Multi V Air Conditioner

SVC MANUAL(Exploded View)

MODEL : **ARNU073MAA4**
ARNU093MAA4
ARNU123MAA4
ARNU153MAA4
ARNU183MAA4
ARNU243MAA4

CAUTION

Before Servicing the unit, read the safety precautions in General SVC manual.
Only for authorized service personnel.

1. Specification

Type			Ceiling Concealed Duct -Mid Static		
Model		Unit	ARNU073MAA4	ARNU093MAA4	ARNU123MAA4
Cooling Capacity		kW	2.20	2.80	3.60
		kcal/h	1,900	2,400	3,100
		Btu/h	7,500	9,600	12,300
Heating Capacity		kW	2.50	3.20	4.00
		kcal/h	2,200	2,800	3,400
		Btu/h	8,500	10,900	13,600
Casing			Galvanized Steel Plate	Galvanized Steel Plate	Galvanized Steel Plate
Dimensions (W x H x D)	Body	mm	900 x 245 x 700	900 x 245 x 700	900 x 245 x 700
		inch	35-7/16 x 9-21/32 x 27-9/16	35-7/16 x 9-21/32 x 27-9/16	35-7/16 x 9-21/32 x 27-9/16
Coil	Rows x Columns x FPI		2 x 13 x 18	2 x 13 x 18	2 x 13 x 18
	Face Area	m2(sq.ft)	0.19 (2.05)	0.19 (2.05)	0.19 (2.05)
Fan	Type		Sirocco Fan	Sirocco Fan	Sirocco Fan
	Motor Output x Number	W	165 x 1	165 x 1	165 x 1
	Running Current	A	1.7	1.7	1.7
	Air Flow Rate(H/M/L) (High Mode-Factory Set)	CMM	8 / 7 / 6	10 / 9 / 8	14 / 12 / 10
		CFM	283 / 247 / 212	353 / 318 / 283	494 / 424 / 353
	Ext Static Pressure	mmAq(in.Aq)	6(0.24)	6(0.24)	6(0.24)
	Drive		Direct	Direct	Direct
	Motor Type		BLDC	BLDC	BLDC
Temperature Control			Microprocessor, Thermostat for cooling and heating	Microprocessor, Thermostat for cooling and heating	Microprocessor, Thermostat for cooling and heating
Sound Absorbing Thermal Insulation Material			Foamed polystrene	Foamed polystrene	Foamed polystrene
Air Filter			Pre-filter	Pre-filter	Pre-filter
Safety Divice			Fuse	Fuse	Fuse
Pipe Connections	Liquid Side	mm(inch)	Φ6.35 (1/4)	Φ6.35 (1/4)	Φ6.35 (1/4)
	Gas Side	mm(inch)	Φ12.7 (1/2)	Φ12.7 (1/2)	Φ12.7 (1/2)
	Drain Pipe(Internal Dia.)	mm(inch)	25 (1)	25 (1)	25 (1)
Net Weight	Body	kg(lbs)	28.4(62.6)	28.4(62.6)	28.4(62.6)
Sound Pressure Level (H/M/L)		dB(A)+1	28 / 27 / 25	28 / 27 / 26	31 / 29 / 28
Power Supply		Ø, V, Hz	1, 208 / 230, 60	1, 208 / 230, 60	1, 208 / 230, 60
Refrigerant Control		-	EEV	EEV	EEV
Communication Cable(VCTF-SB)		AWG × cores	AWG 18 x2C	AWG 18 x2C	AWG 18 x 2C

Notes:

1. Capacities are based on the following conditions:
   - Cooling
     - Indoor temp. 27°C[80.6°F]DB/ 19°C[66.2°F]WB
     - Outdoor temp. 35°C[95°F]DB/ 24°C[75.2°F]WB
     - Interconnecting Piping Length 7.5m(24.6ft)
     - Level Difference of Zero
   - Heating
     - Indoor temp. 20°C[68°F]DB/ 15°C[59°F]WB
     - Outdoor temp. 7°C[44.6°F]DB/ 6°C[42.8°F]WB
     - Interconnecting Piping Length 7.5m(24.6ft)
     - Level Difference of Zero
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. Noise Level is High Mode (factory set)

Conversion Formula
kcal/h= kW x 860
Btu/h = kW x 3412
cfm = m^3/min x 35.3
l/s = CMM x 1000/60

1. Specification

Type			Ceiling Concealed Duct -Mid Static		
Model		Unit	ARNU153MAA4	ARNU183MAA4	ARNU243MAA4
Cooling Capacity		kW	4.50	5.60	7.10
		kcal/h	3,900	4,800	6,100
		Btu/h	15,400	19,100	24,200
Heating Capacity		kW	5.00	6.30	8.00
		kcal/h	4,300	5,400	6,900
		Btu/h	17,100	21,500	27,300
Casing			Galvanized Steel Plate	Galvanized Steel Plate	Galvanized Steel Plate
Dimensions (W x H x D)	Body	mm	900 x 245 x 700	900 x 245 x 700	900 x 245 x 700
		inch	35-7/16 x 9-21/32 x 27-9/16	35-7/16 x 9-21/32 x 27-9/16	35-7/16 x 9-21/32 x 27-9/16
Coil	Rows x Columns x FPI		2 x 13 x 18	2 x 13 x 18	3 x 13 x 18
	Face Area	m2(sq.ft)	0.19 (2.05)	0.19 (2.05)	0.19 (2.05)
Fan	Type		Sirocco Fan	Sirocco Fan	Sirocco Fan
	Motor Output x Number	W	165 x 1	165 x 1	165 x 1
	Running Current	A	1.7	1.7	1.7
	Air Flow Rate(H/M/L) (High Mode-Factory Set) Ext Static Pressure	CMM	15 / 12 / 11	18 / 15 / 12	20 / 15.5 / 13
		CFM	530 / 424 / 388	635 / 530 / 424	706 / 547 / 459
		mmAq(in.Aq)	6(0.24)	6(0.24)	6(0.24)
	Drive		Direct	Direct	Direct
	Motor Type		BLDC	BLDC	BLDC
Temperature Control			Microprocessor, Thermostat for cooling and heating	Microprocessor, Thermostat for cooling and heating	Microprocessor, Thermostat for cooling and heating
Sound Absorbing Thermal Insulation Material			Foamed polystrene	Foamed polystrene	Foamed polystrene
Air Filter			Pre-filter	Pre-filter	Pre-filter
Safety Divice			Fuse	Fuse	Fuse
Pipe Connections	Liquid Side	mm(inch)	Φ6.35 (1/4)	Φ6.35 (1/4)	Φ9.52 (3/8)
	Gas Side	mm(inch)	Φ12.7 (1/2)	Φ12.7 (1/2)	Φ15.88 (5/8)
	Drain Pipe(Internal Dia.)	mm(inch)	25 (1)	25 (1)	25 (1)
Net Weight	Body	kg(lbs)	28.4(62.6)	28.4(62.6)	29.7(65.5)
Sound Pressure Level (H/M/L)		dB(A)+1	33 / 31 / 29	36 / 32 / 29	38 / 33 / 30
Power Supply		Ø, V, Hz	1, 208 / 230, 60	1, 208 / 230, 60	1, 208 / 230, 60
Refrigerant Control		-	EEV	EEV	EEV
Communication Cable(VCTF-SB)		AWG × cores	AWG 18 x2C	AWG 18 x2C	AWG 18 x2C

Notes:-

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Conversion Formula
kcal/h= kW x 860
Btu/h = kW x 3412
cfm = m^3/min x 35.3
l/s = CMM x 1000/60

2. List of Functions

Category	Function	ARNU073MAA4, ARNU093MAA4, ARNU123MAA4 ARNU153MAA4, ARNU183MAA4, ARNU243MAA4
Air flow	Air supply outlet	1
	Airflow direction control(left & right)	-
	Airflow direction control(up & down)	-
	Auto swing(left & right)	-
	Auto swing(up & down)	-
	Airflow steps(fan/cool/heat)	3/3/3
	Chaos swing	-
	Chaos wind(auto wind)	-
	Jet cool(Power wind)	-
	Swirl wind	-
Air purifying	Deodorizing filter	X
	Plasma air purifier	X
	Prefilter(washable)	O
Installation	Drain pump	O
	E.S.P. control	O
	Electric heater(operation)	X
	High ceiling operation	-
	Vertical installation kit	ABDAMA0
Reliability	Hot start	O
	Self diagnosis	O
Convenience	Auto changeover	O (Heat recovery only)
	Auto cleaning	O
	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
Individual control	LG Multi SITE™ Remote Controller (With Occupancy Sensor)	PREMTBVC1
	LG Multi SITE™ Remote Controller	PREMTBVC0
	Premium	PREMTA000
	Simple	PREMTC00U
	Wireless Remote Controller	PQWRHQ0FDB

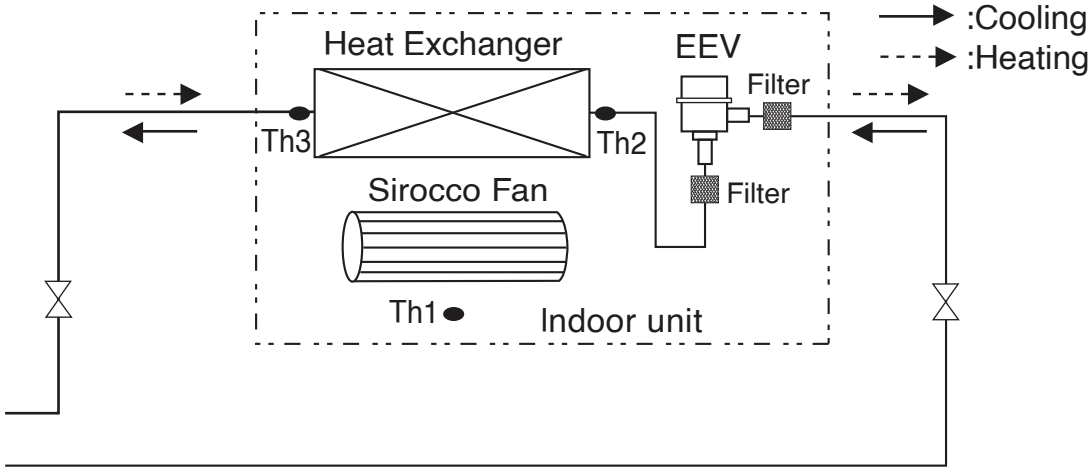
O : Applied X : Not applied – : No relation

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

MA Chassis



Refrigerant pipe connection port diameter

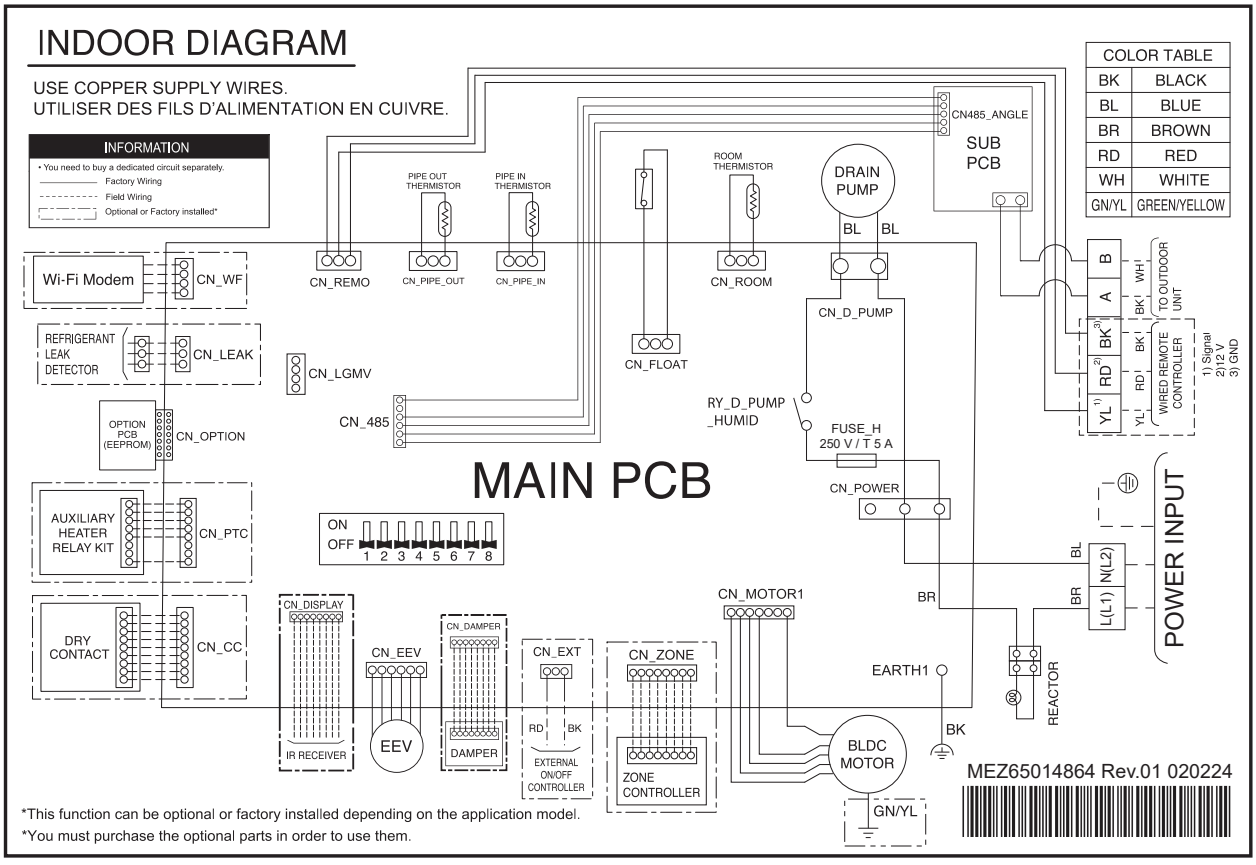
[Unit : mm(inch)]

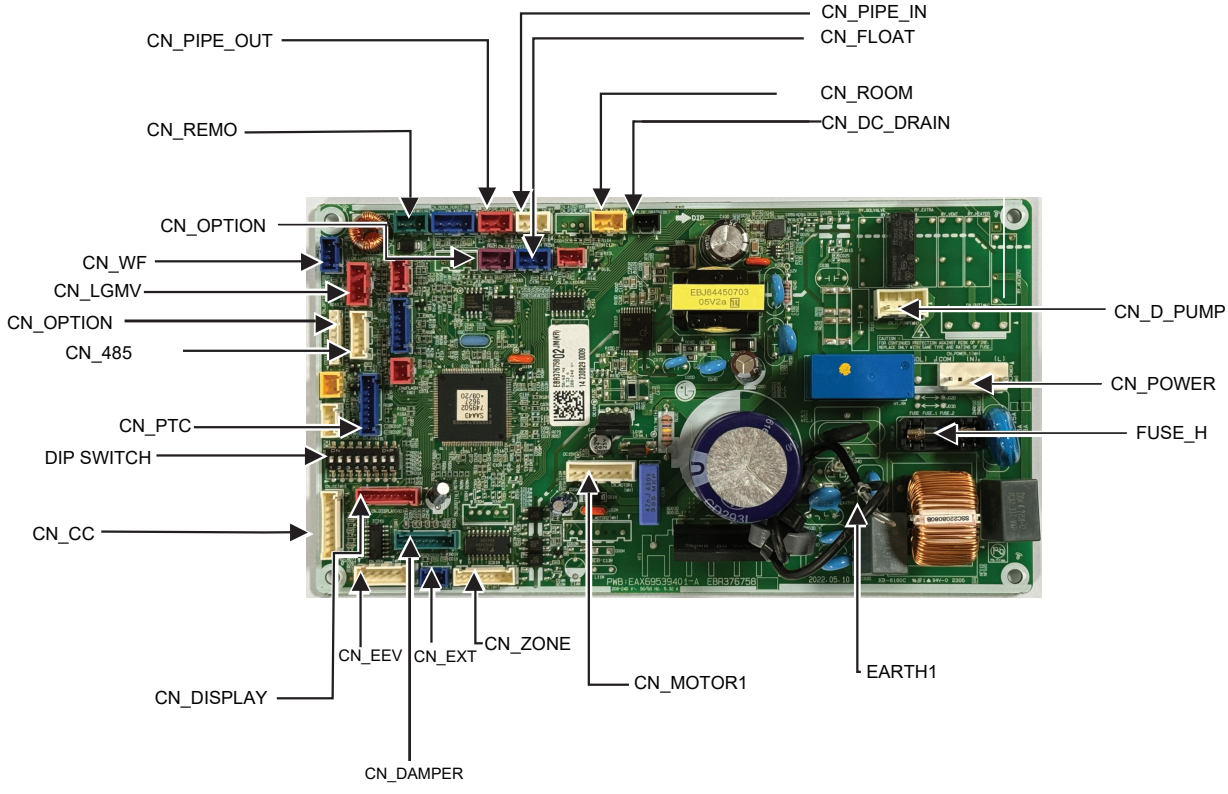
CHASSIS	MODEL	GAS	LIQUID
MA	ARNU073MAA4	Ø12.7(1/2)	Ø6.35(1/4)
	ARNU093MAA4	Ø12.7(1/2)	Ø6.35(1/4)
	ARNU123MAA4	Ø12.7(1/2)	Ø6.35(1/4)
	ARNU153MAA4	Ø12.7(1/2)	Ø6.35(1/4)
	ARNU183MAA4	Ø12.7(1/2)	Ø6.35(1/4)
	ARNU243MAA4	Ø15.88(5/8)	Ø9.52(3/8)

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)

4. Wiring Diagrams

ARNU073MAA4, ARNU093MAA4, ARNU123MAA4, ARNU153MAA4, ARNU183MAA4, ARNU243MAA4





5. DIP Switch Setting

1. 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 Removall	-	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	Etc.	Spare	-	-	Off

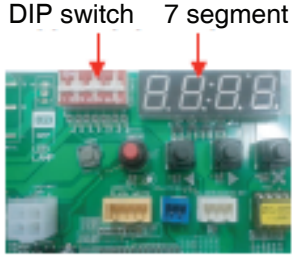
⚠CAUTION

For Multi V Models, DIP switch 1, 2, 6, 8 must be set OFF.

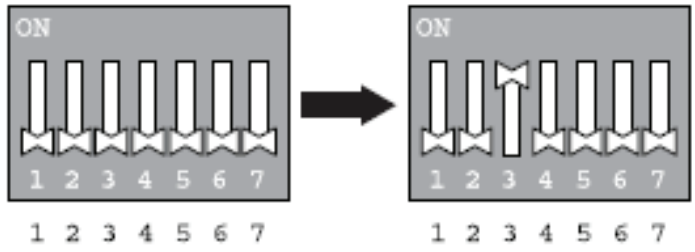
2. Outdoor Unit

In case that the products meet specific conditions, “Auto addressing” function can start automatically with the improved speed by turning the DIP switch #3 of the outdoor unit and resetting the power.

* Specific conditions:
  - All names of the indoor units are ARNU****4.
  - The serial number of Multi V super IV (outdoor units) is after October 2013.

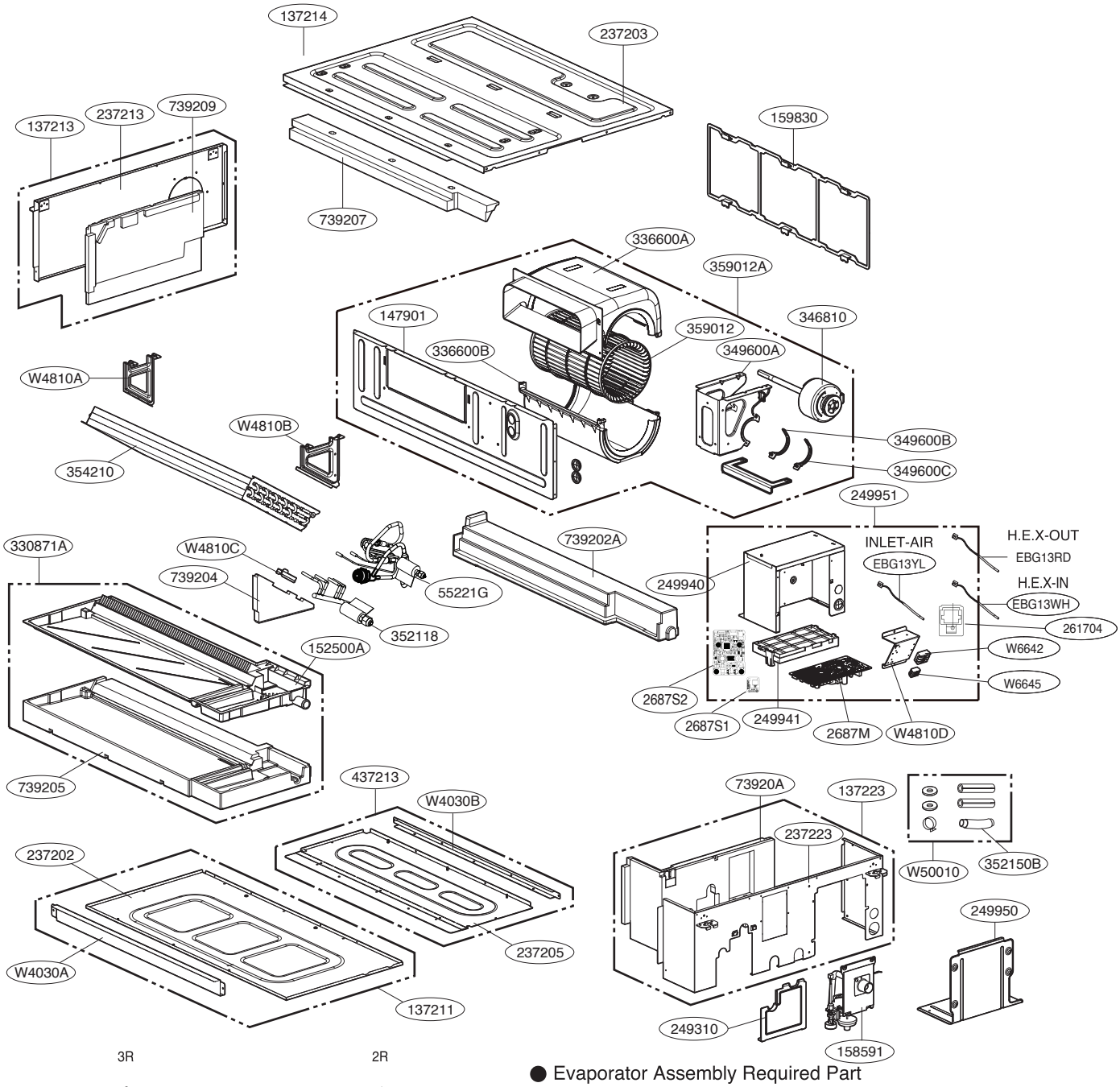


Outdoor Unit PCB



Outdoor Unit DIP Switch

6. Exploded View



● Evaporator Assembly Required Part

Level	Description	SVC Loc	Q'ty (3R)	Q'ty (2R)
..2	Evaporator Assembly,First	354210	1	1
..2	Tube Assembly,Expansion	55221G	1	1
..2	Tube Assembly,Manifold	352118	1	1

SVC No.	Description	Remark (Color)
EBG13YL	Thermistor for room air temperature	CN-ROOM (Yellow)
EBG13WH	Thermistor for pipe in temperature	CN-PIPE_IN (White)
EBG13RD	Thermistor for pipe out temperature	CN-PIPE_OUT (Red)
2687M	PCB for main	210 mm(8-9/32 inch) X 115 mm(4-17/32 inch)
2687S1	PCB for option	25 mm(31/32 inch) X 25 mm(31/32 inch)
2687S2	PCB for communication	65 mm(2-9/16 inch) X 45 mm(1-25/32 inch)

7. Self-diagnosis function

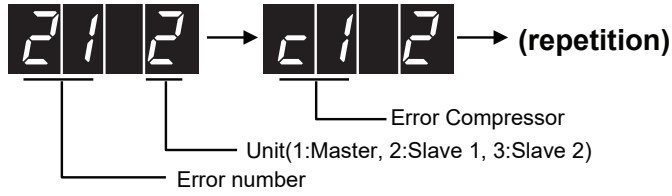
Error Indicator

- 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-Venitilation manual for DX-Venitilation 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	3	0	Refrigerant leakage sensing error	Refrigerant leakage sensing error and sensor defect error
	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

P/NO : MFL69041304