



SVC MANUAL(Exploded View)

Single Air Conditioner

ENGLISH

FRANÇAIS

MODEL

KNSLB601A

P/No.: MFL65003320
Rev.02_120125

www.lghvac.com
www.lg.com

Any reproduction, duplication, distribution (including by way of email, facsimile or other electronic means), publication, modification, copying or transmission of this Service Manual is STRICTLY PROHIBITED unless you have obtained the prior written consent of the LG Electronics entity from which you received this Service Manual. The material covered by this prohibition includes, without limitation, any text, graphics or logos in this Service Manual.

Copyright © 2025 LG Electronics Inc. All rights reserved. Only training and service purposes.

TABLE OF CONTENTS

This manual may contain images or content different from the model you purchased.

This manual is subject to revision by the manufacturer.

- 1. SPECIFICATION3
- 2. LIST OF FUNCTIONS4
- 3. PIPING DIAGRAMS5
- 4. WIRING DIAGRAMS6
- 5. DIP SWITCH SETTING7
- 6. EXPLODED VIEW8
- 7. SELF-DIAGNOSIS FUNCTION15
- 8. R32 LEAK DETECTION SYSTEM.....16

1. SPECIFICATION

ENGLISH

Type		Vertical AHU	
Indoor / Outdoor		Unit	KNSLB601A / KUSXB601A
Cooling Capacity		kW	15.4
		kcal/h	13 230
		Btu/h	52 500
Heating Capacity		kW	16.6
		kcal/h	14 240
		Btu/h	56 500
Casing			GI PCM
Dimension	Body	mm	635 x 1 401 x 543
		inch	25 x 55-3/16 x 21-3/8
Coil	Rows × Columns × FPI		3 × 30 × 18
	Face Area	m ² (ft ²)	0.258 (2.777)
Fan	Type		Sirocco
	Motor Output × Number	W	554 x 1
	Running Current	A	4.8
	Air Flow Rate (H/M/L)	CMM	49.6 / 44.8 / 39.7
	Standard Mode-Factory Set	CFM	1 750 / 1 580 / 1 400
	Ext Static Pressure	mmAq (inAq)	7.6 (0.3)
	Drive		Direct
	Motor Type		BLDC(ECM)
Temperature Control			Microprocessor, Thermostat for cooling and heating
Sound Absorbing Thermal Insulation Material			Foamed polystyrene
Air Filter			-
Safety Device			Fuse
Pipe Connections	Liquid Side	mm (inch)	Φ 9.52 (3/8)
	Gas Side	mm (inch)	Φ 19.05 (3/4)
	Drain Pipe (Internal Dia.)	mm (inch)	19.05 (3/4 FPT)
Net Weight	Body	kg(lbs)	67.2 (148)
Gross Weight		kg(lbs)	73.6 (162)
Noise Level(Sound Press, 1.0m, H/M/L)		dB (A)	47 / 43 / 39
Power Supply		Φ, V, Hz	1, 208 / 230, 60
Refrigerant Control			EEV
Power Cable		AWG#-C	CV 14 × 3C
Transmission Cable		AWG#-C	VCTF-SB 18 × 2
Panel Color			Black STS
Maximum Overcurrent Protection		A	15

NOTE

1. Capacities are based on the following conditions:
Cooling
 - Indoor temp.: 80 °FDB or 67 °FWB / outdoor temp.: 95 °FDB / Equivalent piping length: 25 ft, level difference: 0.Heating
 - Indoor temp.: 70 °FDB / outdoor temp.: 47 °FDB or 43 °FWB / Equivalent piping length: 25 ft, level difference: 0.
2. Capacities are Net Capacities
3. Due to our policy of innovation some specifications may be changed without prior notification
4. To be added for more available Models
5. EEV: Electronic Expansion Valve
6. Sound measured at 1 m (3.3 ft) away from the center of the unit.
The values depends on the ambient conditions and values are normally higher in actual operation.

Conversion Formula

kcal/h= kW x 860
Btu/h= kW x 3 412
CFM= m³ / min x 35.3
l/s= CMM x 1 000 / 60

2. LIST OF FUNCTIONS

Category	Function	KNSLB601A
Air Flow	Air supply outlet	1
	Airflow direction control (left & right)	-
	Airflow direction control (up & down)	-
	Airflow steps (fan / cool / heat)	3 / 3 / 3
Air purification	Deodorization filter	X
	Air Purify	X
	Prefilter (washable)	X
Installation	Drain pump	X
	E.S.P. control	O
	Auto E.S.P. control	O (Default)
	Electric heater (operation)	O (Accessory)
	High ceiling operation	X
	Downflow conversion kit	O (PNDFAO)
Reliability	Hot start	O
	Self diagnosis	O
	Soft dry operation	O
Convenience	Auto cleaning	X
	Auto operation (artificial intelligence)	O (Heat pump or Cooling only)
	Auto restart operation	O
	Child lock	O
	Forced operation	-
	Group control	O
	Sleep mode	O
	Timer (on / off)	O
	Timer (weekly)	O
	Two thermistor control	O
Control	Standard wired remote controller	O (Accessory)
	Individual Deluxe wired remote controller	O (Accessory)
	Simple wired remote controller	O (Accessory)
	Wired remote controller (for hotel use)	O (Accessory)
	Wireless LCD remote control	O (Accessory)
Special function kit	Zone control	X
	CTIE	-
	Electro thermostat	-
	R32 Leak Detection System	O

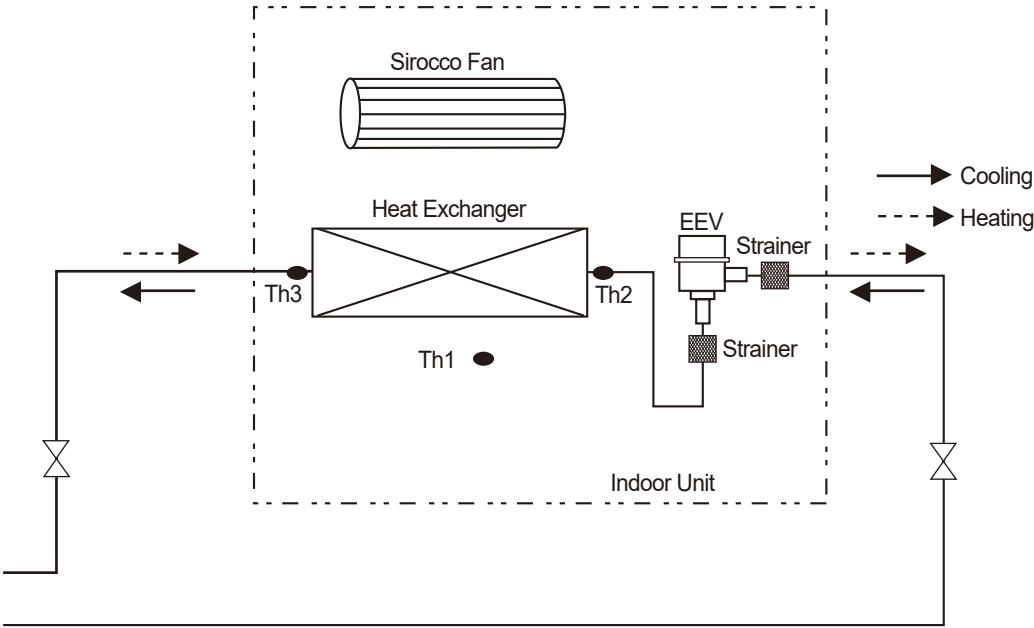
• O: Applied X: Not applied -: No relation

• Option: Model name & price are different according to options, and assembled in factory with main unit.

• Accessory: Installed at field, ordered and purchased separately by the corresponding model name, supplied with separate package.

3. PIPING DIAGRAMS

ENGLISH



Refrigerant pipe connection port diameter

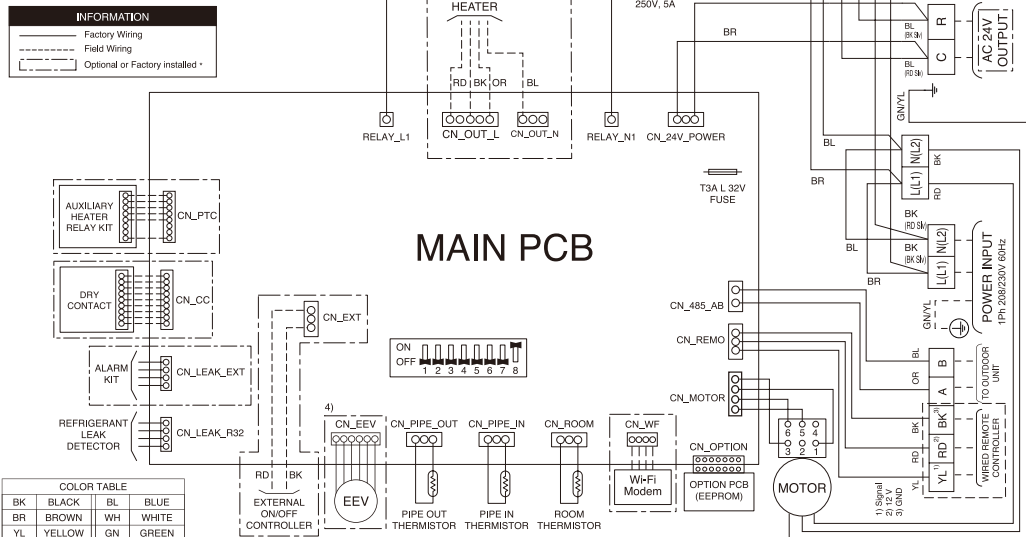
[Unit: mm (inch)]

CHASSIS	MODEL	GAS	LIQUID
NC	KNSLB601A	$\Phi 19.05(3/4)$	$\Phi 9.52(3/8)$

Loc	Description	PCB Connector (Color)
Th1	Thermistor for room air temperature	CN-ROOM (Yellow)
Th2	Thermistor for pipe in temperature	CN-PIPE_IN (White)
Th3	Thermistor for pipe out temperature	CN-PIPE_OUT (Red)

INDOOR DIAGRAM

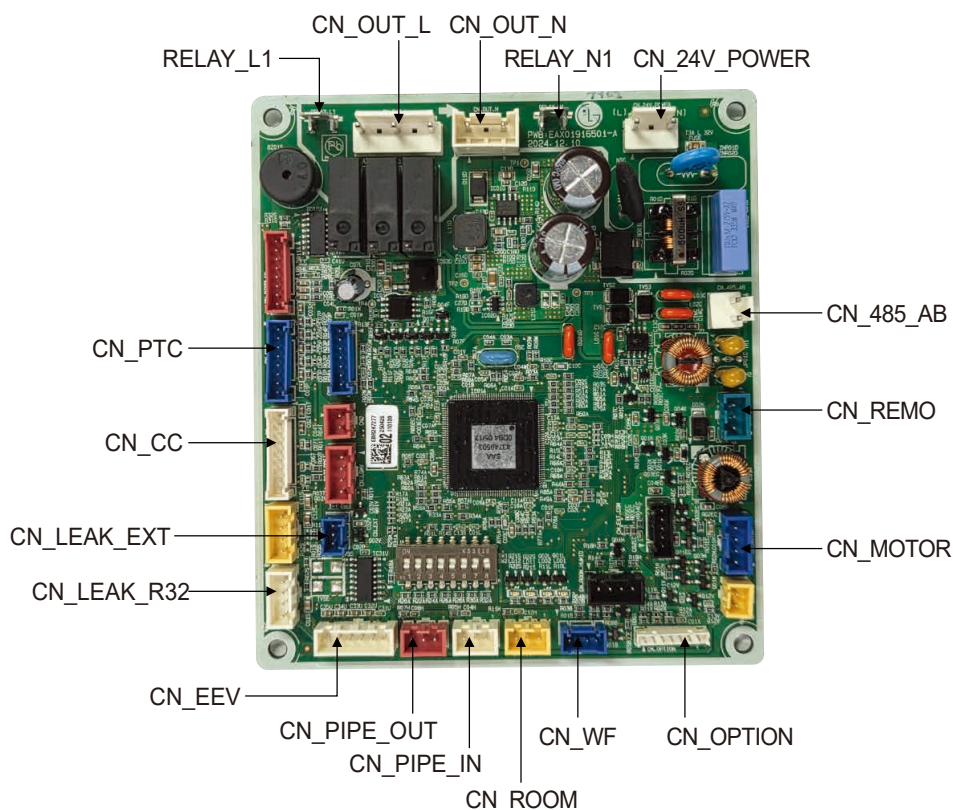
INFORMATION



4) CN EEV

KNML** : Factory uninstalled

MEZ66590653 (REV00)



5. DIP SWITCH SETTING

Indoor Unit

	Function	Description	Setting Off	Setting On	Default
SW1	Communication	N/A (Default)	-	-	Off
SW2	Cycle	N/A (Default)	-	-	Off
SW3	Group Control	Selection of Master or Slave	Master	Slave	Off
SW4	Dry Contact Mode	Selection of Dry Contact Mode	Wired/Wireless remote controller selection of Manual or Auto operation Mode	Auto	Off
SW5	Installation	Fan continuous operation	Continuous operation Removal	-	Off
SW6	Heater linkage	N/A	-	-	Off
SW7	Ventilator linkage	Selection of Ventilator linkage	Linkage Removal	Working	Off
	Vane selection (Console)	Selection of up/down side Vane	Up side + Down side Vane	Up side Vane Only	
	Region selection	Selection tropical region	General model	Tropical model	
SW8	Refrigerant Leak Detector	Selection of Installed or Not installed	Not installed	Installed	On

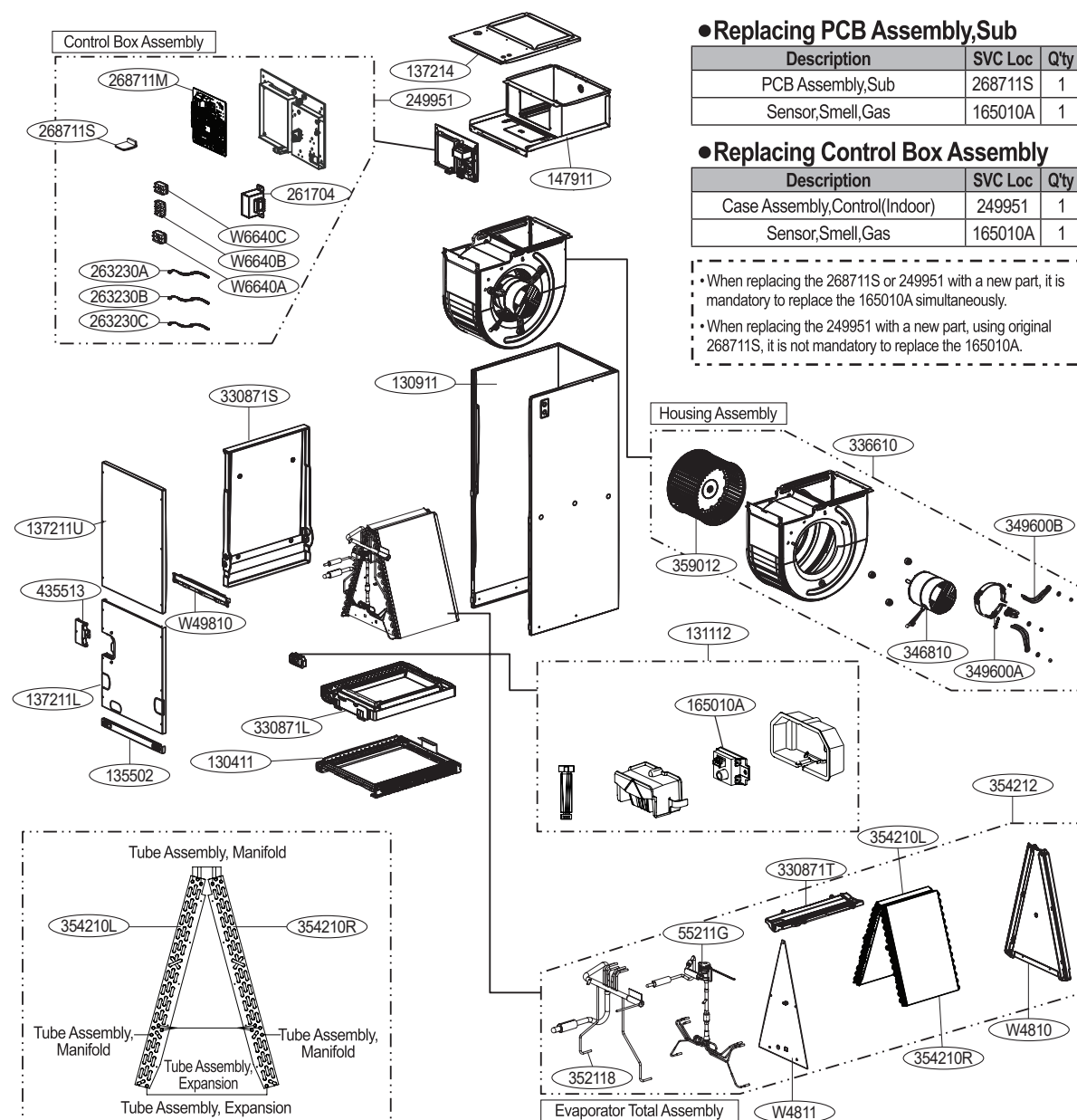
CAUTION

- Indoor unit without Internal Electric Heater
 - DIP switch 1, 2, 6 must be set OFF
- In the case of indoor unit with Internal Electric heater, DIP switch 6 must be set ON.
 - SW6 ON: Automatic Heater operation (Heater operates automatically according to the heater logic without owner's intervene.)
 - SW6 OFF: Heater manual operation (Owner's involvement is required for on/off operation. But the heater operation would be as per the heater logic.)
- In the case of indoor unit with Internal Electric heater, DIP switch 5 on if you want.
 - SW5 ON: Fan operates continuously. (During defrosting or oil return operation, uninterrupted heating can be attained, as a result of continuous heater and fan operation.)
 - ※ During defrosting or oil return operation tepid air can come out.
 - SW5 OFF: Fan discontinuous operation (There would be reduction in heating capacity while defrosting or oil return operation.)

6. EXPLODED VIEW

NC Chassis

KNSLB601A



Evaporator Assembly

SVC No.	Description	Q'ty
354210L	Heat exchanger, Left	1
354210R	Heat exchanger, Right	1
55211G	EEV pipe assembly	1
352118	Manifold assembly	1
W4810	Heat exchanger, Bracket (Rear)	1
W4811	Heat exchanger, Bracket (Front)	1

Control Box Assembly

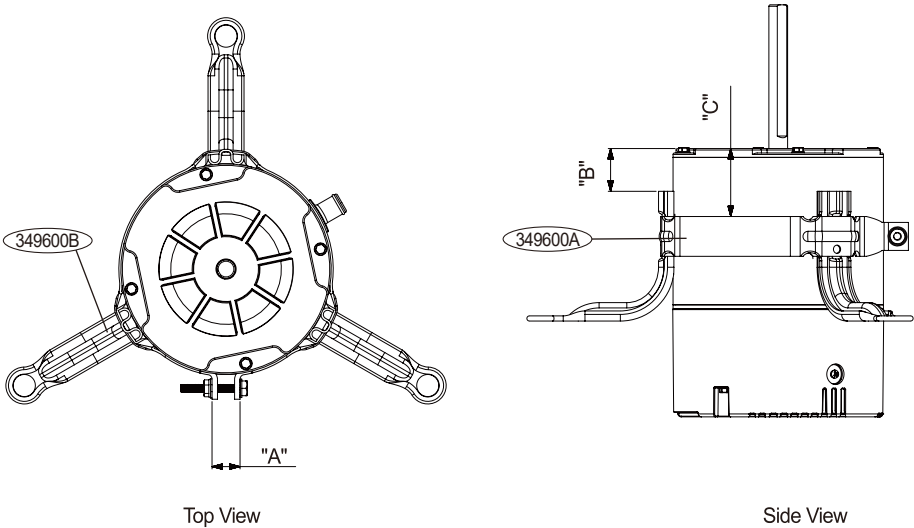
SVC No.	Description	Remark (Color)
263230C	Thermistor for room air temperature	CN_ROOM (Yellow)
263230A	Thermistor for pipe in temperature	CN_PIPE_IN (White)
263230B	Thermistor for pipe in temperature	CN_PIPE_OUT (Red)
268711M	PCB for main	-
268711S	PCB for option	-

R32 Sensor

SVC No.	Description	Remark (Color)
165010A	R32 detection sensor	CN_LEAK (White)

Motor Fasten Guide

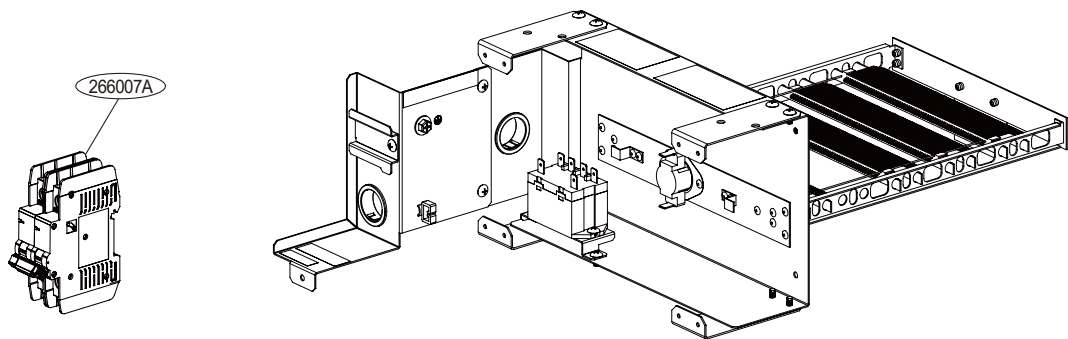
When replacing a motor, adjust the positions of the brackets that hold the motor in place as follows :



Chassis	"A" [in(mm)]	"B" [in(mm)]	"C" [in(mm)]
NA	0.7(18.5)	0.3(9)	0.9(23)
NB, NC	0.7(18.5)	1.1(29)	1.8(46)

Auxiliary Heat Control

ANEH033C1, ANEH053C1



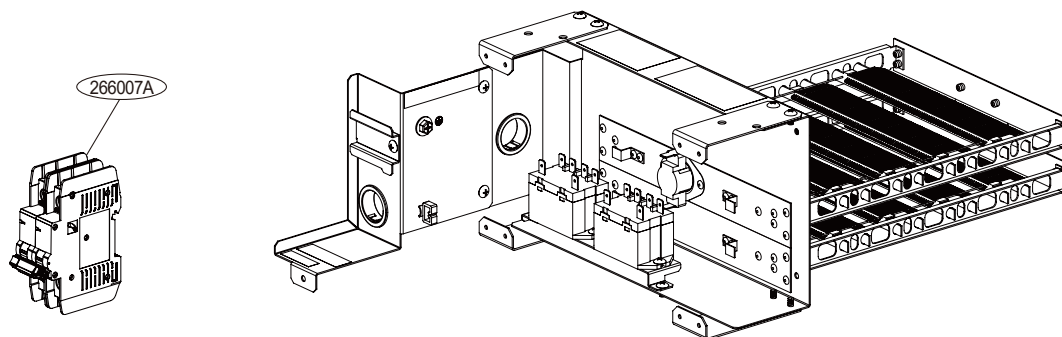
Multi V

Chassis	Capacity (kBtu/h (RT))	Heater Capacity (kW)					
		3	5	8	10	15	20
NA	12(1.0)	○	○	○	Not available	Not available	Not available
	18(1.5)	○	○	○	○	Not available	Not available
	24(2.0)	○	○	○	○	Not available	Not available
	30(2.5)	○	○	○	○	Not available	Not available
NB	36(3.0)	○	○	○	○	○	Not available
	42(3.5)	○	○	○	○	○	○
	48(4.0)	○	○	○	○	○	○
NC	54(4.5)	○	○	○	○	○	○
	60(5.0)	○	○	○	○	○	○
Auxiliary Heat Control Model No.		ANEH033C1	ANEH053C1	ANEH083C2	ANEH103C2	ANEH153C3	ANEH203C3
Circuit Breaker Part No. (amp)		EA00100301 (20A)	EA00100302 (30A)	EA00100303 (50A)	EA00100304 (60A)	EA00100302 (30A) EA00100304 (60A)	EA00100304 (60A) EA00100304 (60A)

Single & Multi

Chassis	Capacity (kBtu/h (RT))	Heater Capacity (kW)					
		3	5	8	10	15	20
NA	12(1.0)	○	○	○	Not available	Not available	Not available
	18(1.5)	○	○	○	○	Not available	Not available
	24(2.0)	○	○	○	○	Not available	Not available
NB	30(2.5)	○	○	○	○	Not available	Not available
	36(3.0)	○	○	○	○	○	Not available
	42(3.5)	○	○	○	○	○	○
	48(4.0)	○	○	○	○	○	○
NC	60(5.0)	○	○	○	○	○	○
Auxiliary Heat Control Model No.		ANEH033C1	ANEH053C1	ANEH083C2	ANEH103C2	ANEH153C3	ANEH203C3
Circuit Breaker Part No. (amp)		EA00100301 (20A)	EA00100302 (30A)	EA00100303 (50A)	EA00100304 (60A)	EA00100302 (30A) EA00100304 (60A)	EA00100304 (60A) EA00100304 (60A)

ANEH083C2, ANEH103C2



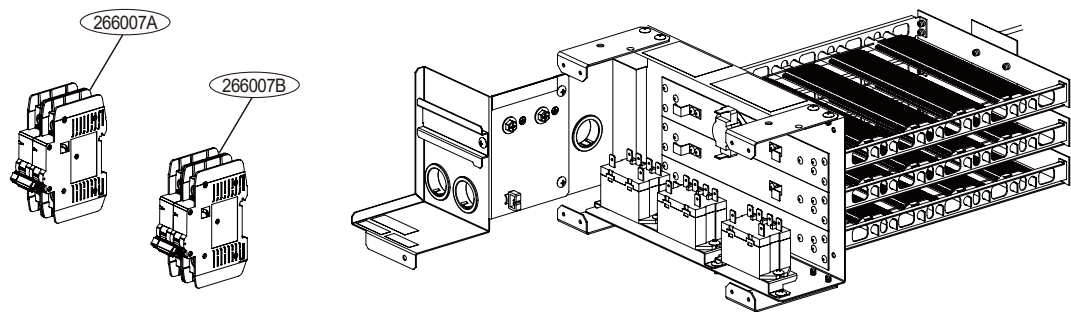
Multi V

Chassis	Capacity (kBtu/h (RT))	Heater Capacity (kW)					
		3	5	8	10	15	20
NA	12(1.0)	○	○	○	Not available	Not available	Not available
	18(1.5)	○	○	○	○	Not available	Not available
	24(2.0)	○	○	○	○	Not available	Not available
	30(2.5)	○	○	○	○	Not available	Not available
NB	36(3.0)	○	○	○	○	○	Not available
	42(3.5)	○	○	○	○	○	○
	48(4.0)	○	○	○	○	○	○
NC	54(4.5)	○	○	○	○	○	○
	60(5.0)	○	○	○	○	○	○
Auxiliary Heat Control Model No.		ANEH033C1	ANEH053C1	ANEH083C2	ANEH103C2	ANEH153C3	ANEH203C3
Circuit Breaker Part No. (amp)		EAFO0100301 (20A)	EAFO0100302 (30A)	EAFO0100303 (50A)	EAFO0100304 (60A)	EAFO0100302 (30A) EAFO0100304 (60A)	EAFO0100304 (60A) EAFO0100304 (60A)

Single & Multi

Chassis	Capacity (kBtu/h (RT))	Heater Capacity (kW)					
		3	5	8	10	15	20
NA	12(1.0)	○	○	○	Not available	Not available	Not available
	18(1.5)	○	○	○	○	Not available	Not available
	24(2.0)	○	○	○	○	Not available	Not available
NB	30(2.5)	○	○	○	○	Not available	Not available
	36(3.0)	○	○	○	○	○	Not available
	42(3.5)	○	○	○	○	○	○
	48(4.0)	○	○	○	○	○	○
NC	60(5.0)	○	○	○	○	○	○
Auxiliary Heat Control Model No.		ANEH033C1	ANEH053C1	ANEH083C2	ANEH103C2	ANEH153C3	ANEH203C3
Circuit Breaker Part No. (amp)		EAFO0100301 (20A)	EAFO0100302 (30A)	EAFO0100303 (50A)	EAFO0100304 (60A)	EAFO0100302 (30A) EAFO0100304 (60A)	EAFO0100304 (60A) EAFO0100304 (60A)

ANEH153C3



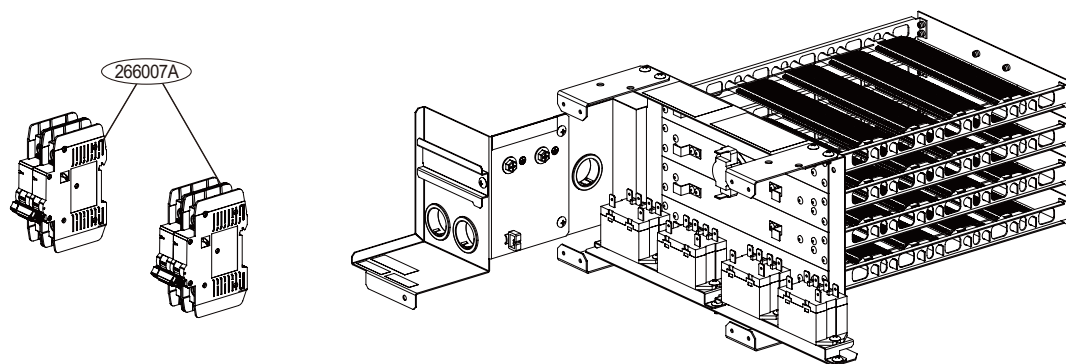
Multi V

Chassis	Capacity (kBtu/h (RT))	Heater Capacity (kW)					
		3	5	8	10	15	20
NA	12(1.0)	○	○	○	Not available	Not available	Not available
	18(1.5)	○	○	○	○	Not available	Not available
	24(2.0)	○	○	○	○	Not available	Not available
	30(2.5)	○	○	○	○	Not available	Not available
NB	36(3.0)	○	○	○	○	○	Not available
	42(3.5)	○	○	○	○	○	○
	48(4.0)	○	○	○	○	○	○
NC	54(4.5)	○	○	○	○	○	○
	60(5.0)	○	○	○	○	○	○
Auxiliary Heat Control Model No.		ANEH033C1	ANEH053C1	ANEH083C2	ANEH103C2	ANEH153C3	ANEH203C3
Circuit Breaker Part No. (amp)		EA00100301 (20A)	EA00100302 (30A)	EA00100303 (50A)	EA00100304 (60A)	EA00100302 (30A) EA00100304 (60A)	EA00100304 (60A) EA00100304 (60A)

Single & Multi

Chassis	Capacity (kBtu/h (RT))	Heater Capacity (kW)					
		3	5	8	10	15	20
NA	12(1.0)	○	○	○	Not available	Not available	Not available
	18(1.5)	○	○	○	○	Not available	Not available
	24(2.0)	○	○	○	○	Not available	Not available
NB	30(2.5)	○	○	○	○	Not available	Not available
	36(3.0)	○	○	○	○	○	Not available
	42(3.5)	○	○	○	○	○	○
	48(4.0)	○	○	○	○	○	○
NC	60(5.0)	○	○	○	○	○	○
Auxiliary Heat Control Model No.		ANEH033C1	ANEH053C1	ANEH083C2	ANEH103C2	ANEH153C3	ANEH203C3
Circuit Breaker Part No. (amp)		EA00100301 (20A)	EA00100302 (30A)	EA00100303 (50A)	EA00100304 (60A)	EA00100302 (30A) EA00100304 (60A)	EA00100304 (60A) EA00100304 (60A)

ANEH203C3



ENGLISH

Multi V

Chassis	Capacity (kBTu/h (RT))	Heater Capacity (kW)					
		3	5	8	10	15	20
NA	12(1.0)	○	○	○	Not available	Not available	Not available
	18(1.5)	○	○	○	○	Not available	Not available
	24(2.0)	○	○	○	○	Not available	Not available
	30(2.5)	○	○	○	○	Not available	Not available
NB	36(3.0)	○	○	○	○	○	Not available
	42(3.5)	○	○	○	○	○	○
	48(4.0)	○	○	○	○	○	○
NC	54(4.5)	○	○	○	○	○	○
	60(5.0)	○	○	○	○	○	○
Auxiliary Heat Control Model No.		ANEH033C1	ANEH053C1	ANEH083C2	ANEH103C2	ANEH153C3	ANEH203C3
Circuit Breaker Part No. (amp)		EA00100301 (20A)	EA00100302 (30A)	EA00100303 (50A)	EA00100304 (60A)	EA00100302 (30A) EA00100304 (60A)	EA00100304 (60A) EA00100304 (60A)

Single & Multi

Chassis	Capacity (kBTu/h (RT))	Heater Capacity (kW)					
		3	5	8	10	15	20
NA	12(1.0)	○	○	○	Not available	Not available	Not available
	18(1.5)	○	○	○	○	Not available	Not available
	24(2.0)	○	○	○	○	Not available	Not available
NB	30(2.5)	○	○	○	○	Not available	Not available
	36(3.0)	○	○	○	○	○	Not available
	42(3.5)	○	○	○	○	○	○
	48(4.0)	○	○	○	○	○	○
NC	60(5.0)	○	○	○	○	○	○
Auxiliary Heat Control Model No.		ANEH033C1	ANEH053C1	ANEH083C2	ANEH103C2	ANEH153C3	ANEH203C3
Circuit Breaker Part No. (amp)		EA00100301 (20A)	EA00100302 (30A)	EA00100303 (50A)	EA00100304 (60A)	EA00100302 (30A) EA00100304 (60A)	EA00100304 (60A) EA00100304 (60A)

Auxiliary Heat Control : Circuit Breaker Service Guide

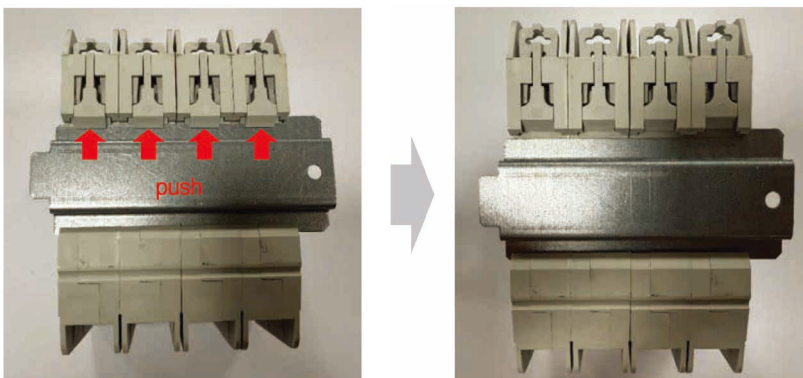
1. Disassemble the power wires above and below the circuit breaker.



2. Remove 1 screw as indicated.



3. Open the hook on the back of the circuit breaker and replace it with a new circuit breaker.



7. SELF-DIAGNOSIS FUNCTION

Error Indicator

- This function indicates types of failure in self-diagnosis and occurrence of failure for air condition.
- Error mark is displayed on display window of indoor units and wired remote controller, and 7-segment LED of outdoor unit control board as shown in the table.
- If more than two troubles occur simultaneously, lower number of error code is first displayed.
- After error occurrence, if error is released, error LED is also released simultaneously.

Error Display

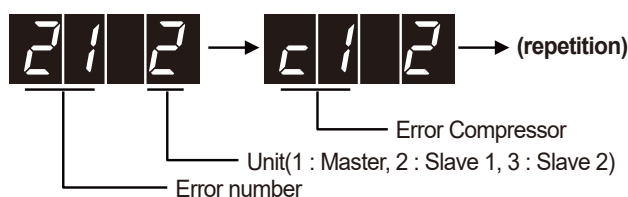
- 1st, 2nd, 3rd LED of 7-segment indicates error number, 4th LED indicates unit number. Indicates unit number.

(* = 1 : Master, 2 : Slave 1, 3 : Slave 2)

Ex) 211 : No.21 error of master unit

213 : No.21 error of slave2

1051 : No.105 error of master unit



※ Refer to the DX-Ventilation manual for DX-Ventilation error code

Display				Title	Cause of Error
Indoor unit related error	0	1	-	Air temperature sensor of indoor unit	Air temperature sensor of indoor unit is open or short
	0	2	-	Inlet pipe temperature sensor of indoor unit	Inlet pipe temperature sensor of indoor unit is open or short
	0	3	-	Communication error : wired remote controller ↔ indoor unit	Failing to receive wired remote controller signal in indoor unit PCB
	0	4	-	Drain pump	Malfunction of drain pump
	0	5	-	Communication error : Indoor communication PCB ↔ indoor unit	Indoor Unit PCB did not receive signal from Indoor communication PCB for over 3 minutes continuously
	0	6	-	Outlet pipe temperature sensor of indoor unit	Outlet pipe temperature sensor of indoor unit is open or short
	0	9	-	Indoor EEPROM Error	In case when the serial number marked on EEPROM of Indoor unit is 0 or FFFFFF
	1	0	-	Poor fan motor operation	Disconnecting the fan motor connector / Failure of indoor fan motor lock
	2	2	8	Refrigerant leak detector malfunction error	Refrigerant leak detector has failed
	2	2	9	Refrigerant leak detector lifetime error	The lifetime of the refrigerant leak detector has reached the end
	2	3	0	Refrigerant leak detection error	Refrigerant leak detected by refrigerant leak detector
	2	3	6	Refrigerant leak detector lifetime pre-alarm	An error occurs once a month when the lifespan of the leak detector has elapsed 9 years and 6 months. An error occurs once a day when the lifespan of the leak detector has elapsed 9 years and 11 months.
	2	3	7	Communication defect in indoor communication PCB ↔ outdoor communication PCB	Indoor communication PCB did not receive signal from outdoor communication PCB for over 3 minutes continuously
	2	3	8	Communication error in outdoor communication PCB ↔ outdoor unit	Outdoor communication PCB did not receive communication signal from outdoor unit for over 3 minutes continuously

8. R32 LEAK DETECTION SYSTEM

TroubleShooting for Leak Detection System Error

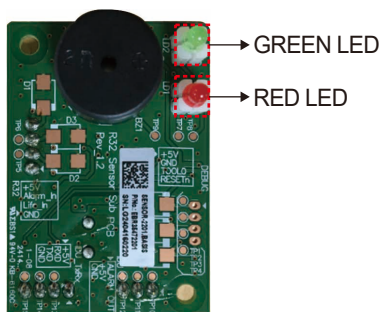
The R32 refrigerant leak detector detects the concentration of refrigerant (R32) in the air. When the concentration of refrigerant in the air is 5 000 ppm or higher, Leak Detection system will be activated. If Leak Detection system is activated, the following actions will be operated automatically:

- Wired remote controller and indoor units display an Error code and R32 Sensor Sub PCB issues an alarm so that the user realizes that there is a refrigerant leak.(The alarm function is only available in some product)
- The fan of the indoor unit where the error code is displayed will turn on.
- The unit cannot be used until error code disappears.

! WARNING

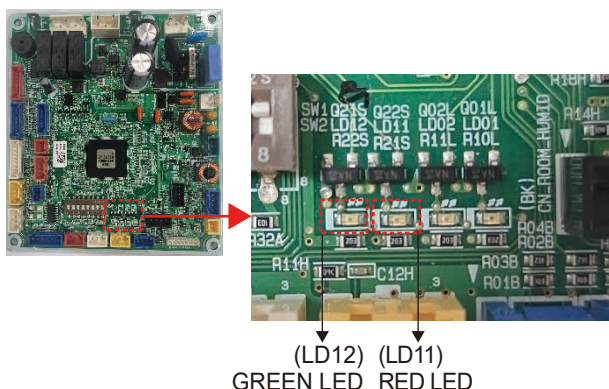
- If there are error code such as 228,229 and 230, ventilate the room and contact authorized personnel immediately.
- If there is an error code of 236, the refrigerant leak detector has a lifetime of less than 6 months. Contact authorized personnel immediately.
- The R32 refrigerant detector must be replaced after detecting any gases or at the end of its lifetime (3650 days).
- Refrigerant leak detectors for Leak Detection System shall only be replaced with detectors specified by the appliance manufacture.
- R32 Leak detection system replacement shall be carried out by authorized personnel only.
- There is possibility detecting other gases, not R32. Do not use highly concentrated chemicals (e.g. Ethanol, Smoke, Hair spray and pesticide) near the indoor unit. R32 refrigerant leakage sensor may detect incorrectly.

1. R32 sensor sub PCB



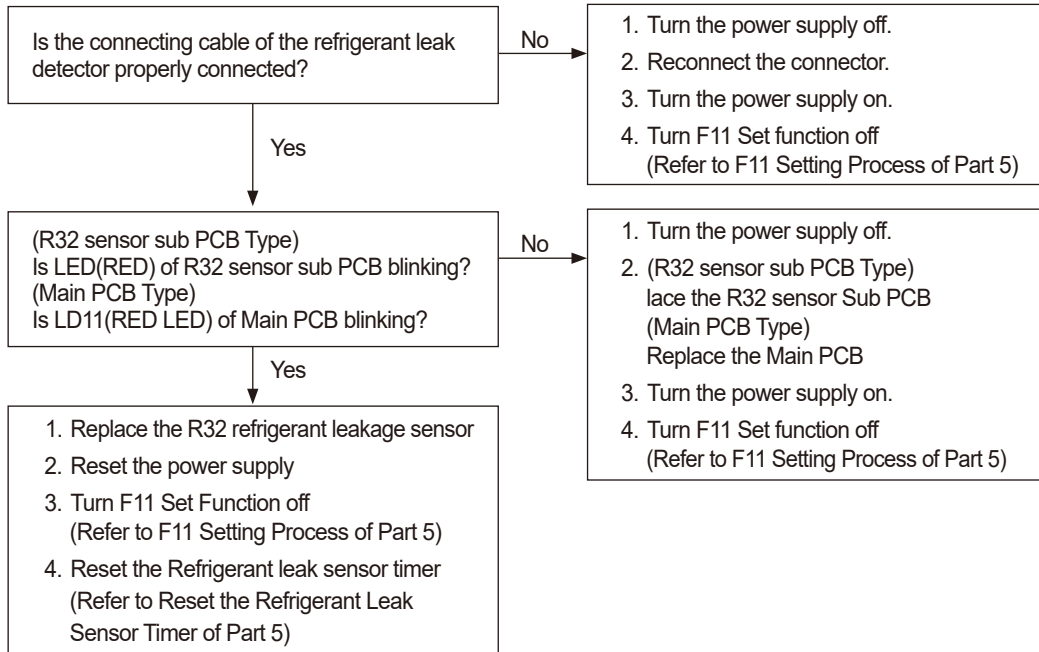
2. Main PCB Type

(R32 Sensor sub PCB is embedded in the Main PCB)

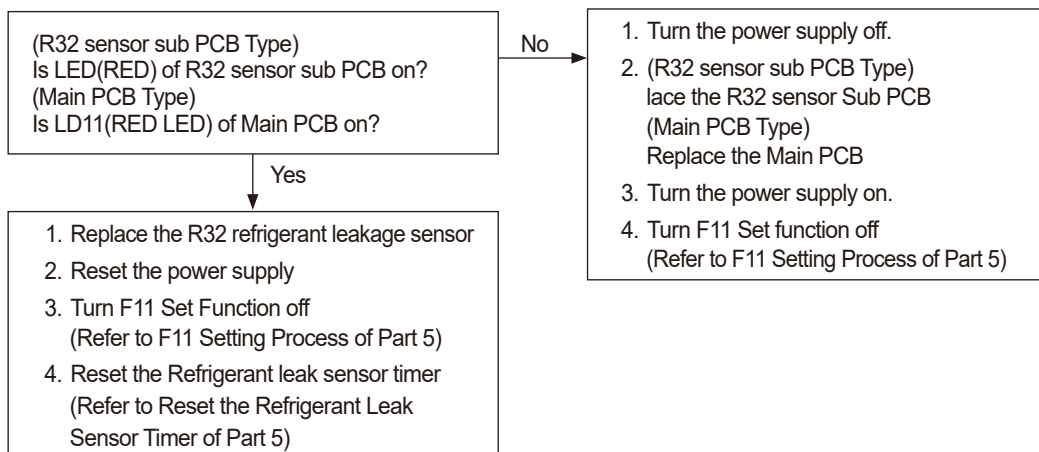


Troubleshooting

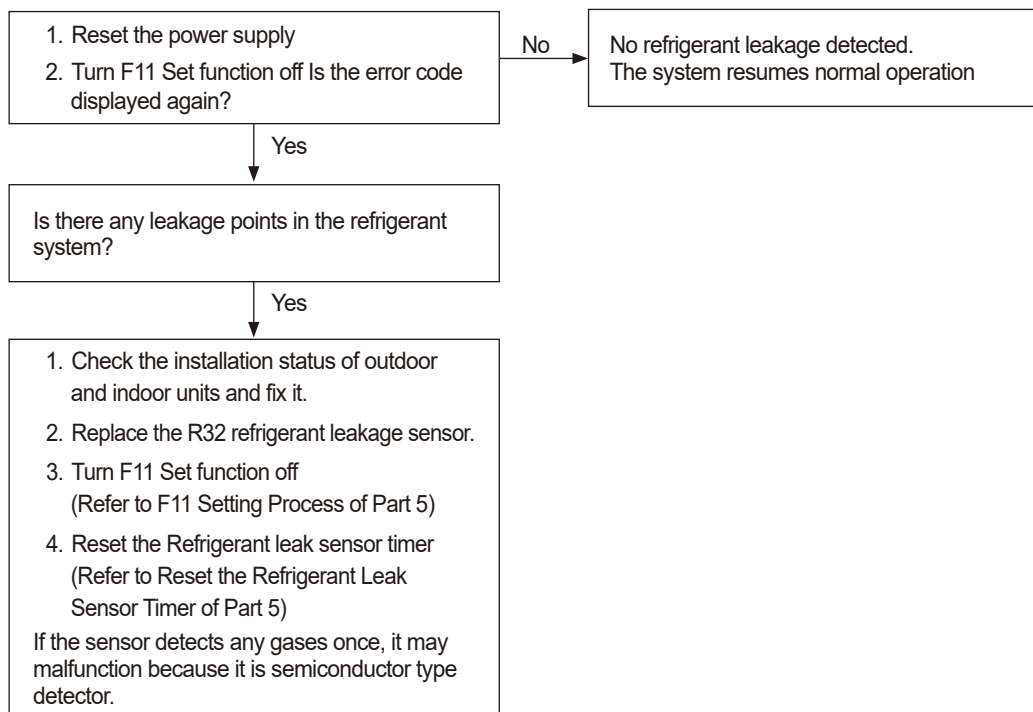
Error No.	Error Type	Error point	Main reasons
CH 228	Refrigerant leak detector malfunction error	Refrigerant leak detector has failed.	- The sensor is breaking of short. - Abnormal voltage of DC converter. - Abnormal operation of microprocessor.



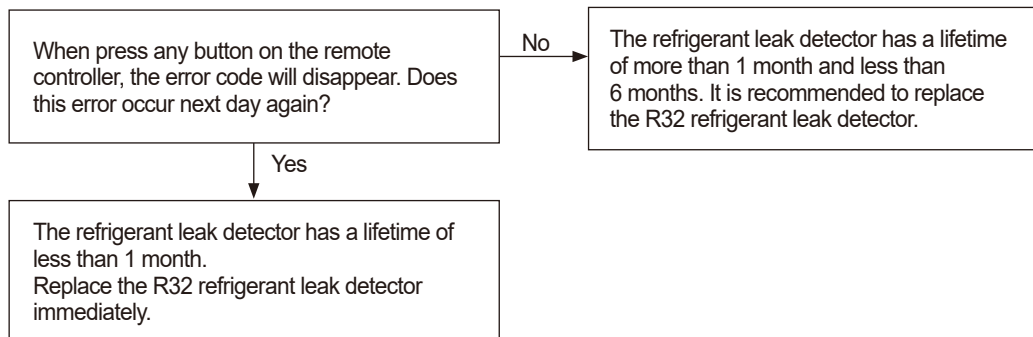
Error No.	Error Type	Error point	Main reasons
CH 229	Refrigerant leak detector lifetime error	The lifetime of the refrigerant leak detector has reached the end	The lifetime of the refrigerant leak detector has been reached, so replace the sensor.



Error No.	Error Type	Error point	Main reasons
CH 230	Refrigerant leak detection error	Refrigerant leak detected by refrigerant leak detector.	Refrigerant leak detection

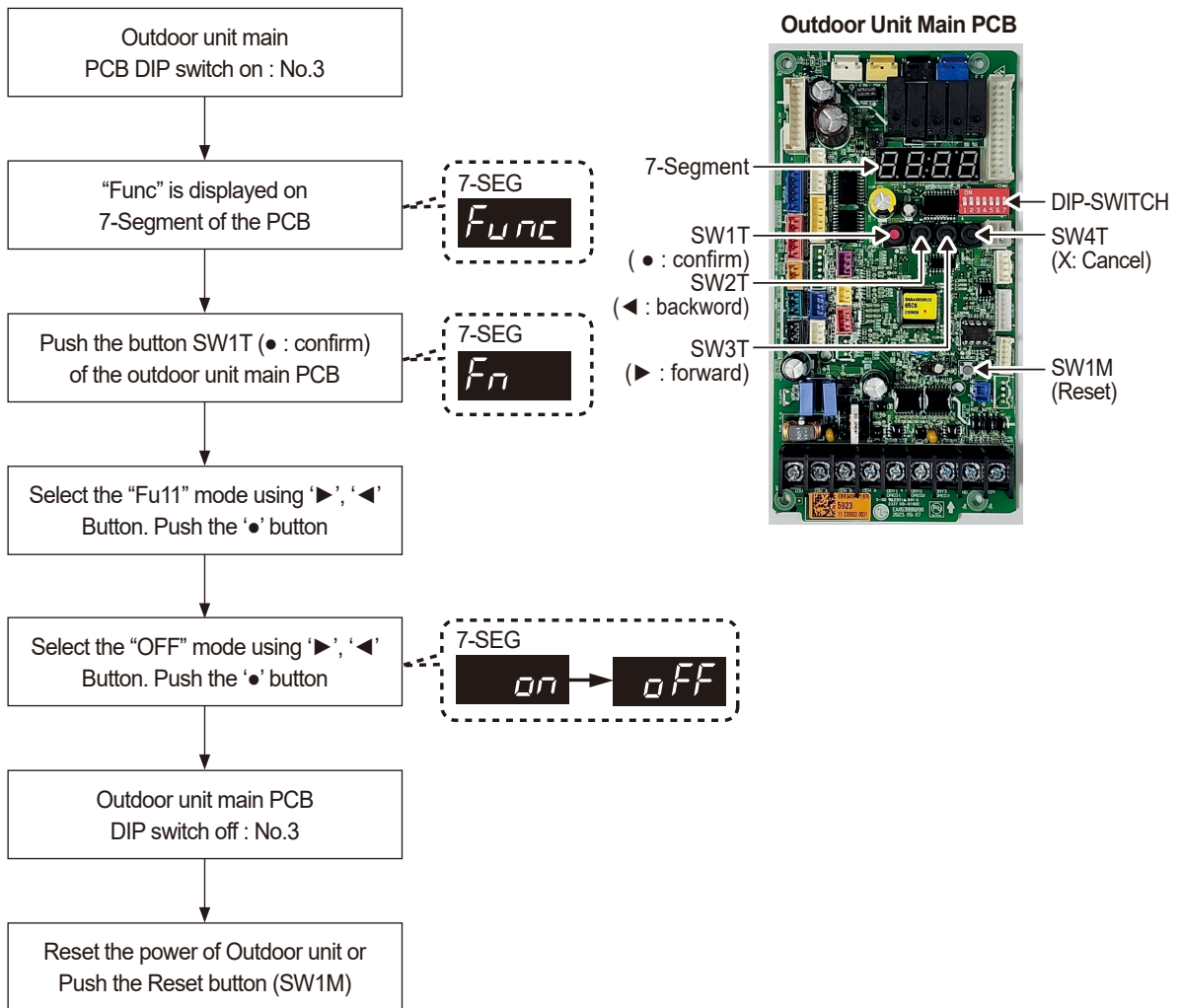


Error No.	Error Type	Error point	Main reasons
CH 236	Refrigerant leak detector lifetime pre-alarm	An error occurs once a month when the lifespan of the leak detector has elapsed 9 years and 6 months. An error occurs once a day when the lifespan of the leak detector has elapsed 9 years and 11 months	The refrigerant leak detector has 10 years lifespan.



F11 Setting Process

After clear issue, F11 Set function should be deactivated from On to Off



Reset the Refrigerant Leak Sensor Timer

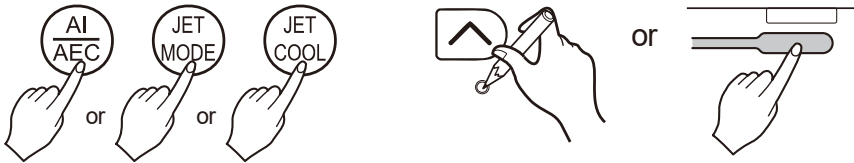
If the R32 refrigerant leakage sensor is replaced, the Refrigerant Leak Sensor Timer should be reset.

WARNING

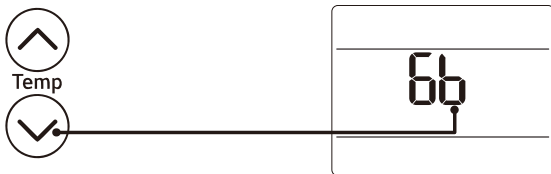
Only applies if the R32 refrigerant leakage sensor is replaced.

Wireless remote controller

1. With the  or  or  button pressed, press the reset button.



2. By using the  or  button, set the installer code "6B"

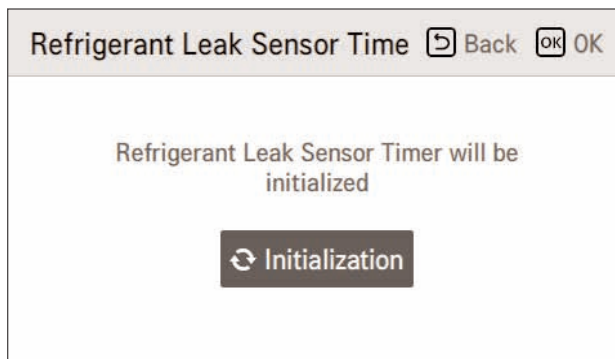
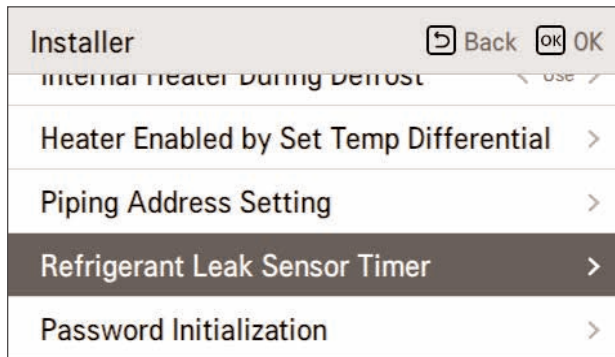


3. Press the  button toward the indoor unit 1 time.
4. Reset the remote controller to use the general operation mode.

Standard 3 Wired remote controller

This feature resets the life timer of the refrigerant leakage detection sensor.

- In the installer setting list, select Refrigerant Leak Sensor Timer category, and press [OK] button to move to the detail screen.



- Please make sure to reset the refrigerant leakage detection sensor, if you replaced it. The product may malfunction, if you don't reset it.

NOTE

- Depending on the version of remote control, this feature may not be activated.

