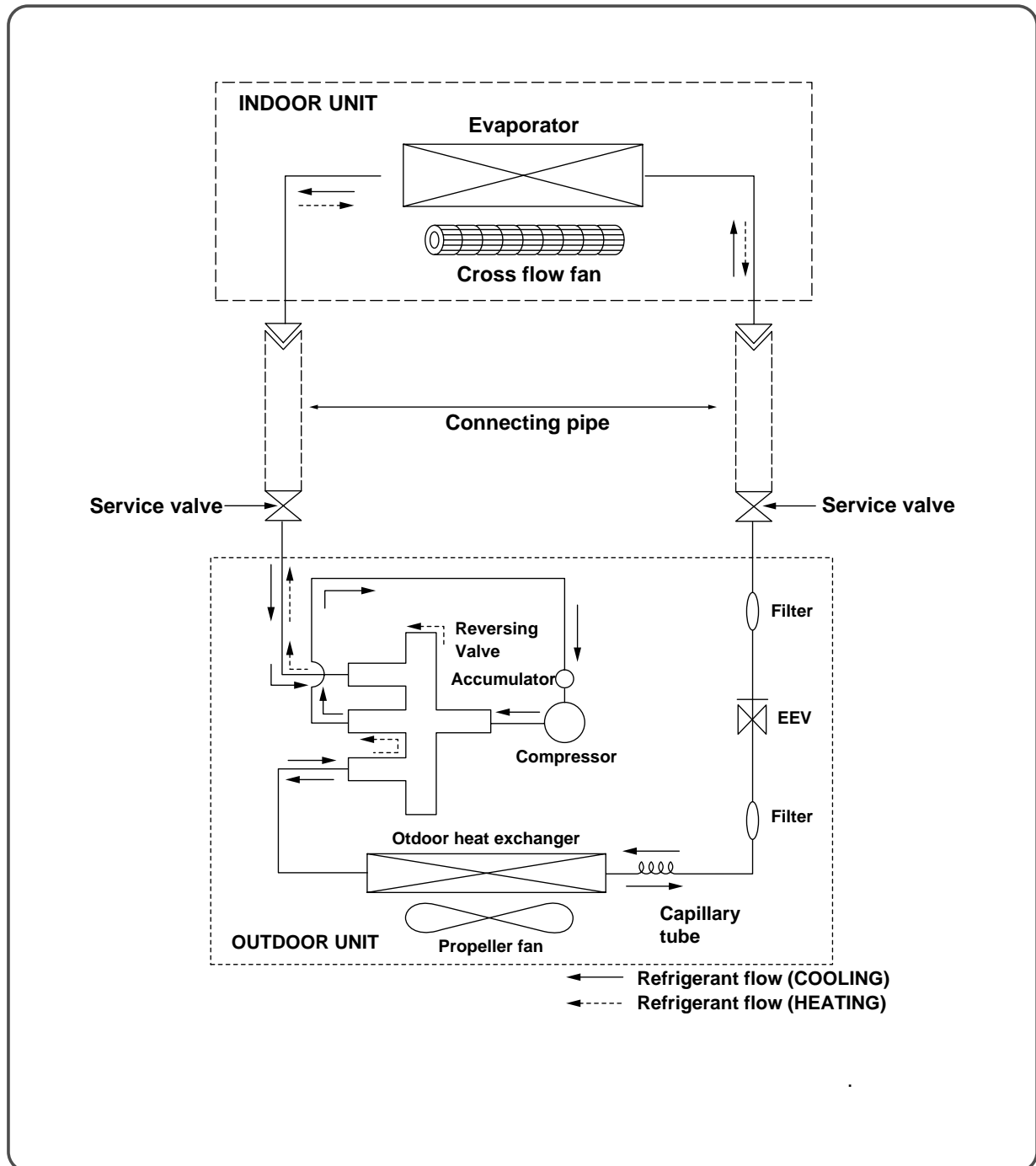
◆ TAS-09SVH/12SVH

	Part Name	Part Code	Spec.	Quantity	Remark
Indoor Unit	MOTOR IDU	3118011120	FMA3131DWB, BLDC, VS=310V,VCC=15V,VSP=6V, 1520RPM	1	
	FUSE	3FVLB3152L	250V/50T 3.15A	1	
	MOTOR STEPPING	3118016100	24BYJ48-880,OD24D,C12V,600GF.CM,LW350	1	
		3118016110	24BYJ48-881,OD24D,C12V,600GF.CM,LW350,H-BLUE	1	
		3118003810	35BYJ46-103, DC 12V, 900MM.1508Y	1	
	TERMINAL BLOCK	3118802900	DFB-4P(S) 250V 20A	1	
Outdoor Unit	COMPRESSOR	3117151500	G4C090LU2JR, CHINA	1	TAS-09SVH
		3117151600	G4A110LU1JR, CHINA	1	TAS-12SVH
	MOTOR ODU	3118014810	FMA6531DWB, VS=310V, VC=15V, VSP=0~6V	1	
	FUSE	4414A25140	250V 20A 65TL	1	
	TERMINAL BLOCK	3118802900	DFB-4P(S) 250V 20A	1	

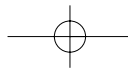


5. REFRIGERANT CYCLE

1 Diagram of Refrigerant Cycle

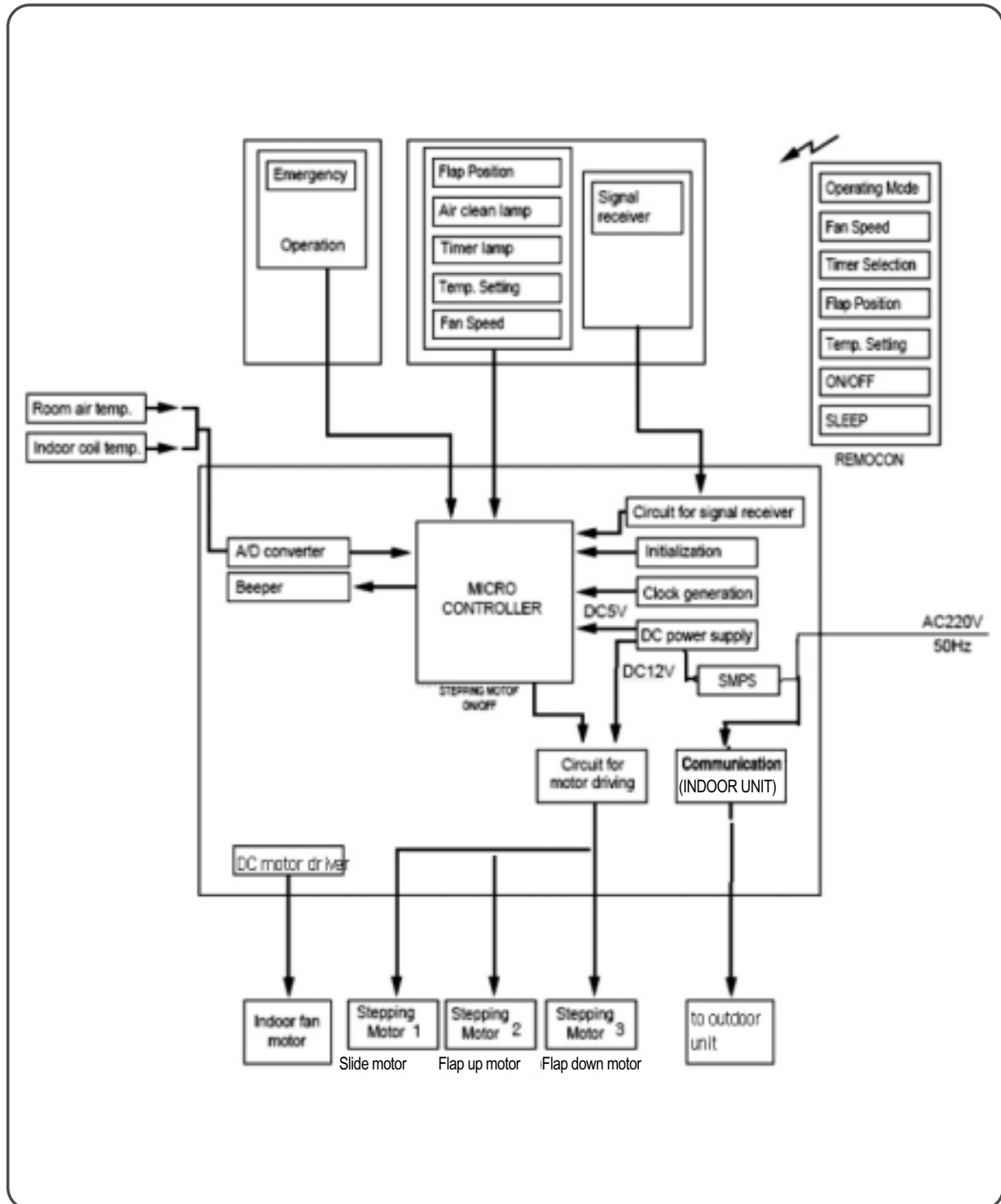


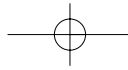
Note) If the pipe length exceeds the standard length (49ft), add 0.03lb of refrigerant per extra ft.



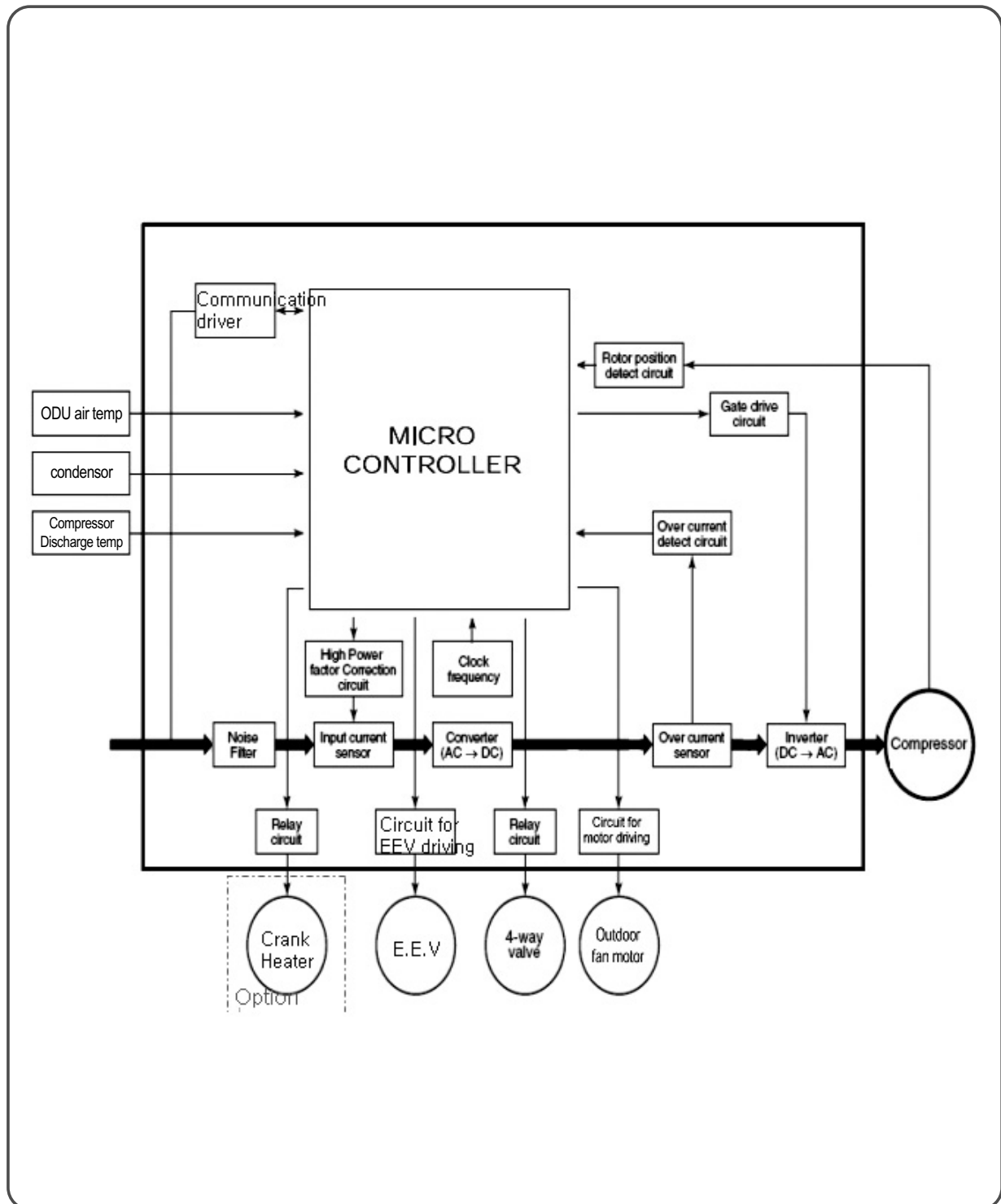
6. CONTROL BLOCK DIAGRAM

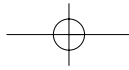
◆ TAS-09SVH/12SVH (INDOOR UNIT)



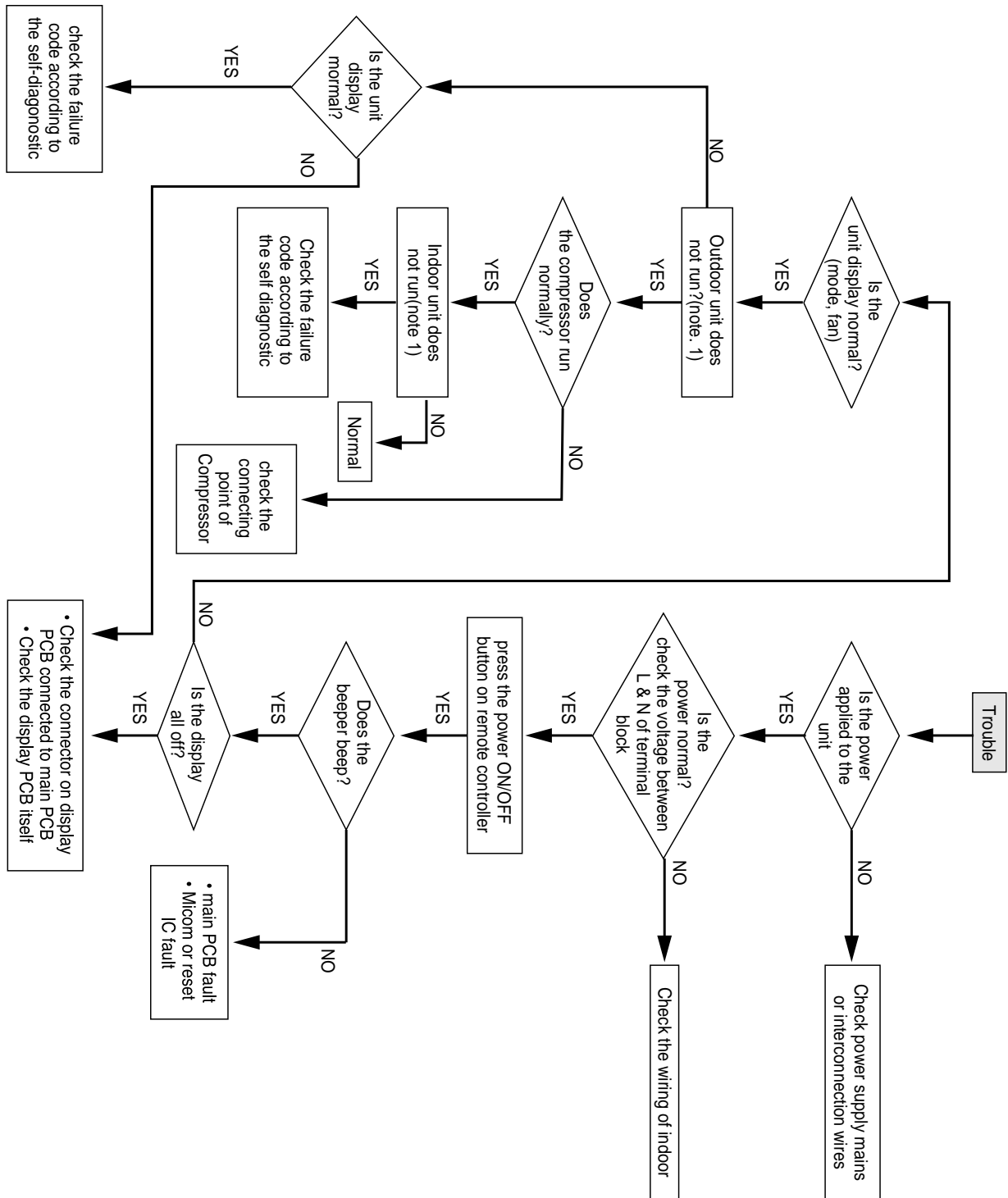


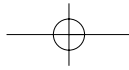
◆ TAS-09SVH/12SVH (OUTDOOR UNIT)





7. TROUBLE SHOOTING



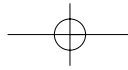
**Note 1)**

- ① Neither indoor unit nor outdoor unit runs.
Check the following points first. (There are following case in normal operation)
 - a. Is the timer mode set the "timer ON".
 - b. Is the timer mode set the "timer-OFF" and the time had passed?
- ② Neither outdoor fan nor compressor runs while indoor fan runs.
Check following points first. (There are following cases in normal operation)
 - a. Is the temperature set point suitable?
 - b. Has the 3 minutes time guard for compressor operated?

Self-Diagnostic Function

• Error Code •

- ① When the compressor do not run.
 - i) Check the voltage between **L** and **N** of terminal block.
(Indoor Unit, Outdoor Unit)
 - ii) Check connecting wire of indoor unit and outdoor unit.
 - iii) Check relay RL1 on power P.C.B
- ② Check fixing of indoor coil thermistor.
- ③ Check the GAS LEAKAGE of the pipe.

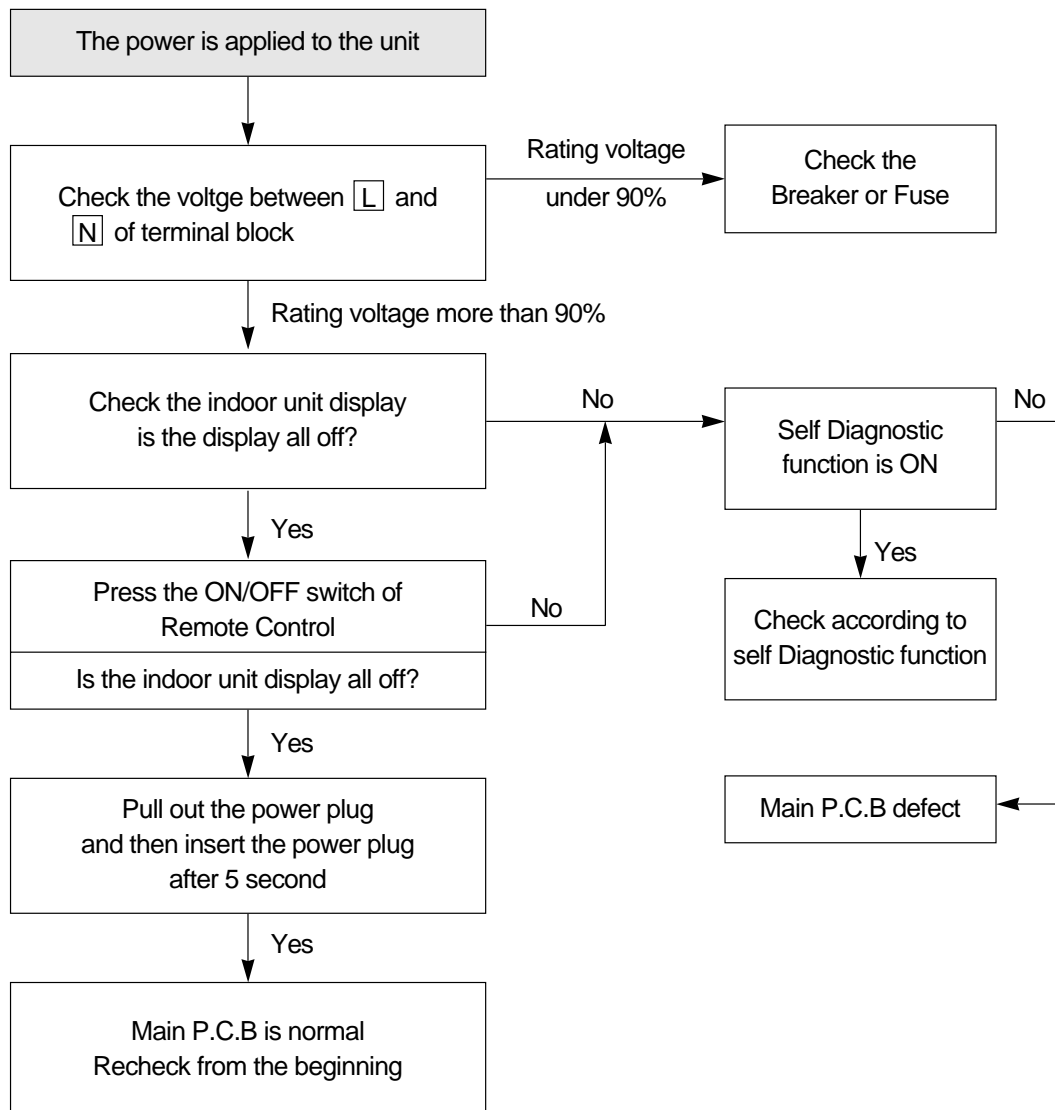


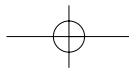
Neither Indoor Unit nor Outdoor Unit Runs

Confirm following statement.

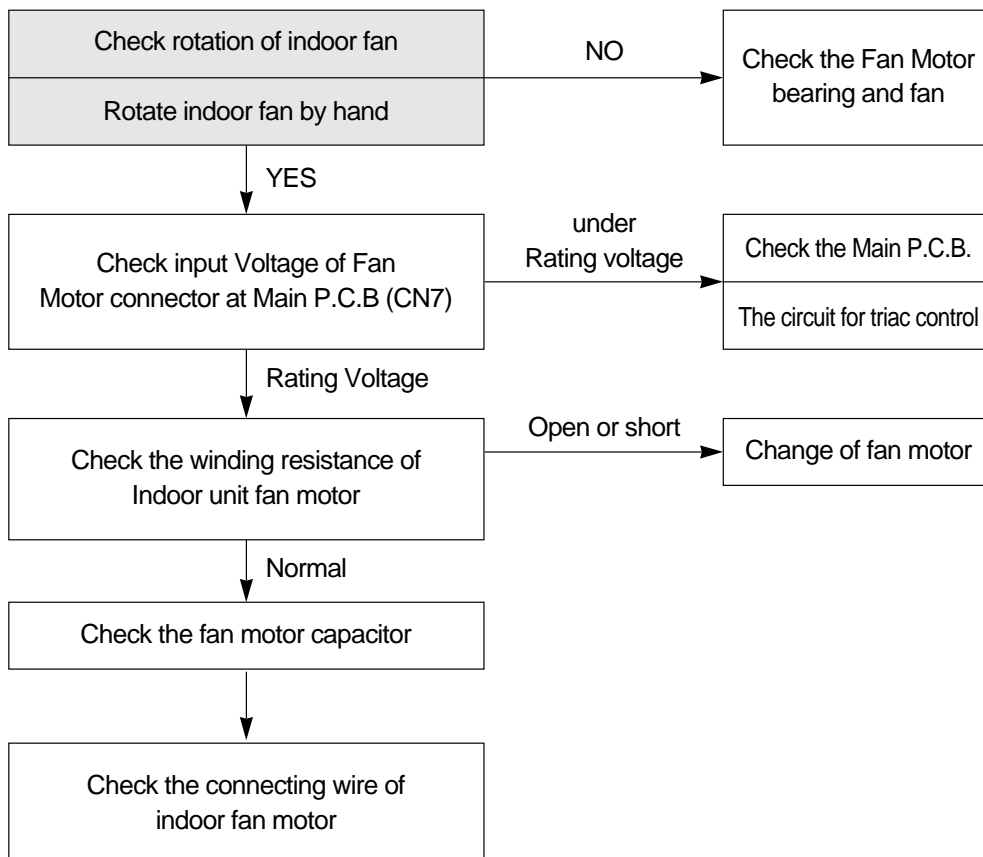
When the unit operate normally, Sometimes the outdoor unit and indoor unit cannot operate.

- ① Check the function select switch. Is it timer mode?
- ② The function select switch locate the sleep mode and is the setting time over?
- ③ Is the setting mode DEHUMIDIFIER mode?
- ④ When the unit is DEHUMIDIFIER mode while in the auto mode, the outdoor unit and indoor unit does not run.

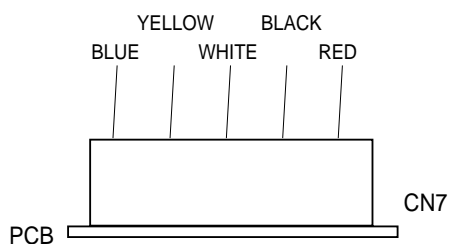




Outdoor Unit Runs but Indoor Fan does Not Run(Error Code Display : E6)



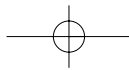
*Input voltage check of indoor fan motor



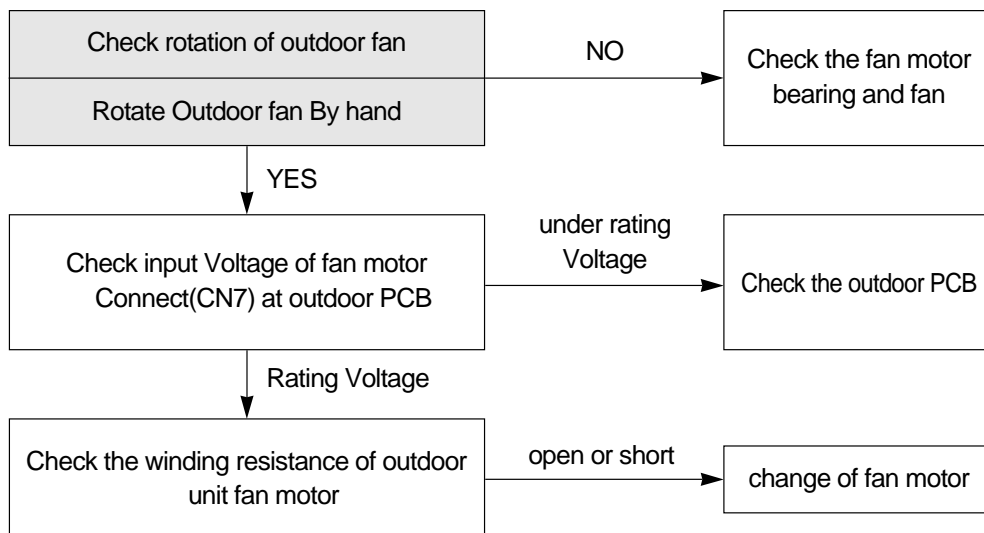
> Approved motor voltage when measured by a DC volt meter

	Normal voltage	Remarks
RED-BLACK	280~370Vdc	DC MOTOR Rating Voltage
WHITE-BLACK	13~16Vdc	
YELLOW-BLACK	2~6Vdc	Values vary according to the speed

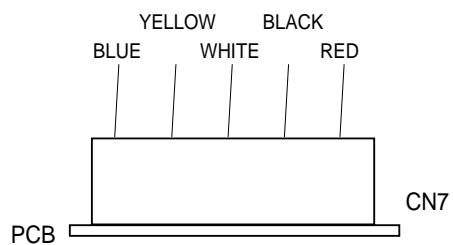
> Check if the power is normal if RED-BLACK voltage is $\leq 280\text{Vdc}$



If the outdoor fan fails to operate (Error Code Display : o6)

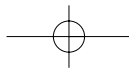


*Input voltage check of Outdoor fan motor



> Approved motor voltage when measured by a DC volt meter (rating voltage)

	Normal voltage	Remarks
RED-BLACK	DC 280~370Vdc	DC MOTOR Rating Voltage
WHITE-BLACK	13.5~16.5Vdc	
YELLOW-BLACK	0~6.5Vdc	Values vary according to the speed

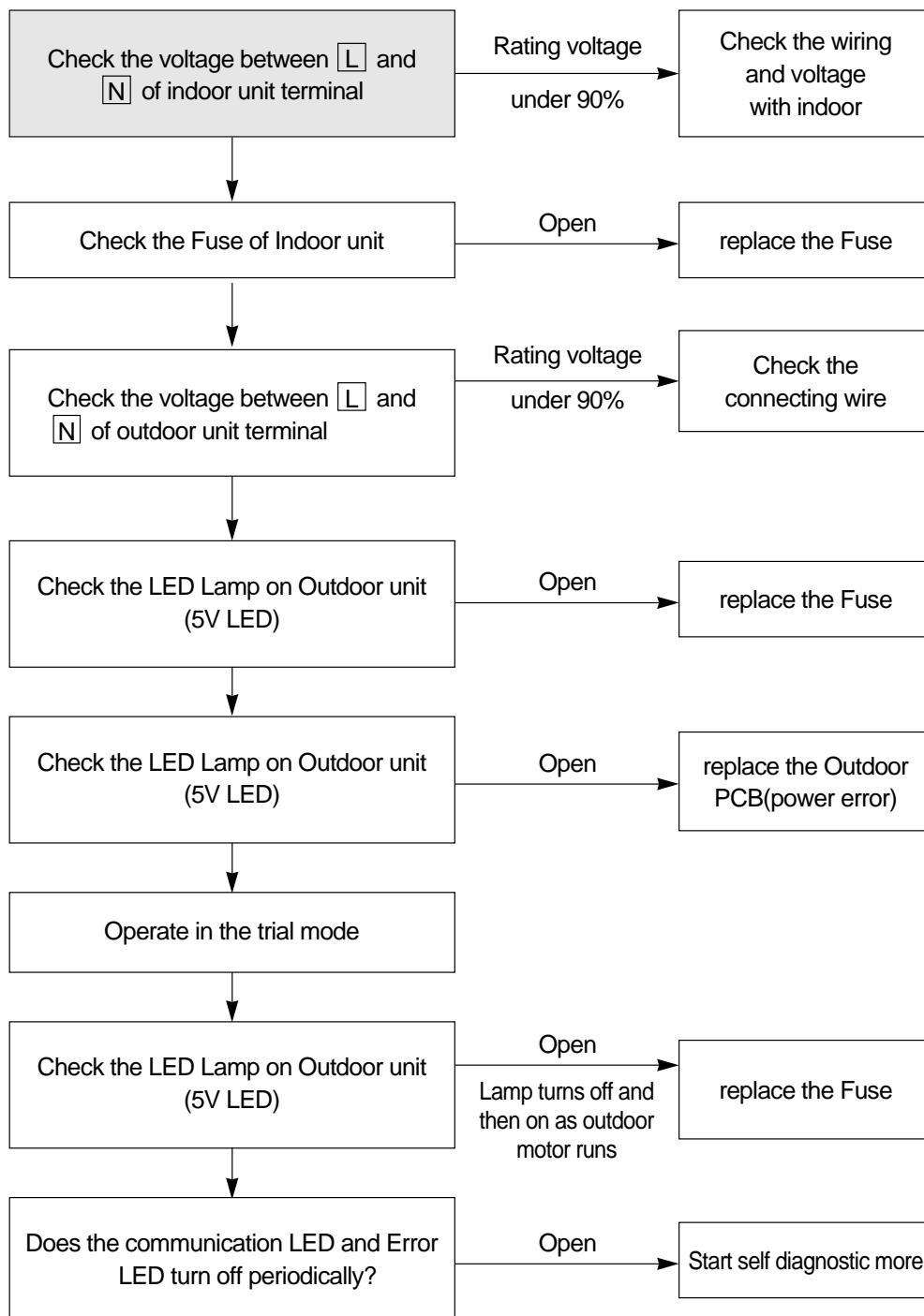


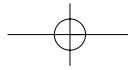
Outdoor Unit Do Not Run

Confirm following statement.

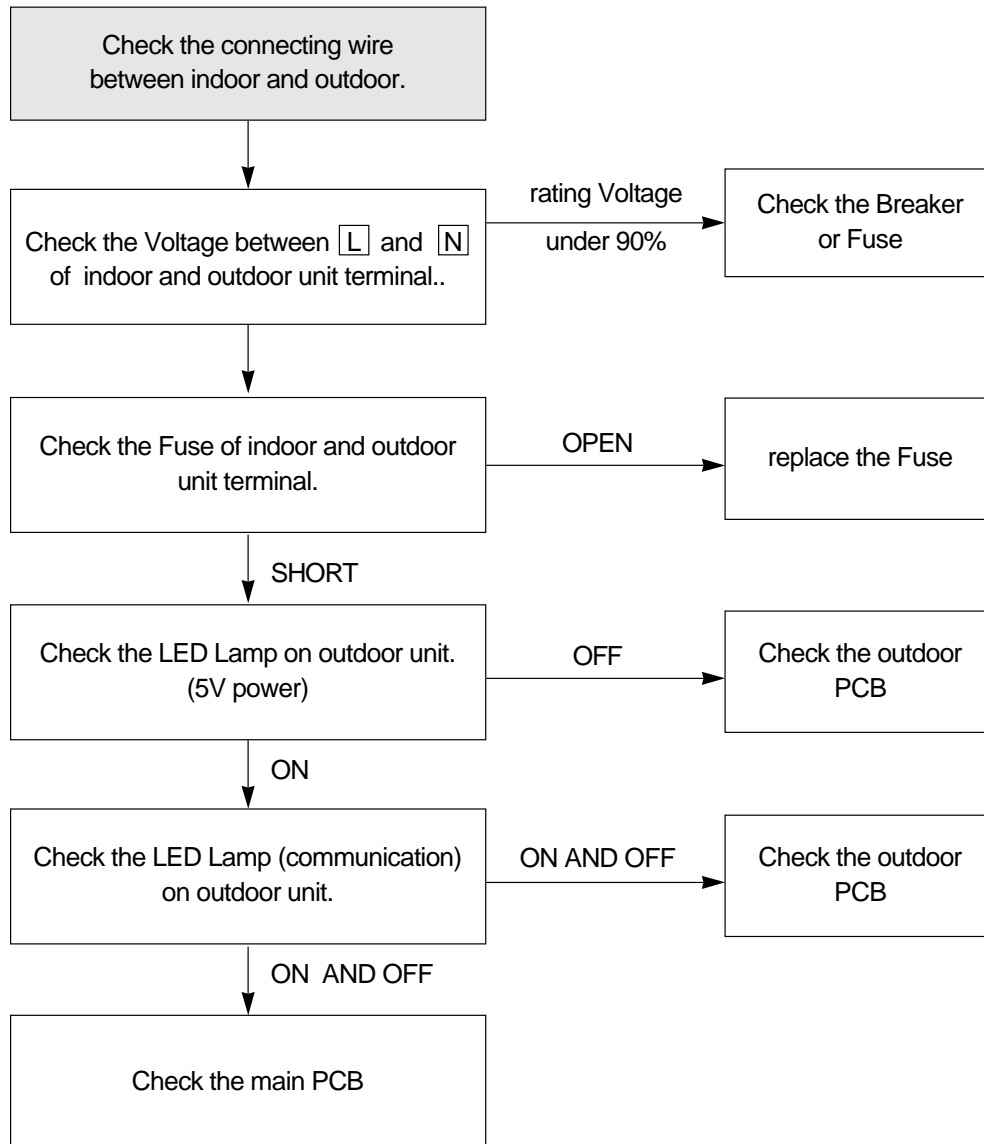
When the unit operate normally, Sometimes the outdoor unit and indoor unit cannot operate.

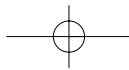
- ① Is the setting temperature proper?
- ② Is the unit during 3min. Time delay of compressor.
- ③ During prevention function of unit.
- ④ During dehumidifier mode.





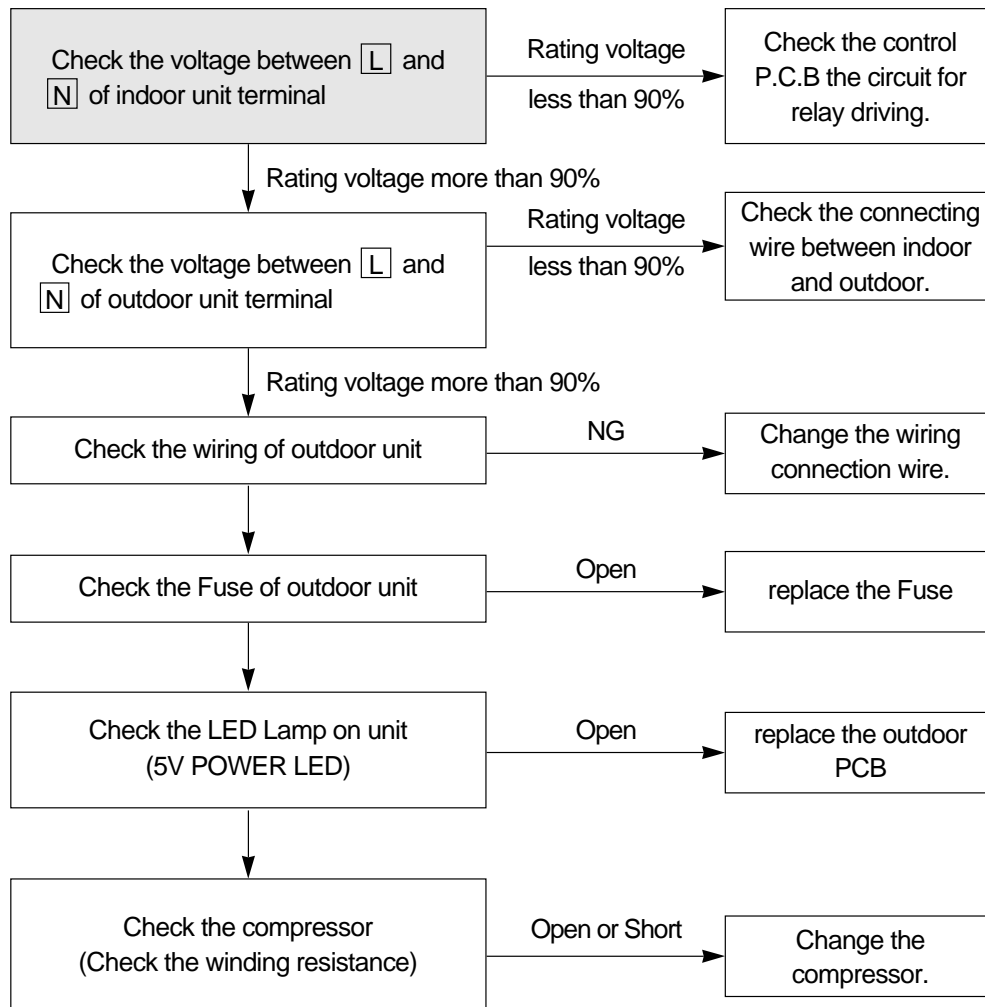
If the communication error (Error Code Display = E5)

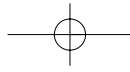




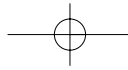
Only Compressor does not Run

- Check the following at cooling mode



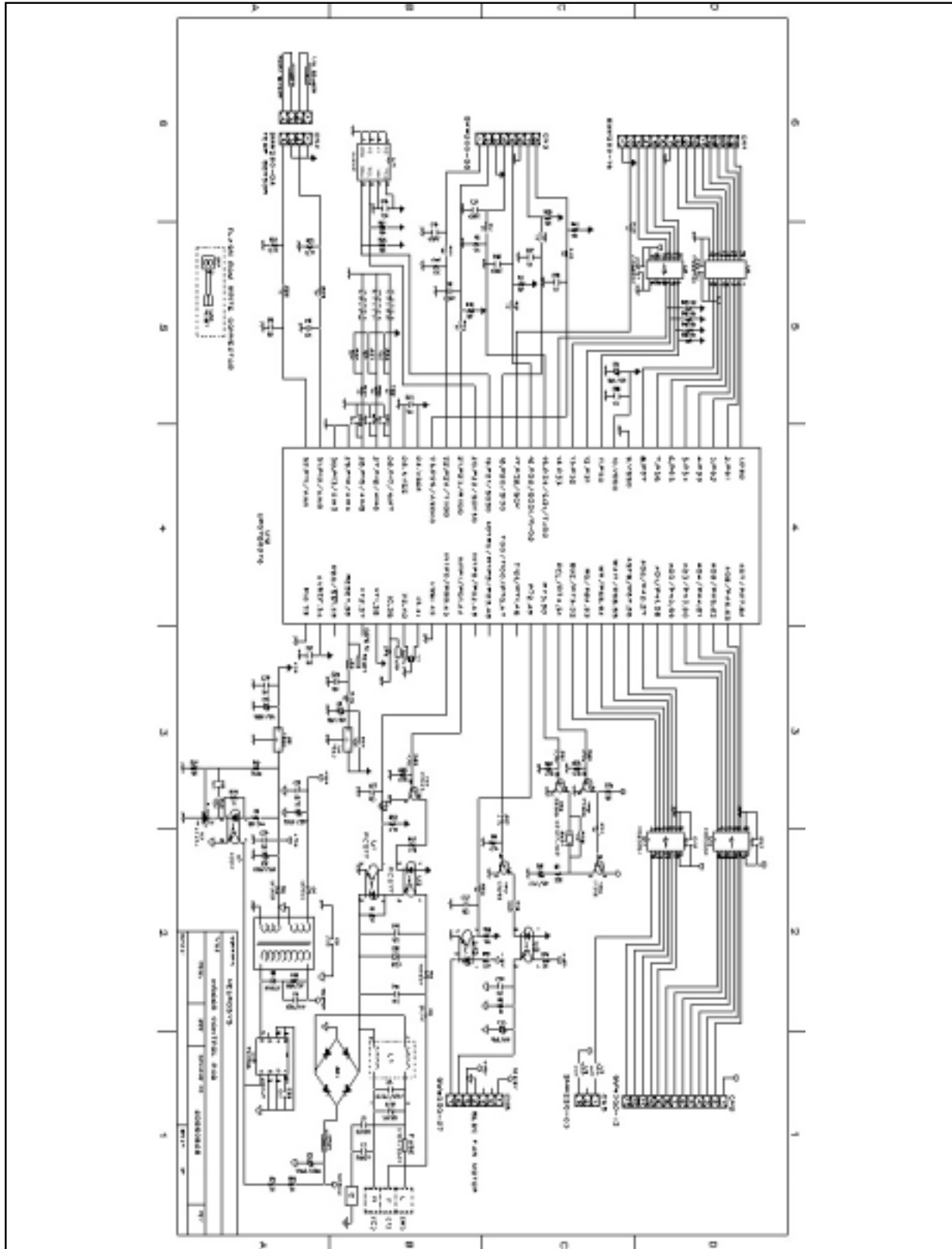


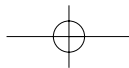
PCB DRIVING DESCRIPTION



1 PCB CIRCUIT DIAGRAM (INDOOR UNIT)

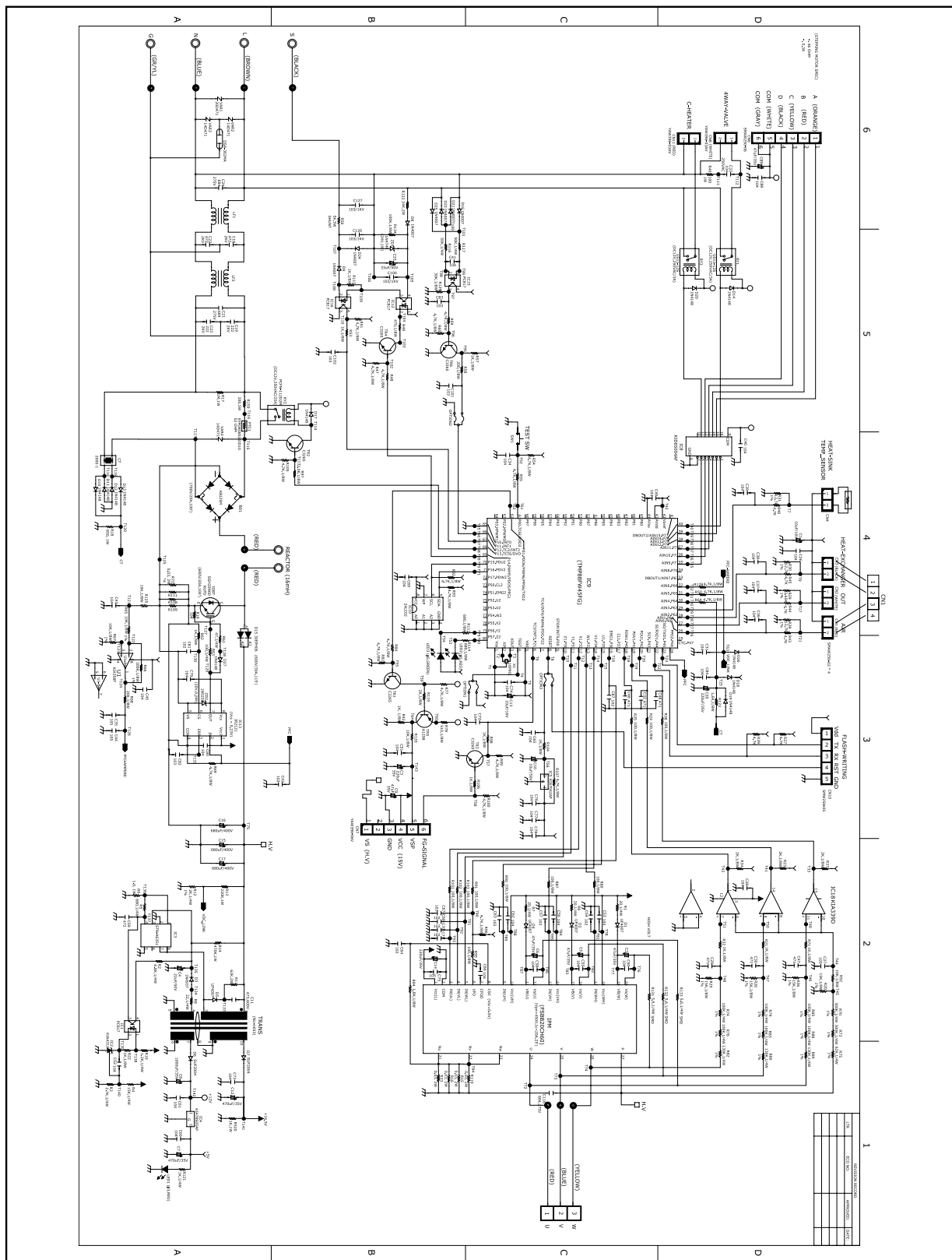
◆ TAS-09SVH/12SVH

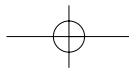




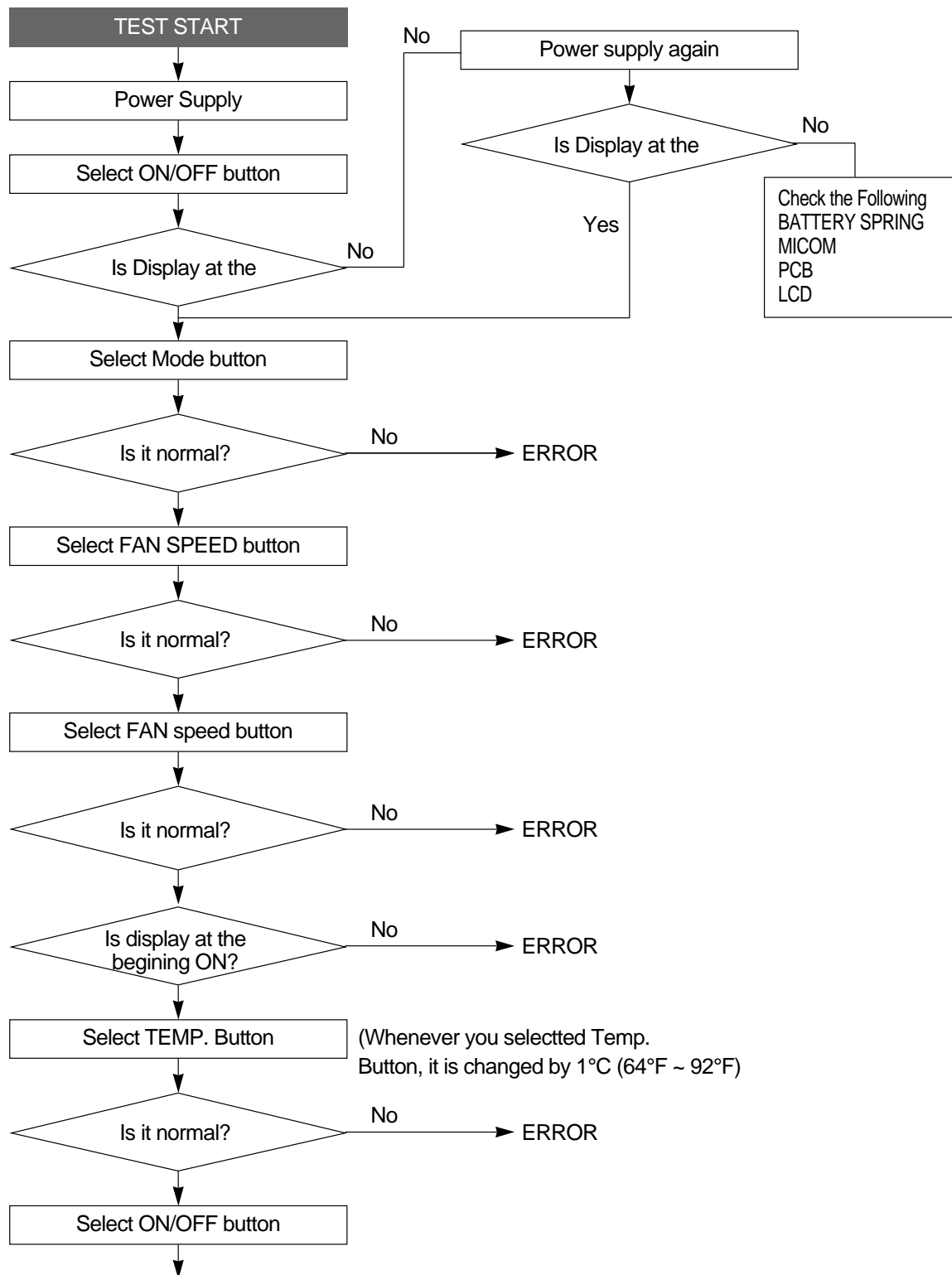
2 PCB CIRCUIT DIAGRAM (OUTDOOR UNIT)

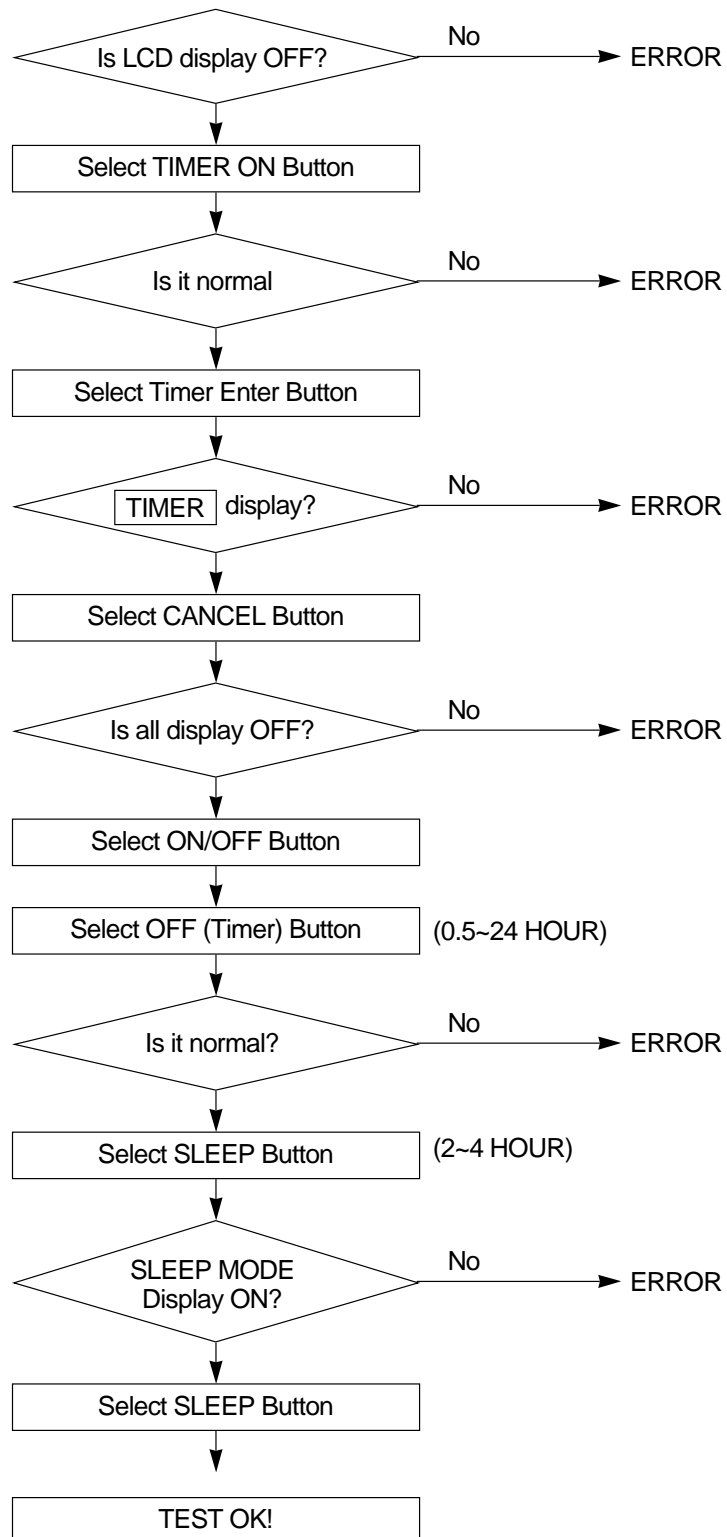
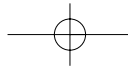
◆ TAS-09SVH/12SVH

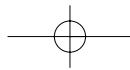




3 REMOTE CONTROLLER ASSMBLY FUNCTIONAL TEST METHOD




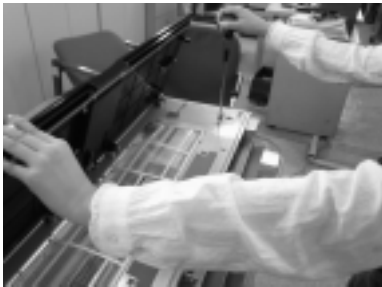




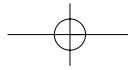




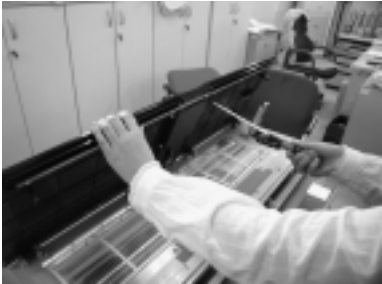

9. DISASSEMBLY INSTRUCTIONS

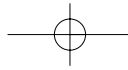
1 INDOOR UNIT




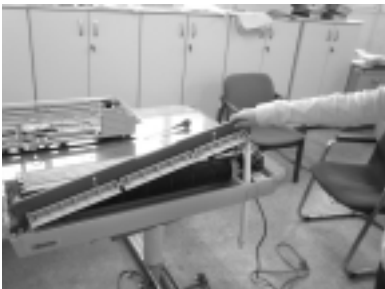
◆ TAS-09SVH/12SVH

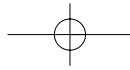
PROCEDURES	PHOTOS
<p>1. Start the operation of Air conditioner and down the Case Flap.</p> <p>2. Disconnect the power cord from the wall outlet.</p> <p>※ caution You must remove the Frame Grille after open the Case Flap.</p> <p>3-1 Remove the Insert Grille and Frame Grille.</p> <p>① Draw up the Insert Grille, Loosen the 1 screw fixed at the Cover Terminal block and Frame Grille.(Fig2)</p> <p>② Use the Cover Ter-Block and fix up the Panel Insert Grille. (Fig3)</p> <p>③ Loosen the 4 screw fixed at the Frame Grille and Drain Pan. (Fig4)</p>	 <p>(Fig1)</p>  <p>(Fig2)</p>  <p>(Fig3)</p>  <p>(Fig4)</p>

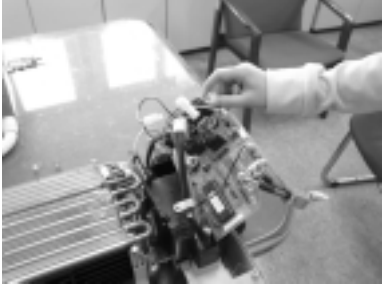
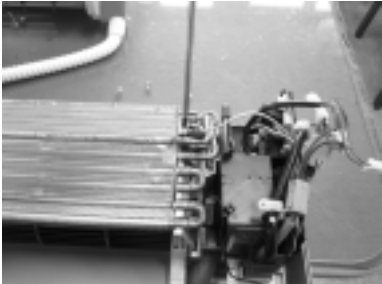
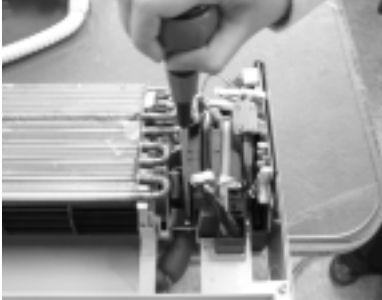



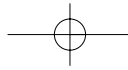
PROCEDURES	PHOTOS
<p>④ After remove Cover Ter-Block, Disconnect the lead wire from the hub PCB.(Fig5)</p> <p>⑤ Close the Cover Ter-Block and shut down the Panel Insert.(Fig6)</p> <p>⑥ Grip and lift up the case flap to remove the Frame Grille(Fig6)</p> <p>3-2 Remove Panel Insert and then remove Frame Grille.</p> <p>① Pull the Panel Insert toward you to open it and remove 4 screws fixing the Case LED PCB.</p> <p>② Remove 1 screw fixing at the lead wire.(Fig7)</p> <p>④ Disconnect the LED PCB lead wire from connection at the LED PCB.(Fig8)</p>	 <p>(Fig5)</p>  <p>(Fig6)</p>  <p>(Fig7)</p>  <p>(Fig8)</p>


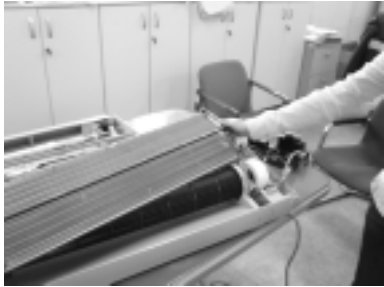
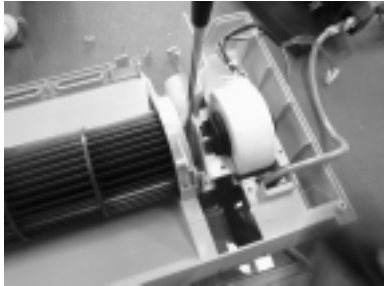
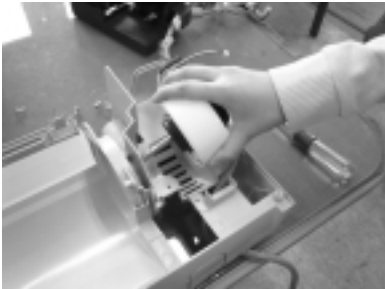


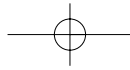
PROCEDURES	PHOTOS
<p>⑤ Pull the Hinge toward you and remove it.(Fig9)</p> <p>⑥ Remove the Panel Insert.(Fig10)</p> <p>⑦ Refer to 3-1 and remove the Frame Grille.</p> <p>4. Remove the Drain Pan.</p> <p>① Loosen the 2 screw fixing the Drain Pan from connection at the Body(Fig11)</p> <p>② Remove the Drain Pan(Fig12)</p>	 <p>(Fig9)</p>  <p>(Fig10)</p>  <p>(Fig11)</p>  <p>(Fig12)</p>



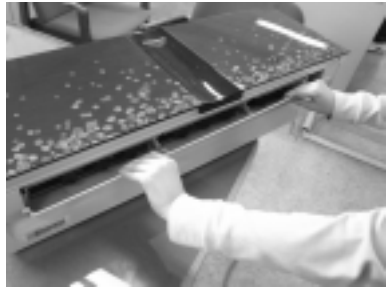
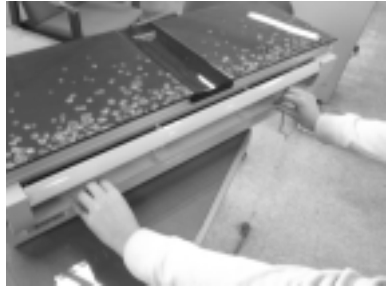
PROCEDURES	PHOTOS
<p>5. Remove the Control Box</p> <p>① Disconnect the lead wire from connection at the main PCB.(Fig13)</p> <p>② Loosen the 1 screw fixing at the ground wire.(Fig14)</p> <p>③ Remove 3 screw fixing at the Control Box of the Body.(Fig15)</p> <p>④ Remove the Control Box.</p> <p>5. Remove the Indoor Evaporator.</p> <p>① Remove the 2 screw fixing at the Body Top of the Body (Fix16)</p>	 <p>(Fig13)</p>  <p>(Fig14)</p>  <p>(Fig15)</p>  <p>(Fig16)</p>

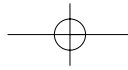


PROCEDURES	PHOTOS
<p>② Remove 3 screw fixing at the Indoor Evaporator of the Body(Fig17)</p>	 <p>(Fig17)</p>
<p>③ Remove the Indoor Evaporator(Fig18)</p>	 <p>(Fig18)</p>
<p>6. Remove the Motor IDU</p> <p>① Remove 1 screw fixing at the Cross Flow fan at the Motor IDU.(Fig19)</p> <p>② Remove the Cross Flow Fan.</p>	 <p>(Fig19)</p>
<p>③ Remove the Motor IDU.(Fig20)</p>	 <p>(Fig20)</p>









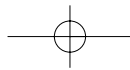
In case of power failure, operating the Case Flap



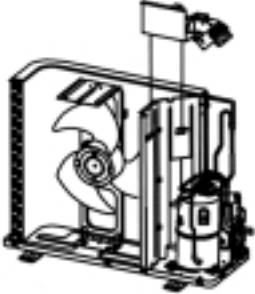

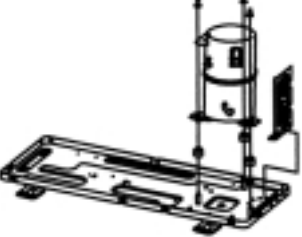
PROCEDURES	PHOTOS
1. Remove the Case Bottom.(Fig1)	 (Fig1)
2. Grip the both edges of Case Flap and down it.(Fig2)	 (Fig2)
<div>CAUTION</div> <ul style="list-style-type: none">• In case of PCB error or power failure, you should work these method.	

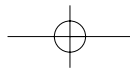


◆ TAS-09SVH/12SVH

PROCEDURES	PHOTOS
<p>1. Stop the operation of the air conditioner and disconnect the wire from indoor unit to out unit.</p> <p>2. Disassemble the case.(Fig1~3)</p> <p>① Remove the Cover Control (Fig1)</p> <p>② Remove the Cabinet Front.(Fig2)</p> <p>③ Remove the Side Cabinet.(Fig3)</p> <p>3. Removing the Propeller Fan.(Fig4~5)</p> <p>① Remove the Plain Washer.(Fig4)</p> <p>② Remove the Propeller Fan.</p> <p>③ Loosen the screw fixed at the motor bracket.(Fig5)</p> <p>4. Remove the Panel Control.(Fig6~9)</p> <p>① Loosen the screw fixed at the Case PCB and Case PCB Up.(Fig6)</p>	<p>(Fig1) </p> <p>(Fig2) </p> <p>(Fig3) </p> <p>(Fig4) </p> <p>(Fig5) </p> <p>(Fig6) </p>

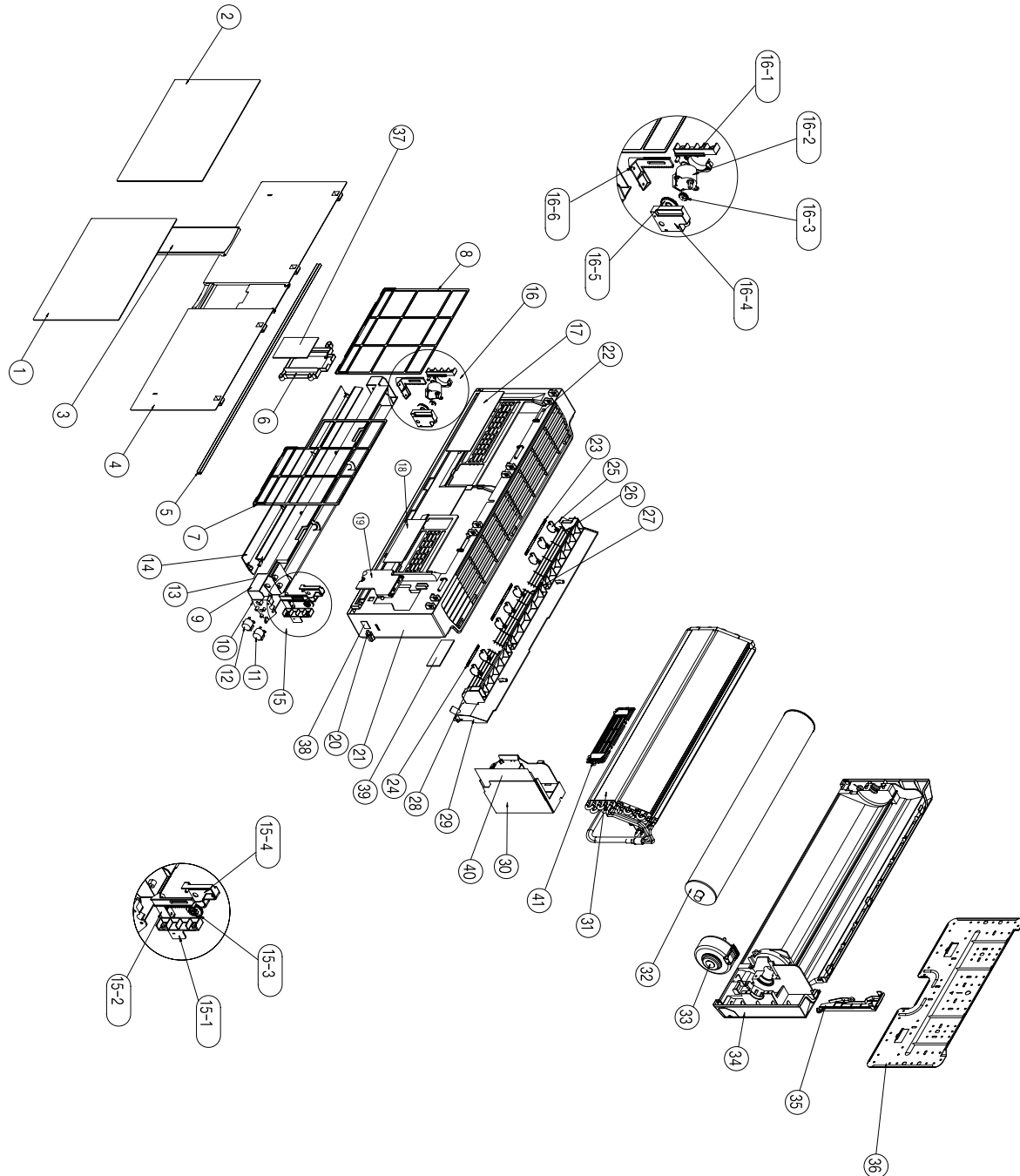


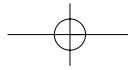
PROCEDURES	PHOTOS
<p>② Disconnect the wire at the main PCB.(Fig7)</p> <p>③ Loosen the screw Fixed at the Case PCB and Panel Control.(Fig8)</p> <p>④ Loosen the screw Fixed at the Panel Control and Plate Partition.(Fix9)</p> <p>5. Remove the Plate Partition.(Fig10)</p> <p>① Loosen the screw Fixed at the Plate Partition and Pan Base and Condenser.</p> <p>6. Remove the Compressor.(Fig11)</p> <p>① Remove the Condenser.</p> <p>② Loosen three volts at the Compressor.</p> <p>③ Remove the Compressor.</p>	<p>(Fig7) </p> <p>(Fig8) </p> <p>(Fig9) </p> <p>(Fig10) </p> <p>(Fig11, </p>



3 EXPLODED DIAGRAM (Indoor Unit)

◆ TAS-09SVH/12SVH

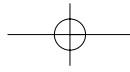




◆ TAS-09SVH/12SVH, DSB-F0910LH-DV/F1210LH-DV(INDOOR UNIT)

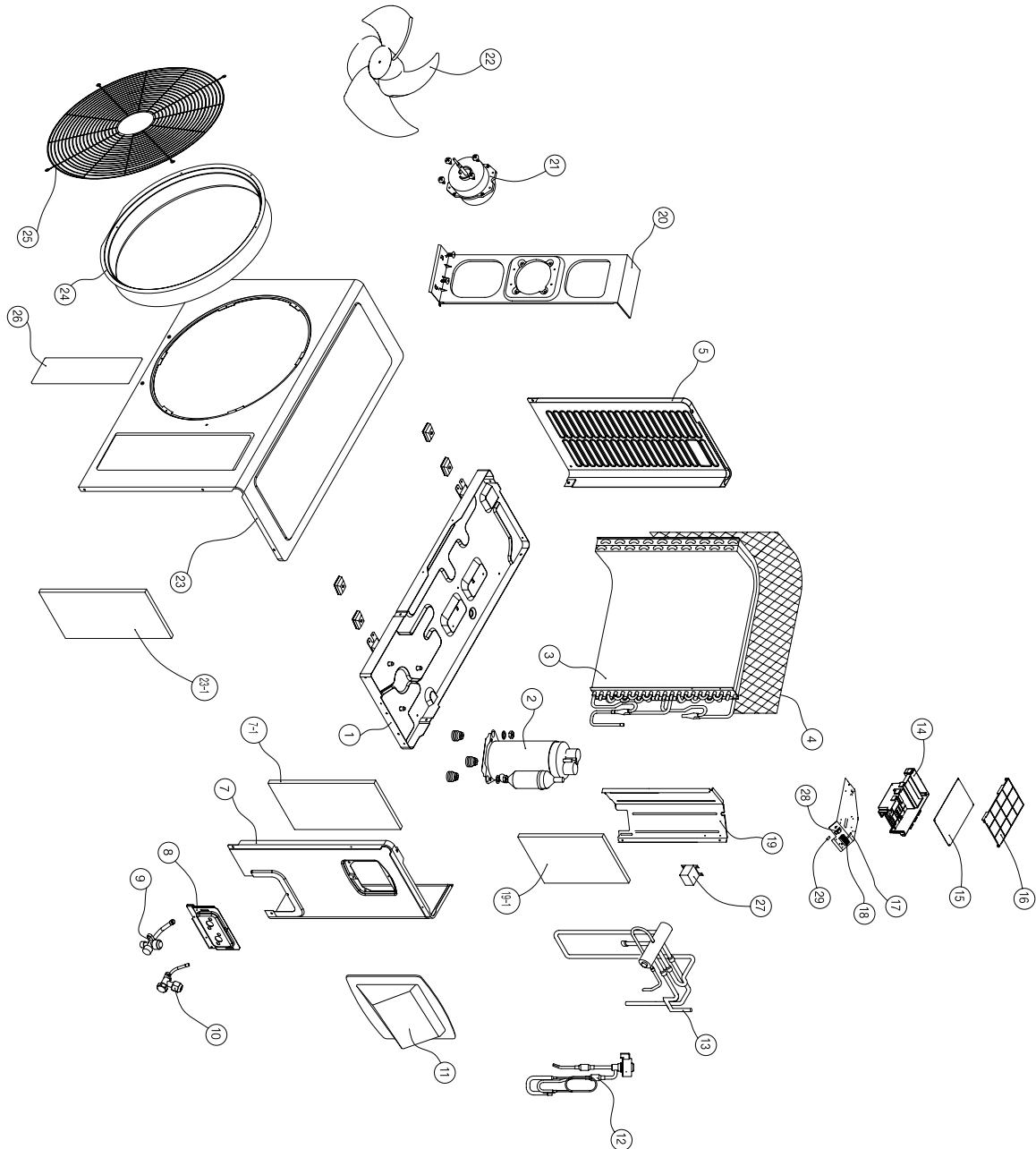
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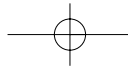
No	PART CODE	PART NAME	Q'TY	SPEC	REMARK
1,2	3114215500	Panel glass	1	T2.0 * 377.5 * 274 (SILVER PATTERN 1)	
3	3111416300	Cover led pcb	1	ABS T2.0	
4	3112407500	Insert grille	1	ABS T2.5	
5	3114513200	Plate insert grille	1	SGCC T0.8	
6	3111103400	Case led pcb	1	HIPS T2.0	
7	3111909700	Filter frame R	1	PP T2.0	
8	3111909600	Filter frame L	1	PP T2.0	
9	3111103100	Case flap	1	HIPS T2.5 (GRAY)	
10	3111103200	Case step motor	1	HIPS T2.0	
11	3118016100	Stepping motor	1	24BYJ48-880,OD24D,C12V,600GF.CM,LW350	
12	3118016110	Stepping motor	1	24BYJ48-881,OD24D,C12V,600GF.CM,LW350,H-BLUE	
13	3117600600	Flap front	1	ABS T3.0 (GRAY)	
14	3117600700	Flap bottom	1	ABS T3.0 (GRAY)	
15	31100AAT10	Assy case gear R	1	ASSY	
15-1	3111103310	Case gear R	1	HIPS T2.0	
15-2	3117700810	Rack R	1	POM T2.0	
15-3	3117700700	Pinion	1	POM T2.5	
15-4	3111416210	Cover gear R	1	HIPS T2.0	
16	31100AAT00	Assy case gear L	1	ASSY	
16-1	3111103300	Case gear L	1	HIPS T2.0	
16-2	3118003810	Stepping motor	1	35BYJ46-103, DC 12V, 900MM.150BŸ	
16-3	3117700600	Gear	1	POM T2.5	
16-4	3111416200	Cover gear L	1	HIPS T2.0	
16-5	3117700700	Pinion	1	POM T2.5	
16-6	3117700800	Rack L	1	POM T2.0	
17	3111910900	Filter carbon	1	227*40	
18	3111910800	Filter enzyme	1	F-ML120-B10, 154*40*T3.5	
19	3111416100	Cover terminal block	1	HIPS(V0) T1.5 (GRAY)	
20	3113410300	Switch knob	1	HIPS T1.2 (GRAY)	
21	3112203100	Frame grille	1	HIPS T2.5 (GRAY)	
22	3112900200	Hinge frame	4	POM T2.0	
23	3117800700	Link vertical - A	2	PP T2.0	
24	3117800710	Link vertical - B	1	PP T2.0	
25	3116503900	Blade vertical	8	PP T2.0	
26	3112502900	Guide safety A	1	STEEL OD1.5	
27	3112502910	Guide safety B	1	STEEL OD1.5	
28	3112502920	Guide safety C	1	STEEL OD1.5	
29	3118101400	Drain pan	1	HIPS T2.5 (GRAY)	
30	3110535801	Control box	1	HIPS(A0) T2.0	
31	31100A9W00	Assy evaporator	1	H285*L642*P19.0 (2R-3C, FP=1.4),KS-06*	
32	3100053720	Assy cross flow fan	1	90.0*L635.5	
33	3118003510	Motor IDU	1	RP13B-PG(220V, 50HZ/60HZ)	
34	3110401500	Body	1	HIPS T2.5 (GRAY)	
35	3110401600	Body top	1	HIPS T2.5 (GRAY)	
36	3114513100	Plate mounion	1	SGCC T0.8	
37	DKS063S-10	LED MODULE	1		
38	3114328400	Switch PCB	1		
39	3114328300	PCB ASSY HUB	1		
40	3114328810 3114329810	PCB ASSY MAIN(INVERTER)	1		TAS-09SVH TAS-12SVH
41	3118802900	TERMINAL BLOCK	1	DFB-4P(S) 250V 20A	
42	3117200300	DUST COLLECTOR	1	AL, PP, BLACK	



4 EXPLODED DIAGRAM (Outdoor Unit)

◆ TAS-09SVH/12SVH

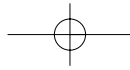




◆ TAS-09SVH/12SVH (OUTDOOR UNIT)

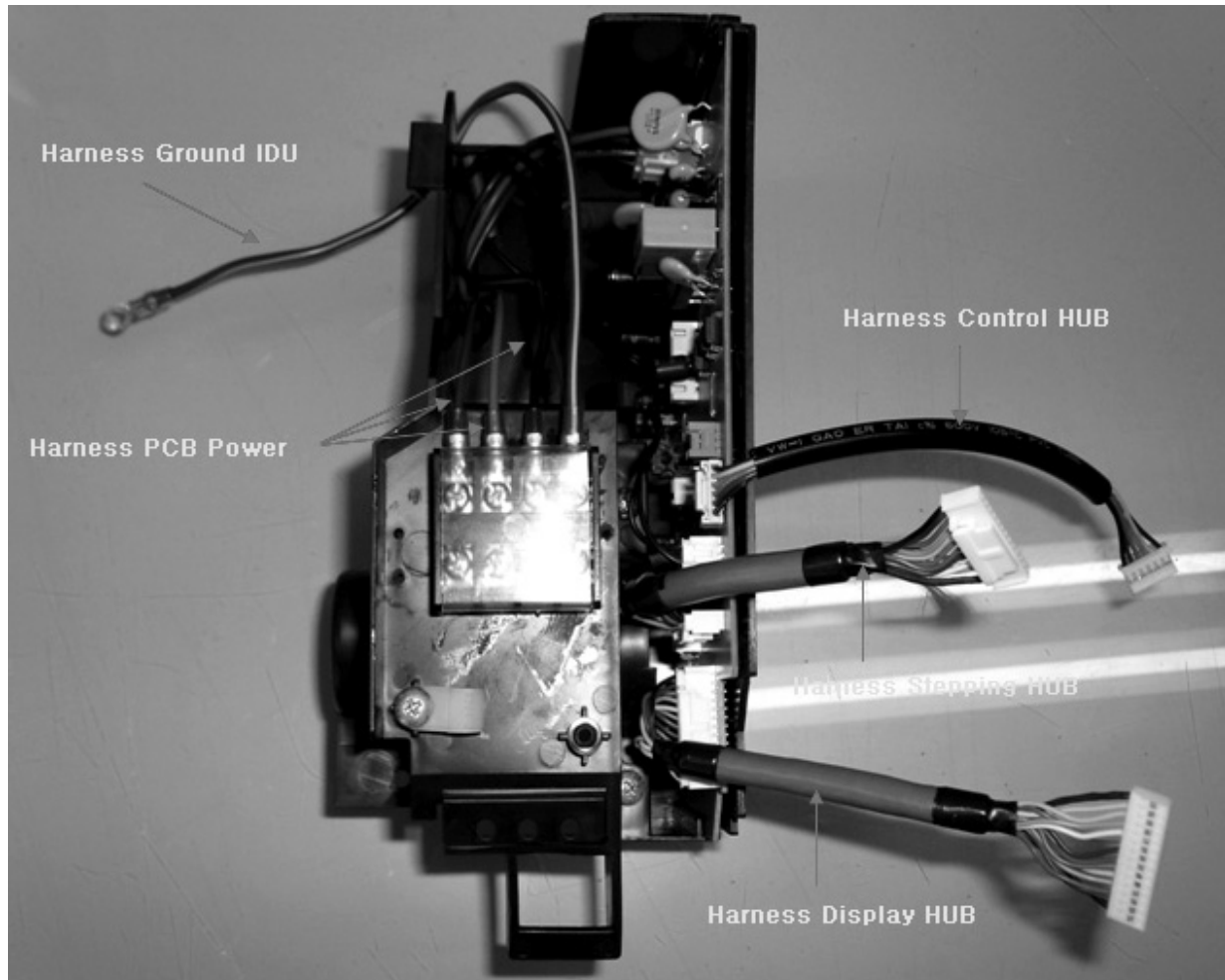
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No	PART CODE	PART NAME	Q'TY	SPEC	REMARK
1	3118101300	PAN BASE	1	SGCC 1.2T	
2	3117151500	COMPRESSOR	1	G4C090LU2JR, CHINA	TAS-09SVH
	3117151600			G4A110LU1JR, CHINA	TAS-12SVH
3	3116803400	CONDENSER	1	PIE7,870W*494H*25D,1.4FP,PCM	
4	3112407800	GRILLE COND	1	PE, 890*510*T3.5, DSB-F1210	
5	3110802000	CABINET SIDE L	1	SGCC, 0.8T	
7	3110802110	CABINET SIDE R	1	SGCC, 0.8T	
7-1	3113391700	INSU SIDE	1	FELT, T8*338*435	
8	3100602202	BRACKET SERVICE	1	SECC T1.2	
9	310540H200	SERVICE V/V	1	SRAC R410A 3/8'	
10	310540H500	SERVICE V/V	1	SRAC R410A 1/4'	
11	311408300	COVER CONTROL	1	SECC T=0.8	
12	31100A6Y31	ASS'Y PIPE EEV	1		TAS-09SVH
	31100A6Y21				TAS-12SVH
13	31100A6T11	ASS'Y PIPE 4WAY VALVE	1		
14	3111103700	CASE PCB	1	HIPS	
15	3114328900	PCB ASSY OUTDOOR	1	07SRAC(DC INVERTER)	
16	3111103800	CASE PCB UP	1	HIPS	
17	3114212600	PANEL CONTROL	1	SGCC-M-Z22, 0.8T	
18	3118802900	TERMINAL BLOCK	1	DFB-4P(S) 250V 20A	
19	3114512500	PLATE PARTITION (INVERTER)	1	SGCC-M-Z22, 0.8T	
20	3113391900	INSU PARTITION	1	FELT, T8*242*388	
21	3110611100	BRACKET MOTOR (DC)	1	SGCC-M-Z22, 1.6T	
22	3101800110	FAN PROPELLER	1	ABS+GF10% (NATURAL)	
23	3110802200	CABINET FRONT	1	SGCC, 0.8T	
23-1	3113391810	INSU FRONT	1	FELT, T8*188*680	
24	3116601600	BELL MOUTH	1	PP	
25	3112407600	GRILLE DISCHARGE	1	476 PIE, WIRE 2.0 PIE	
26	3103518600	LABEL BRAND	1	343*90*T0.24 PE DE LOGO	
27	3108700200	REACTOR	1	07SRAC(INVERTOR ODU)	
28	3113003800	HOLDER FUSE	1	DAFH-30 300V 30A	
29	4414A25140	FUSE	1	250V 20A 65TL	

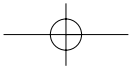


5 CONTROL BOX ASSEMBLY

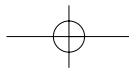
◆ TAS-09SVH/12SVH



No	PART NAME	PART CODE	SPEC	Q'TY
1	Harness Display HUB	3112759900	UL 1007 AWG#26, 13P*300mm	1
2	Harness Stepping HUB	3112760000	UL 1007 AWG#26, 12P*300mm	1
3	Harness Control HUB	3112761100	UL 1007 AWG#26, 6P*300mm	1
4	Harness PCB Power	3112763700	UL 1015 AWG#20, 4P*190mm	1
5	Harness Ground IDU	3112760300	UL 1015 AWG#16, 1P*260mm	1



AIR CONDITIONER MANUFACTURER
Turbo air



S/M No. :

AIR CONDITIONER MANUFACTURER
Turbo air

SERVICE MANUAL

ROOM AIR CONDITIONER

MODEL #: TAS-09SVH
TAS-12SVH



Aug. 2007

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