



FRIEDRICH

1883

SVC Manual(Exploded View)

DUCTLESS SPLIT SYSTEMS



Model : M18YJ
M18CJ
M24CJ

THE EXPERTS IN ROOM AIR CONDITIONING

FAC P/no : 960-920-01

Product Specifications

System		18k	18k	24k
FAC Model Name	System	M18YJ	M18CJ	M24CJ
	Outdoor Unit	MR18Y3J	MR18C3J	MR24C3J
Cooling Capacity	Indoor Unit	MW18Y3J	MW18C3J	MW24C3J
Cooling Capacity	kW	0.900 ~ 5.200 ~ 6.000	0.900 ~ 5.200 ~ 6.000	0.900 ~ 6.443 ~ 8.644
	Btu/h.	3,070 ~ 17,000 ~ 20,473	3,070 ~ 17,000 ~ 20,473	3,070 ~ 22,000 ~ 29,515
Heating Capacity	kW	0.900 ~ 6.300 ~ 9.000	-	-
	Btu/h.	3,070 ~ 20,200 ~ 30,709	-	-
Power Input	Cooling	W	1417/ 1680	2040
Running Current	Cooling	A	6.3/7.3	9
Starting Current	Cooling	A	6.3/7.3	9
Cooling COP	-	3.52	3.52	3.16
EER	-	12.0	12.0	10.8
SEER	-	18.0	18.0	20.0
HSPF	-	9.7	-	-
Power Supply	Ø / V / Hz	1/208-230/60	1/208-230/60	1/208-230/60
Power Factor	%	97	97	98
Air Flow Rate	Indoor (QUIET, LOW, MED, HIGH)	m³/min(CFM)	8.5(300)/11(389)/14.5(512)/17.0(600)	8.5(300)/11(389)/14.5(512)/17.0(600)
Moisture Removal	Outdoor,Max	m³/min(CFM)	50(1,766)	60(2,119)
	l/h.	2	2	2.6
Sound Level	Indoor,H/M/L/Sleep	dB(A)±3	45 / 40 / 35 / 29	46 / 40 / 35 / 29
	Outdoor,Max	dB(A)±3	53	54
Refrigerant & Charge	(at 7.5 m/24.6ft)	g(oz)	R410A, 1,350(47.6)	R410A, 1,800(63.5)
Additional Refrigerant charge		g(m(oz)/ft)	20(0.22)	35(0.38)
Compressor	Type		Twin Rotary	Twin Rotary
	Model		GKT141MB	GJT240MBA
	Motor Type		Brushless DC Motor	Brushless DC Motor
	Oil Type		PVE(FVC68D)	PVE(FVC68D)
	Oil Charge	cc	470	900
Fan(Indoor)	O.L.P. name		-	-
	Type		Cross Flow Fan	Cross Flow Fan
Fan(Outdoor)	Motor Output	W	30	76.1
	Type		Propeller	Propeller
Fan(Outdoor)	Motor Type		BLDC	BLDC
	Motor Output	W	85	124
Circuit Breaker*		A	20	25
Power Supply Cable	No.*mm² (AWG)	3*2.0(14)	3*2.0(14)	3*2.5(12)
Power and Transmission Cable	No.*mm² (AWG)	4*1.0(18)	4*1.0(18)	4*1.0(18)
Piping Connections	Liquid Side	mm(in)	6.35(1/4)	9.52(3/8)
	Gas Side	mm(in)	12.7(1/2)	15.88(5/8)
Drain Hose(O.D / I.D.)	mm(in)	21.5 / 16.0(0.85 / 0.63)	21.5 / 16.0(0.85 / 0.63)	21.5 / 16.0(0.85 / 0.63)
Dimensions	Indoor (W*H*D)	mm	1,030*325*245	1,030*325*245
		inch	40.6*12.8*9.64	40.6*12.8*9.64
	Outdoor (W*H*D)	mm	870*655*320	870*800*320
		inch	34.3*25.8*12.6	34.3*31.5*12.6
Net Weight	Indoor	kg(lbs)	14.5(31.96)	15(33.1)
	Outdoor	kg(lbs)	44(97)	55(121.25)
Gross Weight	Indoor	kg(lbs)	18.2(40.1)	18.7(41.23)
	Outdoor	kg(lbs)	46(101.4)	58.5(128.97)
Operation Range	Cooling(Outdoor)	°C(°F)DB	-10(-18)*~48(14.0/0)*~118.4	-10(-18)*~48(14.0/0)*~118.4
	Heating(Outdoor)	°C(°F)WB	-20(-4)~24(75.2)	-
Piping Length (Min/Max)	m(ft)	3(9.84) / 20(65.6)	3(9.84) / 20(65.6)	3(9.84) / 30(98.4)
Chargeless	m(ft)	7.5(24.6)	7.5(24.6)	7.5(24.6)
Max. Elevation Difference	m(ft)	10(32.8)	10(32.8)	15(49.2)
Tool Code(Chassis)	Indoor + Outdoor	SC + UE	SC + UE	SC + UE1+
Functions	Temperature Control		o	o
	Allergy free filter		-	-
	Plasma Filter		-	-
	Prefilter(washable/anti-fungus)		o	o
	Auto Clean		o	o
	Natural Air Flow (Auto Wind)		o	o
	Steps, Fan/Cool/Heat		6/6/6	6/6
	Airflow Direction Control(Up& Down)		Auto	Auto
	Airflow Direction Control(Left & Right)		Auto	Auto
	Remote Controller Type		Wireless LCD	Wireless LCD
	Setting Temperature	Cooling	18°C~30°C	18°C~30°C
	Range	Heating	16°C~30°C	-
	Auto Operation		-	-
	Auto Changeover		o	o
	Self-Diagnosis		o	o
	Timer		24h, On/off	24h, On/off
	Sleep Operation		o	o
	Soft Dry Operation		o	o
	Restart Delay(minute)		3	3
	Deice Control(Defrost)		o	-
	Hot Start		o	-
	Surge Cool Surge		o	o
	Low Ambient Operation		o	o
	Special Function		Water Level Sensor	Water Level Sensor
			Wind Baffle kit	Wind Baffle kit

Note:

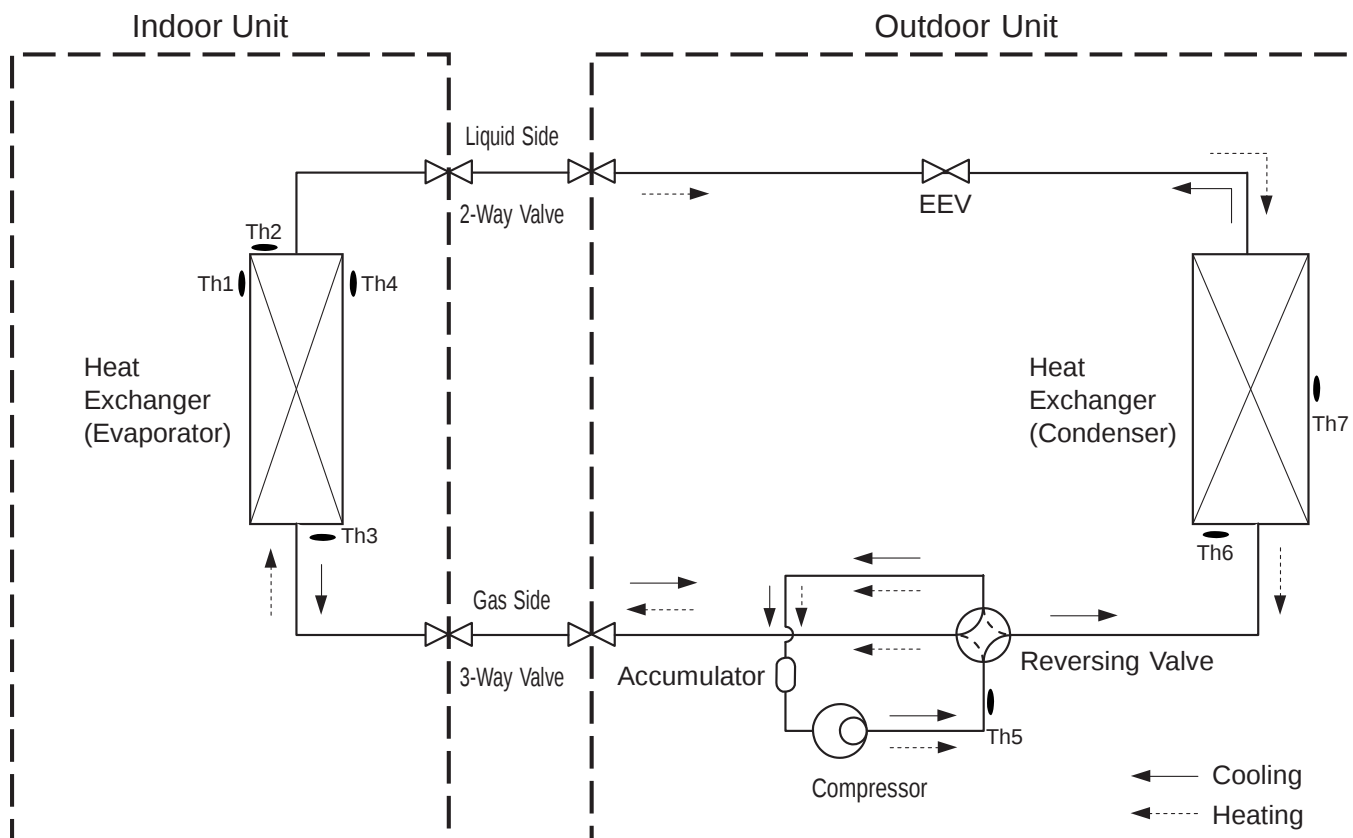
O : Applied, - : No relation

* For circuit breaker rating, please conform to local standards wherever necessary.

* The specification may be subject to change without notice for purpose of improvement.

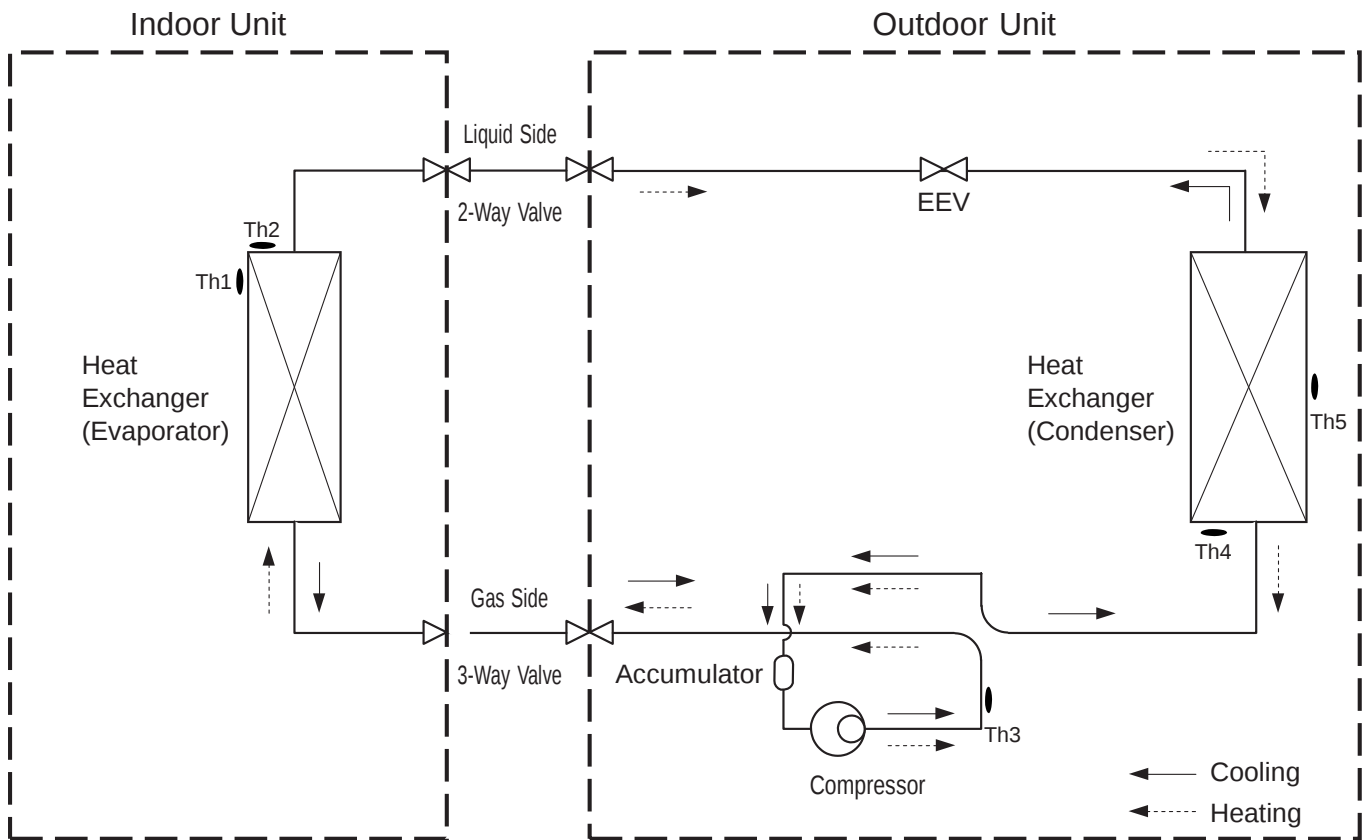
Piping Diagrams

Model : M18YJ



LOC.	Description	PCB Connector
Th1	Thermistor for suction air temperature	CN-TH1(Indoor)
Th2	Thermistor for evaporator inlet temperature	
Th3	Thermistor for evaporator outlet temperature	CN-TH2(Indoor)
Th4	Thermistor for evaporator middle temperature	CN-TH3(Indoor)
Th5	Thermistor for discharge pipe temperature	CN-TH2(OUTDOOR)
Th6	Thermistor for condensing temperature	CN-TH1(OUTDOOR)
Th7	Thermistor for outdoor air temperature	

**Model : M18CJ
M24CJ**



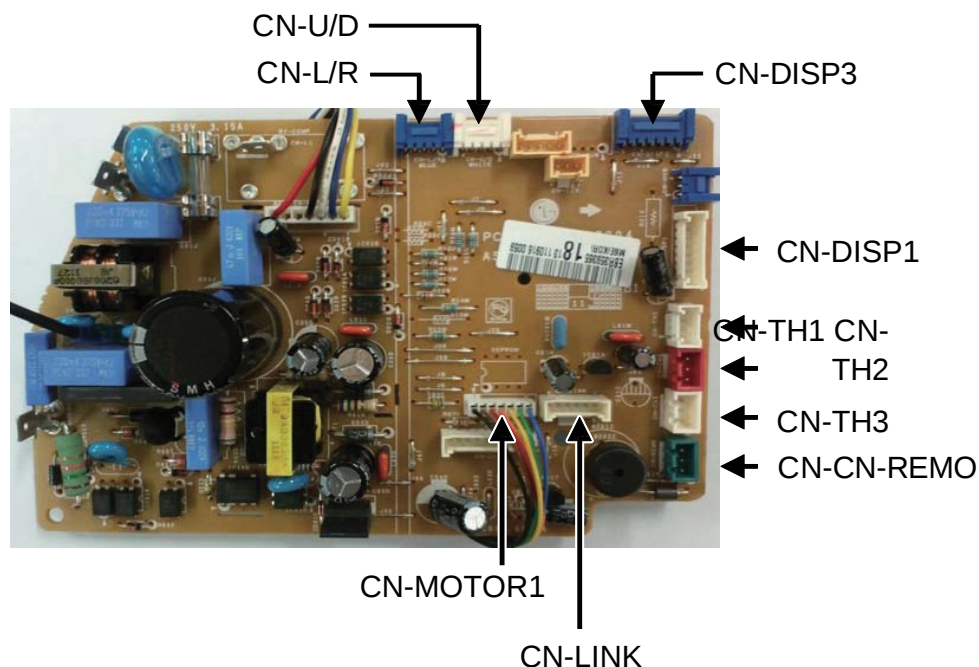
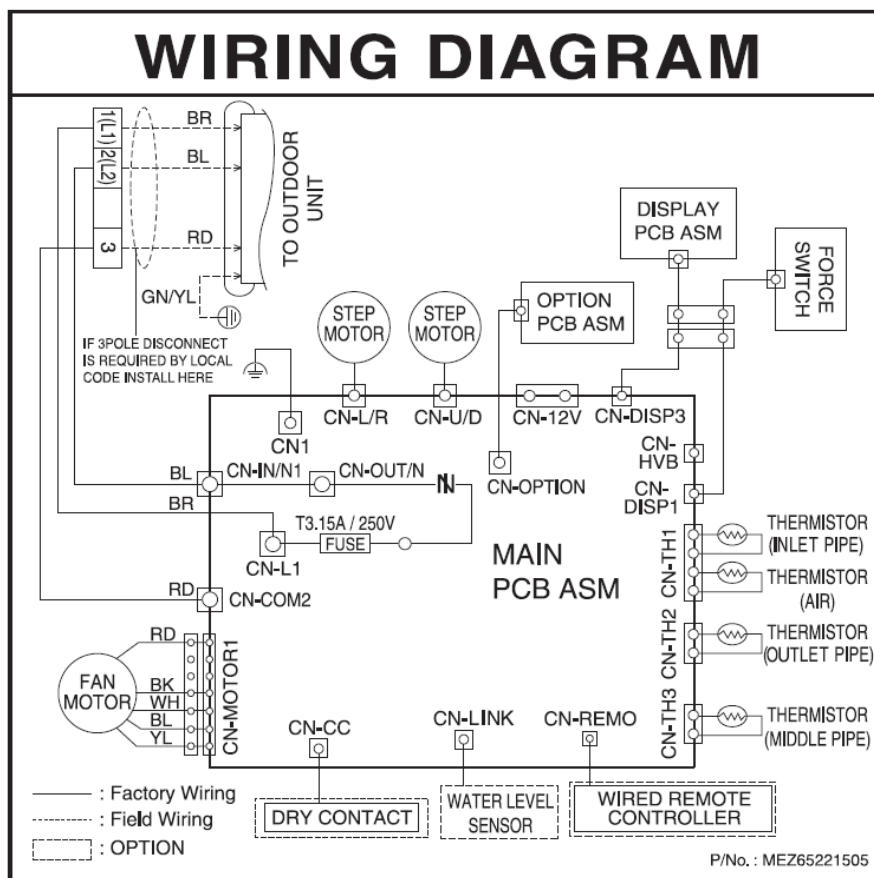
LOC.	Description	PCB Connector
Th1	Thermistor for suction air temperature	CN-TH1(Indoor)
Th2	Thermistor for evaporator middle temperature	CN-TH3(Indoor)
Th3	Thermistor for discharge pipe temperature	CN-TH2(OUTDOOR)
Th4	Thermistor for condensing temperature	CN-TH1(OUTDOOR)
Th5	Thermistor for outdoor air temperature	

※ EEV : Electronic Expansion Valve

Wiring Diagrams

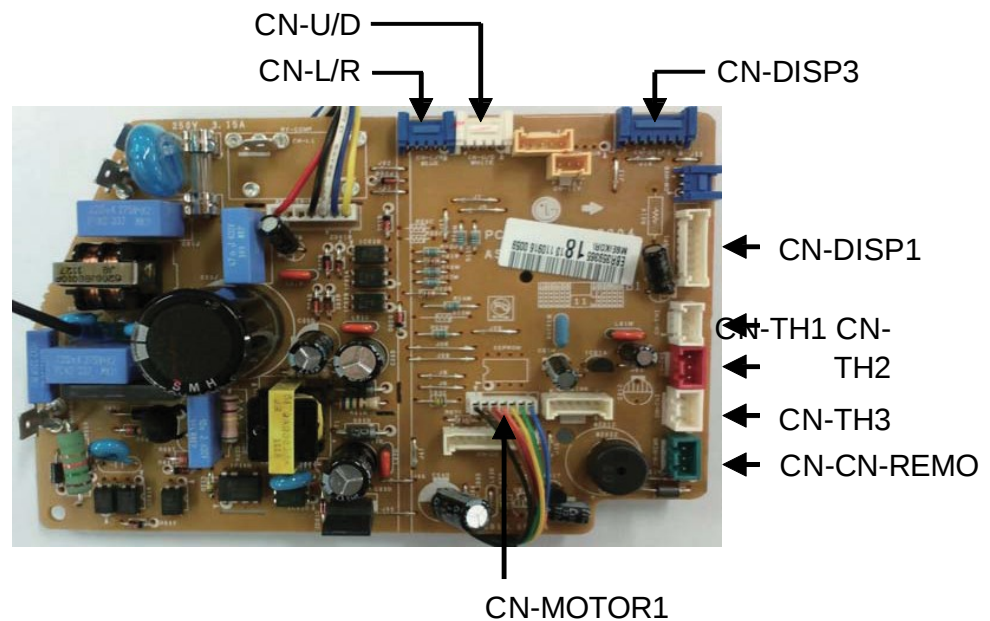
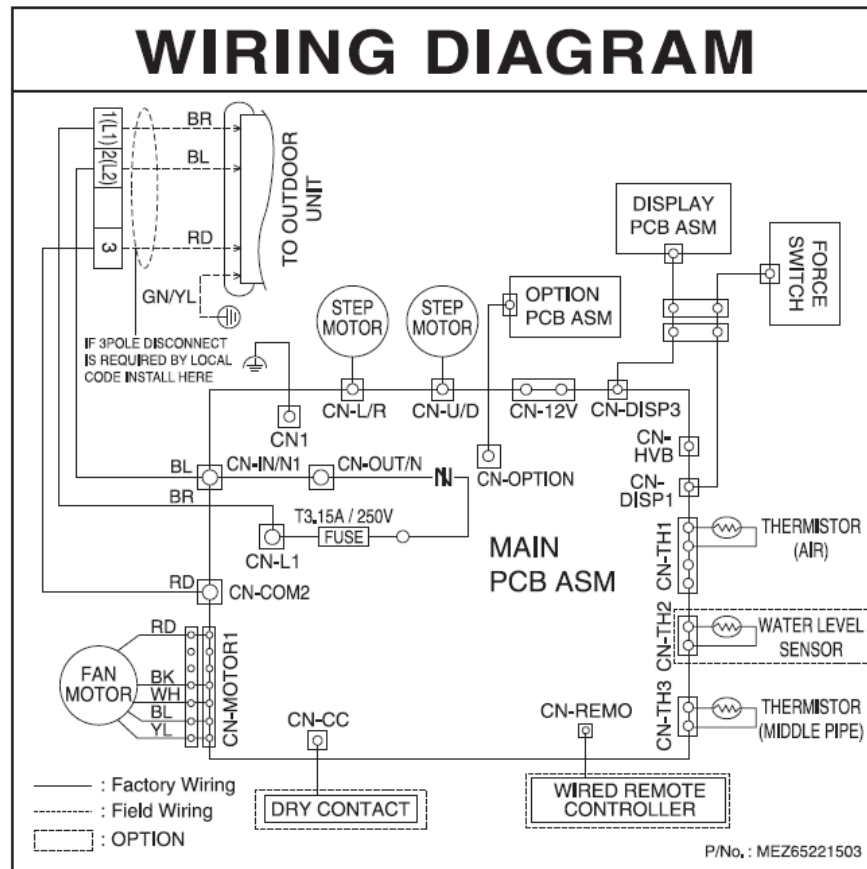
Indoor Unit

Model : MW18Y3J

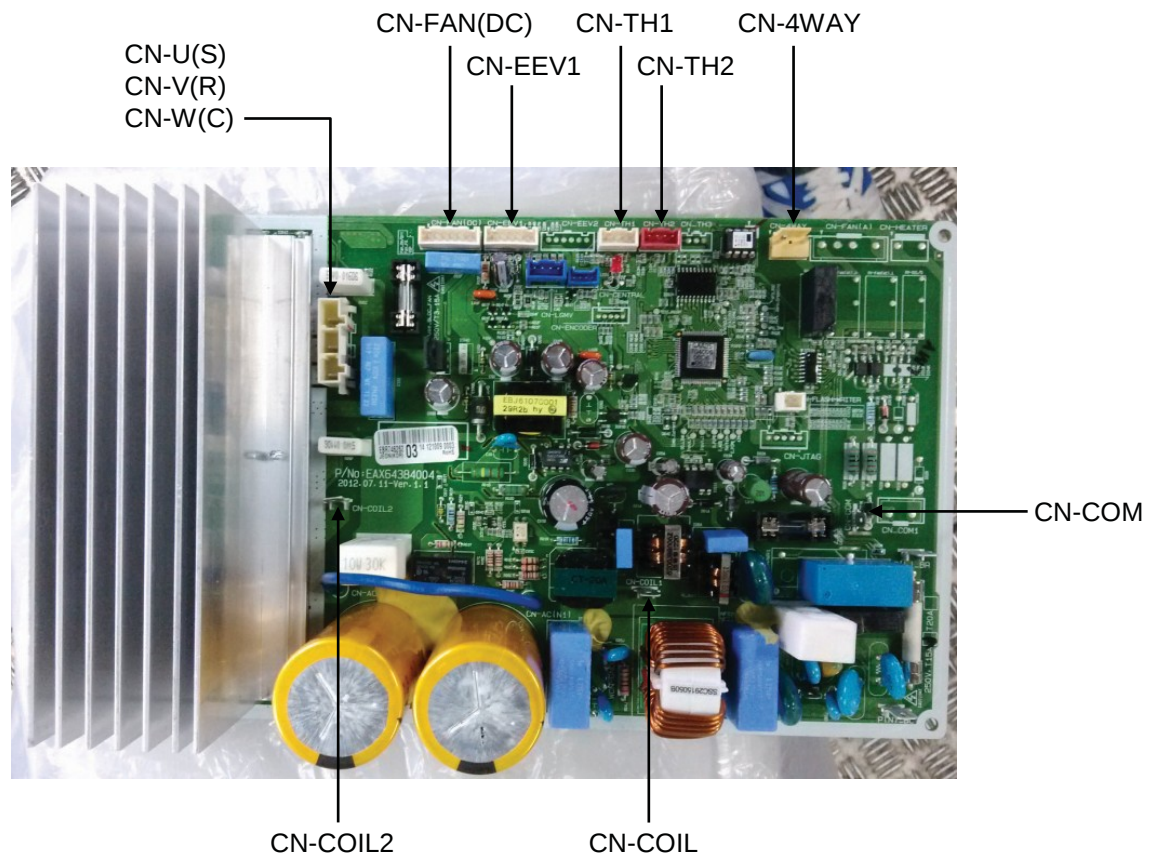
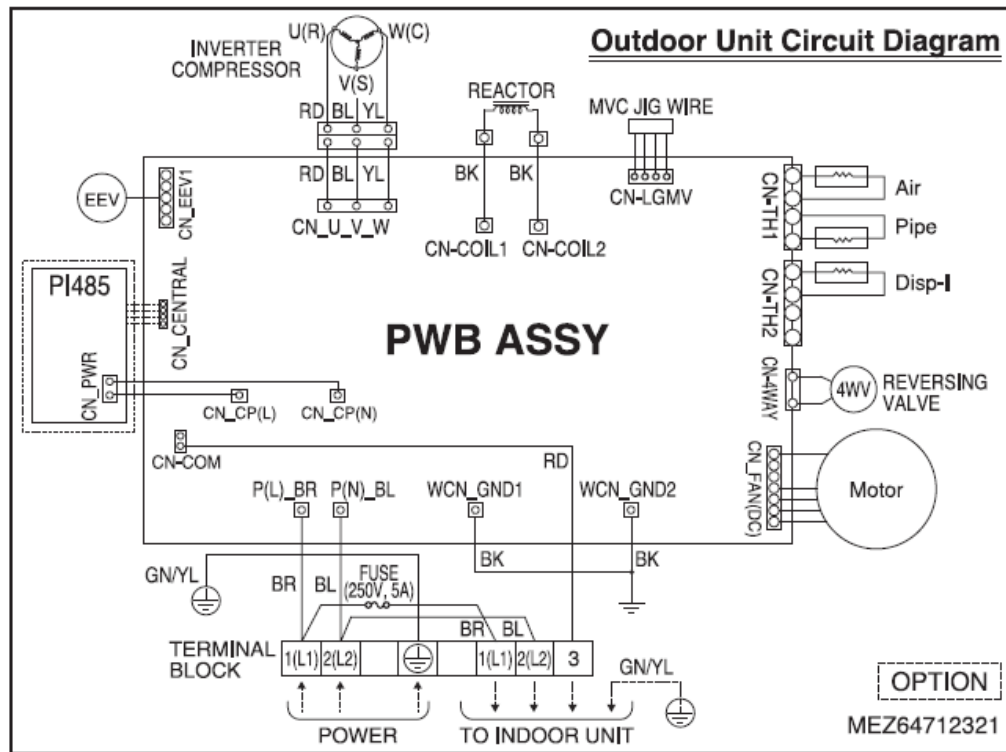


Indoor Unit

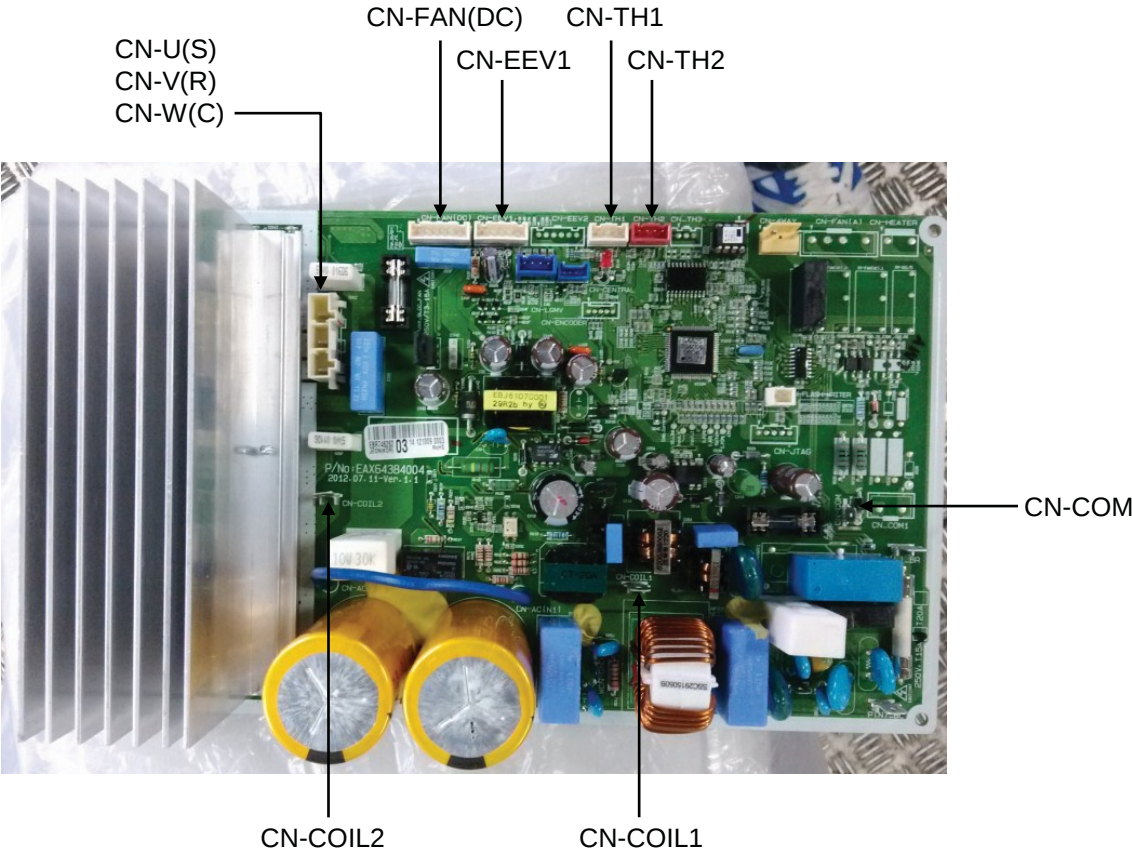
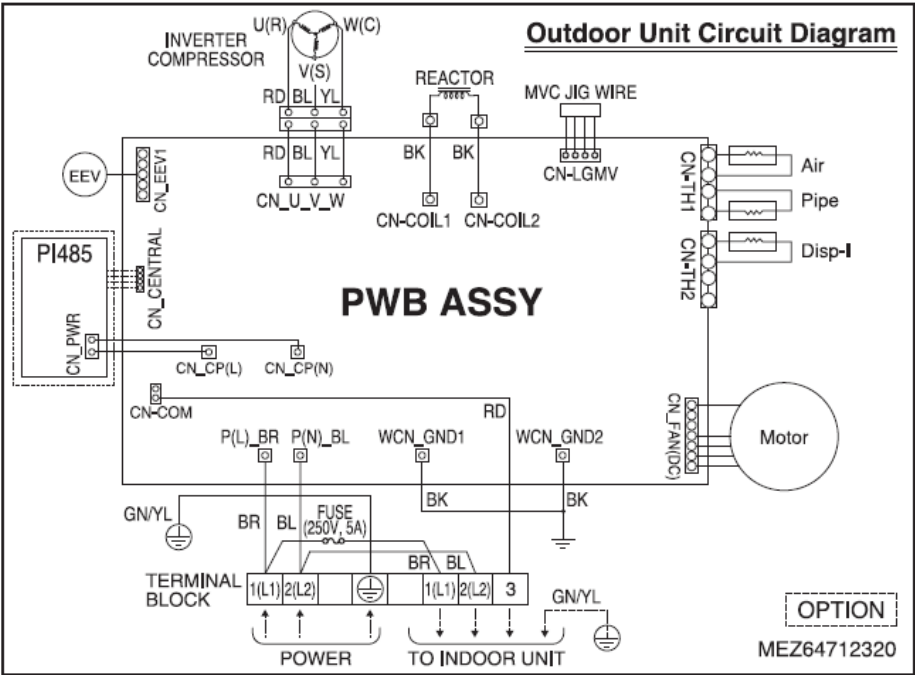
Model : MW18C3J
MW24C3J



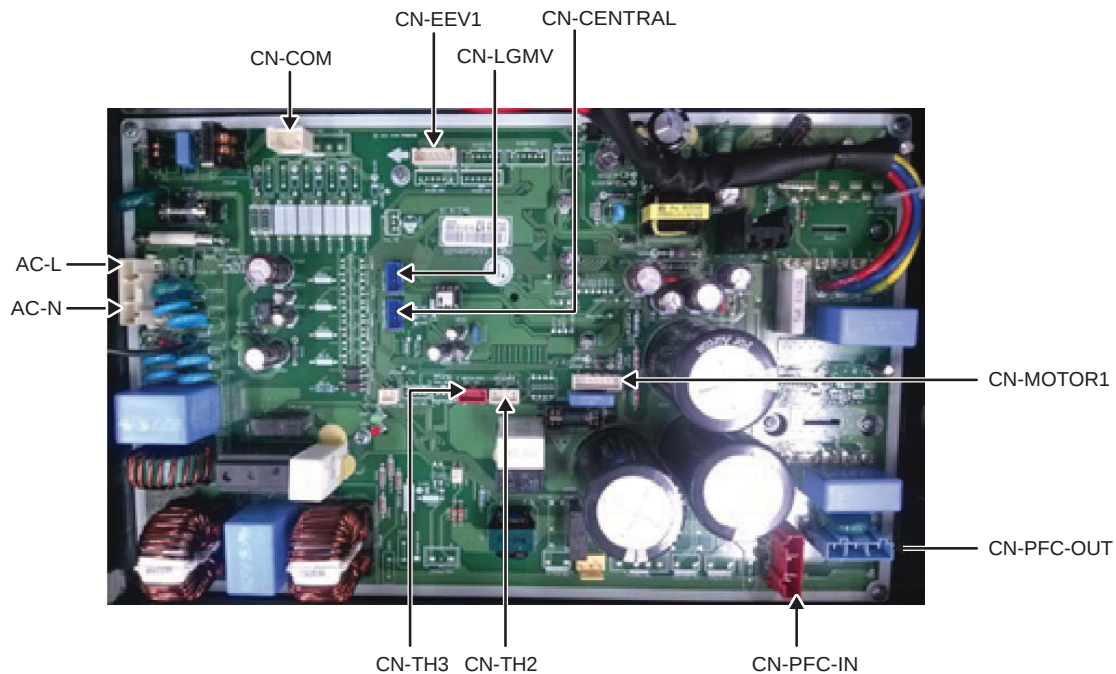
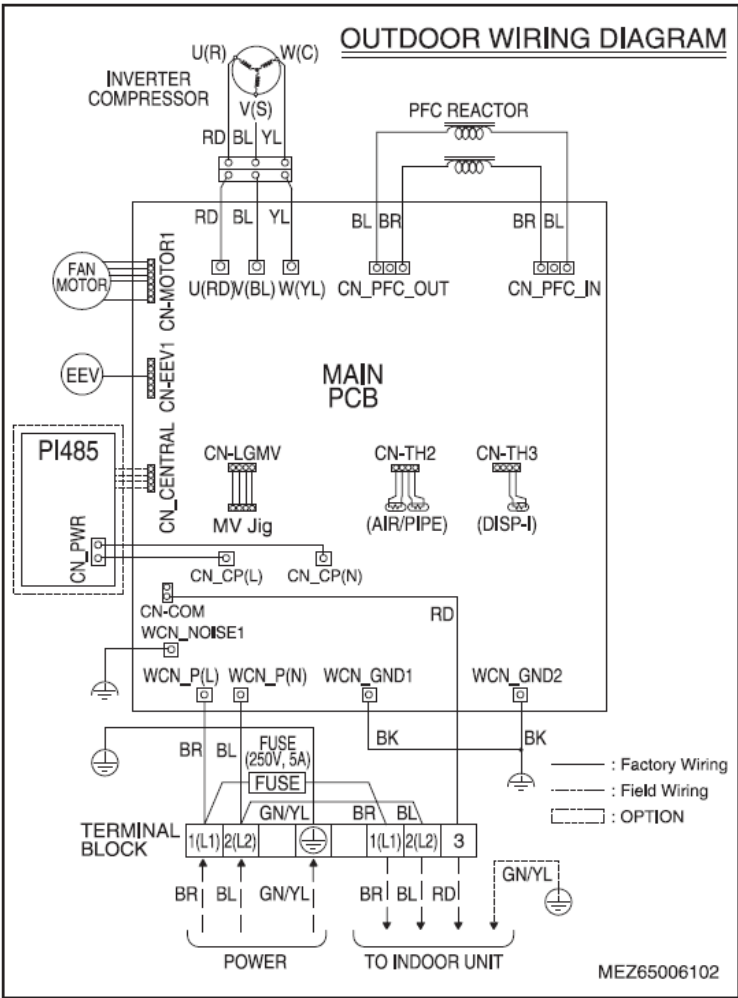
Outdoor Unit
Model : MR18Y3J



Outdoor Unit
Model: MR18C3J

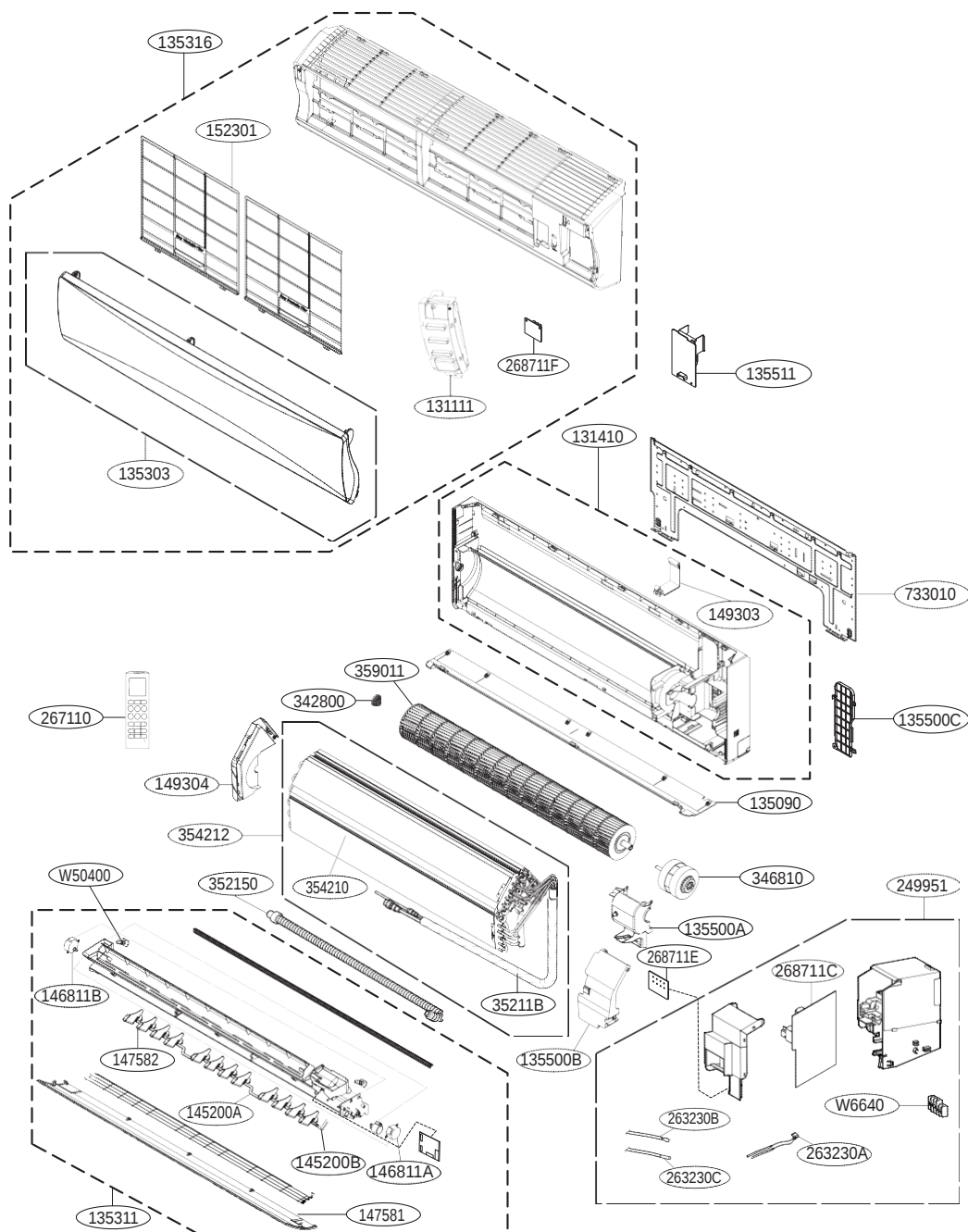


Outdoor Unit
Model : MR24C3J



Exploded View

Indoor Unit Model : MW18Y3J

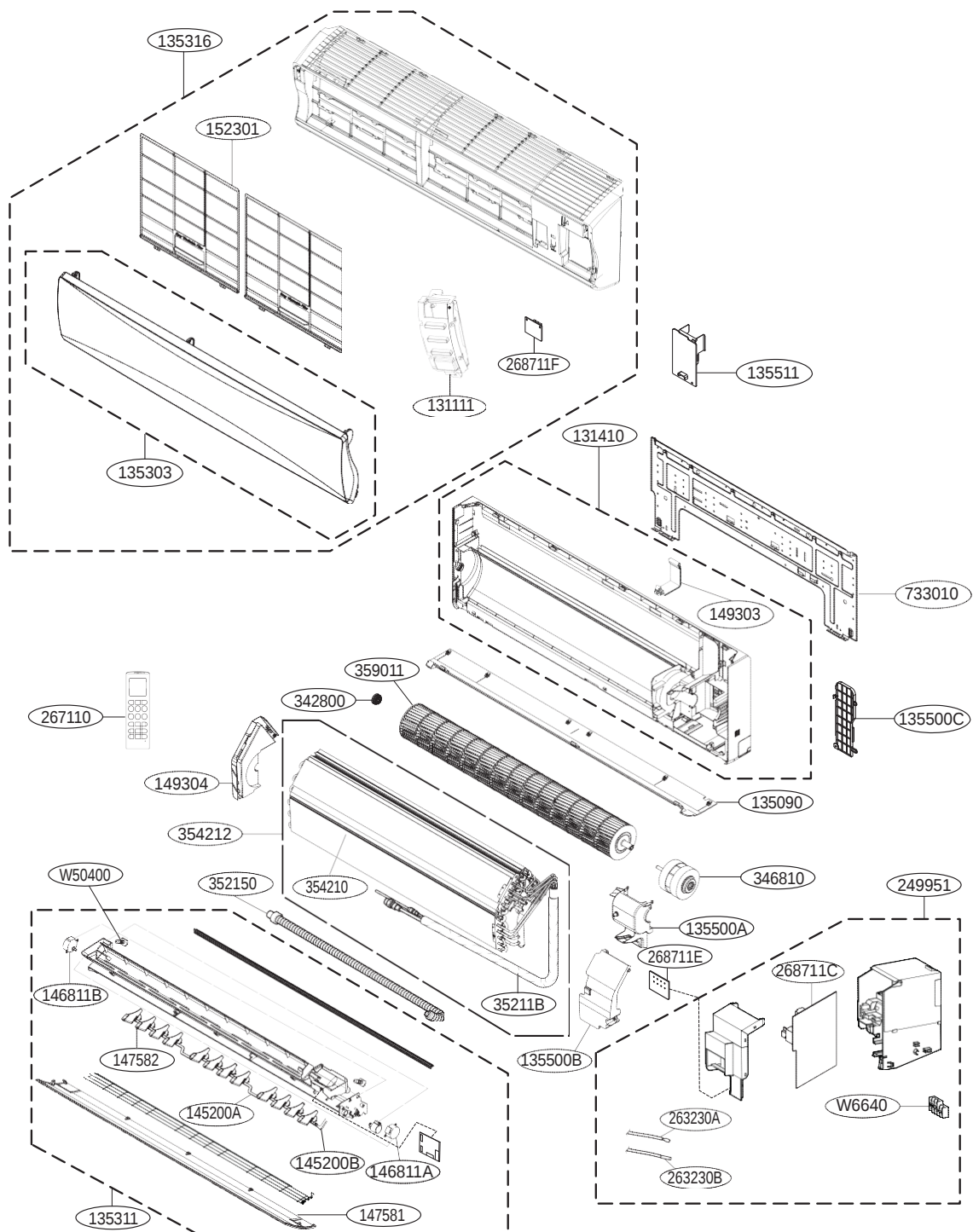


LOC	Description
263230A	Thermistor for suction air temperature
263230B	Thermistor for evaporator inlet temperature
263230C	Thermistor for evaporator outlet temperature
263230C	Thermistor for evaporator middle temperature

Model: MW18Y3J

MW18Y3J			
Loc No.	P/N_FRD	Description	Qty
131410	67601001	Chassis Assembly	1
149303	67602705	Holder,Tubing	1
346810	67603329	Motor,DC	1
135500A	67601508	Cover	1
359011	67602107	Fan Assembly,Cross Flow	1
342800	67606700	Bearing	1
354212	67602020	Evaporator Assy Final	1
354210	67602012	Evaporator Assembly,First	1
35211B	67606012	Tube Assy Tubing	1
149304	67602702	Holder,Evaporator	1
249951	67600937	Case Assy Control(Indoor)	1
W6640	67601404	Connector,Terminal Block	1
268711C	67603944	PCB Assy Main	1
263230C	67604833	Thermistor Assy NTC	1
263230B	67604801	Thermistor Assembly	1
263230A	67604816	Thermistor Assembly,NTC	1
135311	67602501	Grille Assembly,Discharge(Indoor)	1
147581	67603202	Louver,Horizontal	1
147582	67603205	Louver,Vertical	12
145200A	67603001	Link	1
145200B	67603000	Link	1
146811B	67603320	Motor Assembly,DC,Stepping	1
W50400	67601700	Damper	2
135316	67602529	Grille Assy Front(Indoor)	1
135303	67602530	Grille Assy Inlet	1
152301	67602210	Filter,Deodorizing	2
268711F	67603924	PCB Assembly,Sub	1
135511	67601601	Cover Assembly,Control(Indoor)	1
135090	67601801	Decor Assembly	1
135500C	67601507	Cover	1
733010	67604001	Plate Assembly,Installation	1
352150	67602806	Hose Assembly,Drain	1
135511	67601601	Cover	1
268711E	67603945	PCB Assy Option	1
146811A	67603317	Motor Assembly,DC,Stepping	1
267110	67604307	Remote Controller Assembly	1
135500B	67601508	Cover	1

Indoor Unit **Model : MW18C3J, MW24C3J**



LOC	Description
263230A	Thermistor for suction air temperature
263230B	Thermistor for evaporator middle temperature

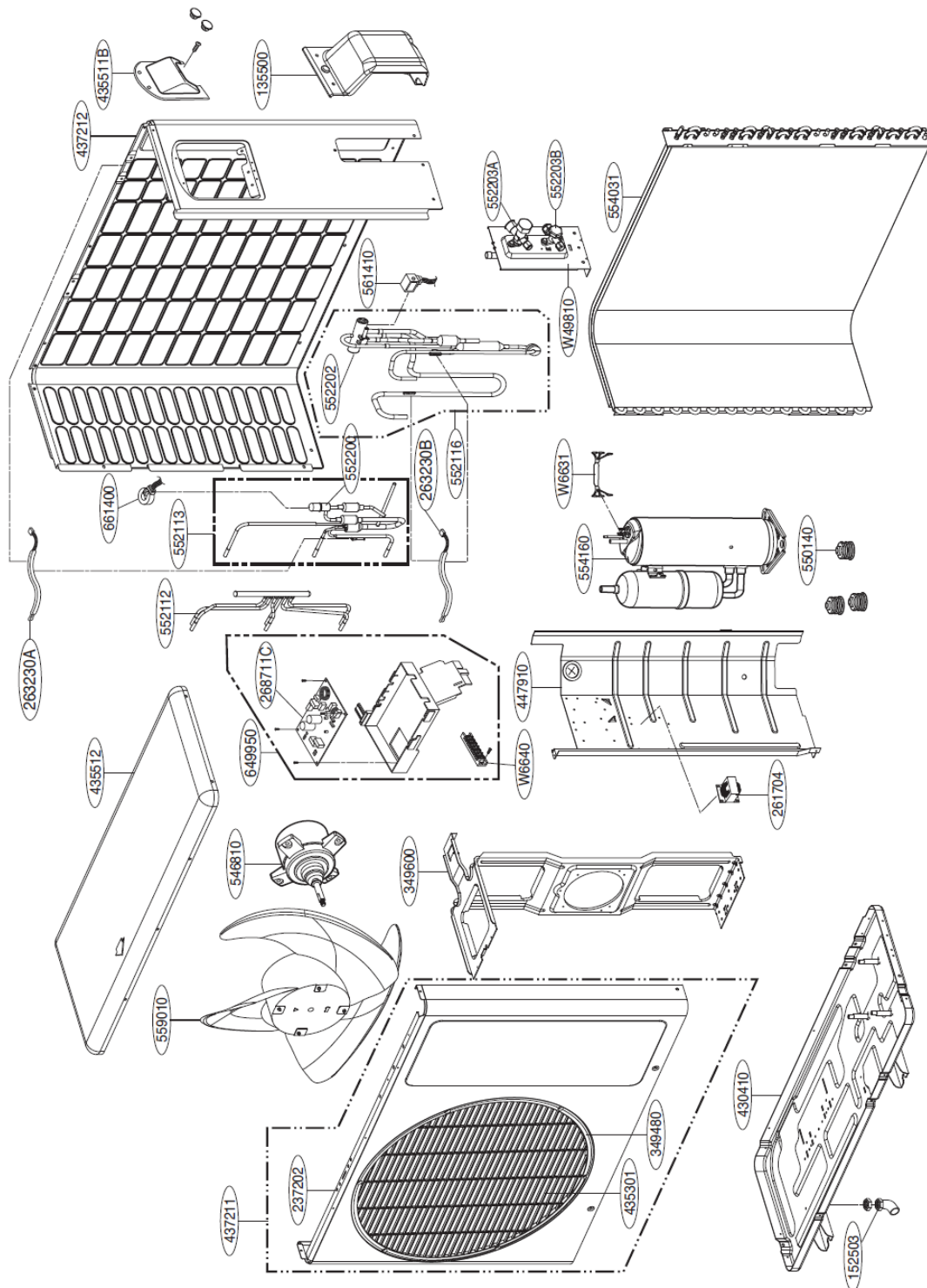
Model: MW18C3J

MW18C3J			
Loc No.	P/N_FRD	Description	Qty
131410	67601001	Chassis Assembly	1
149303	67602705	Holder,Tubing	1
346810	67603329	Motor,DC	1
135500A	67601508	Cover	1
359011	67602107	Fan Assembly,Cross Flow	1
342800	67606700	Bearing	1
354212	67602020	Evaporator Assembly,Final	1
354210	67602012	Evaporator Assembly,First	1
35211B	67606012	Tube Assembly,Tubing	1
149304	67602702	Holder,Evaporator	1
249951	67600939	Case Assy Control(Indoor)	1
W6640	67601404	Connector Terminal Block	1
268711C	67603947	PCB Assy Main	1
263230B	67604808	Thermistor Assembly,NTC	1
263230A	67604801	Thermistor Assembly	1
135311	67602501	Grille Assembly,Discharge(Indoor)	1
147581	67603202	Louver,Horizontal	1
147582	67603205	Louver,Vertical	12
145200A	67603001	Link	1
145200B	67603000	Link	1
146811B	67603320	Motor Assembly,DC,Stepping	1
W50400	67601700	Damper	2
135316	67602531	Grille Assy Front(Indoor)	1
135313	67602530	Grille Assembly,Inlet	1
152301	67602210	Filter,Deodorizing	2
268711F	67603924	PCB Assembly,Sub	1
135511	67601601	Cover Assembly,Control(Indoor)	1
135090	67601801	Decor Assembly	1
135500C	67601507	Cover	1
733010	67604001	Plate Assembly,Installation	1
352150	67602806	Hose Assembly,Drain	1
131111	67600923	Case Assembly,Indoor	1
268711E	67603948	PCB Assy Option	1
146811A	67603317	Motor Assembly,DC,Stepping	1
267110	67604309	Remote Controller Assy	1
135500B	67601511	Cover	1

Model: MW24C3J

MW24C3J			
Loc No.	P/N_FRD	Description	Qty
131410	67601001	Chassis Assembly	1
149303	67602705	Holder,Tubing	1
346810	67603329	Motor,DC	1
135500A	67601508	Cover	1
359011	67602107	Fan Assembly,Cross Flow	1
342800	67606700	Bearing	1
354212	67602005	Evaporator Assembly,Final	1
354210	67602012	Evaporator Assembly,First	1
35211B	67605001	Tube Assembly,Tubing	1
149304	67602702	Holder,Evaporator	1
249951	67600939	Case Assembly,Control(Indoor)	1
W6640	67601404	Connector,Terminal Block	1
268711C	67603947	PCB Assembly,Main	1
263230B	67604808	Thermistor Assembly,NTC	1
263230A	67604801	Thermistor Assembly	1
135311	67602501	Grille Assembly,Discharge(Indoor)	1
147581	67603202	Louver,Horizontal	1
147582	67603205	Louver,Vertical	12
145200A	67603001	Link	1
145200B	67603000	Link	1
146811B	67603320	Motor Assembly,DC,Stepping	1
W50400	67601700	Damper	2
135316	67602531	Grille Assembly,Front(Indoor)	1
135313	67602530	Grille Assembly,Inlet	1
152301	67602210	Filter,Deodorizing	2
268711F	67603924	PCB Assembly,Sub	1
135511	67601601	Cover Assembly,Control(Indoor)	1
135090	67601801	Decor Assembly	1
135500C	67601507	Cover	1
733010	67604001	Plate Assembly,Installation	1
352150	67602806	Hose Assembly,Drain	1
131111	67600923	Case Assembly,Indoor	1
268711E	67603949	PCB Assy Option	1
146811A	67603317	Motor Assembly,DC,Stepping	1
267110	67604309	Remote Controller Assembly	1
135500B	67601511	Cover	1

Model : MR18Y3J



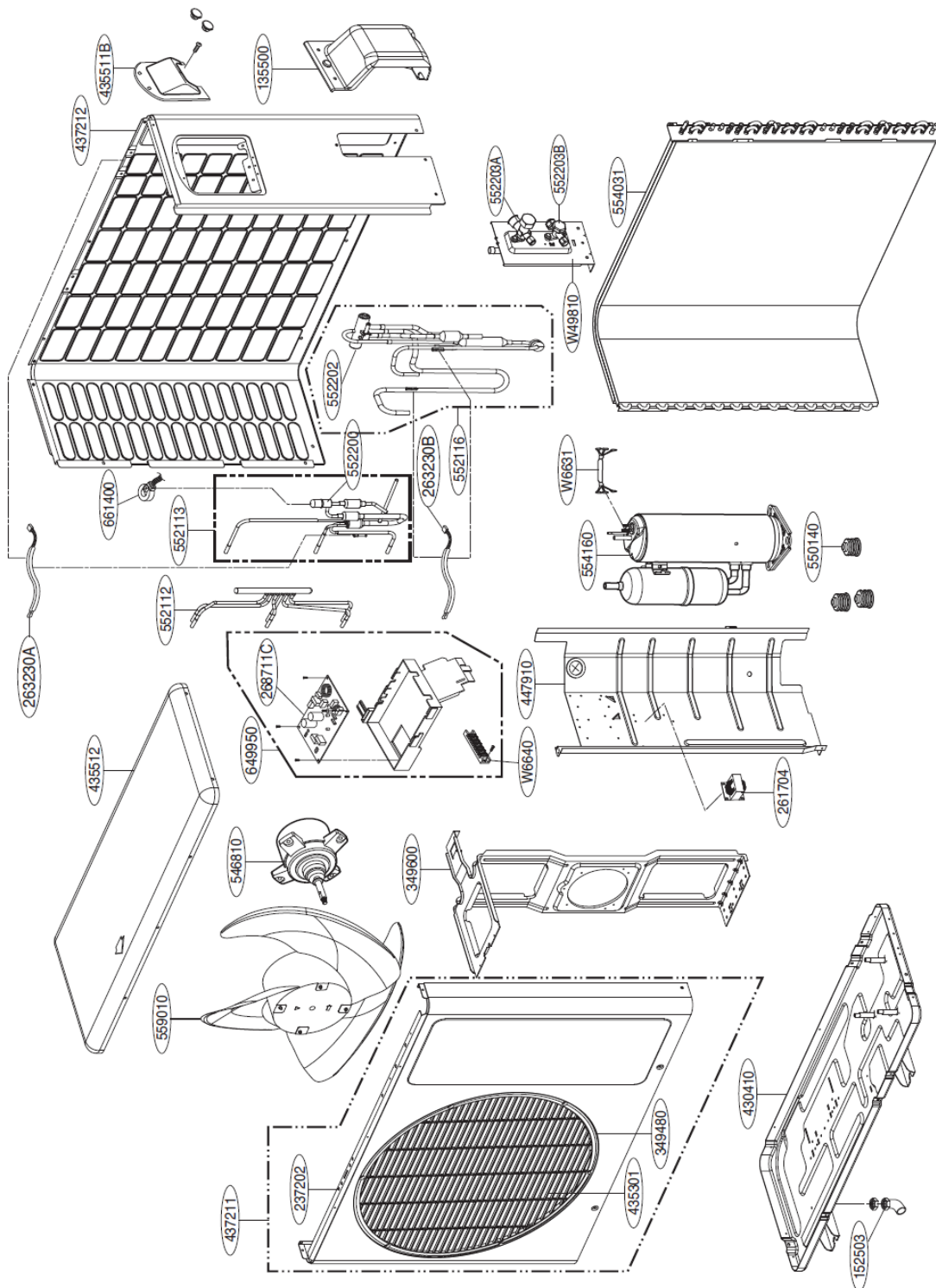
LOC	Description
263230A	Thermistor for suction air temperature
	Thermistor for condense middle temperature
263230B	Thermistor for discharge pipe temperature

Model : MR18Y3J

MR18Y3J			
Loc No.	P/N_FRD	Description	Qty
437211	67603848	Panel Assembly, Front(Outdoor)	1
237202	67603838	Panel Front	1
435301	67602524	Grille Discharge	1
349480	67603601	Orifice	1
430410	67600604	Base Assy Outdoor	1
152503	67603500	Nipple Drain	1
559010	67602116	Fan Propeller	1
546810	67603327	Motor Assy DC Outdoor	1
349600	67301801	Bracket Motor	1
435512	67601614	Cover Assy Top(Outdoor)	1
649950	67600938	Case Assy Control(Outdoor)	1
268711C	67603946	PCB Assy Main	1
552112	67605301	Tube Assy Condenser(In)	1
W6640	67601405	Connector Terminal Block	1
447910	67600306	Barrier Assy Outdoor	1
261704	67604902	Transformer Reactor	1
554160	67604202	Compressor Set	1
550140	67601702	Damper Compressor	3
W6631	67602606	Harness Single	1
437212	67603818	Panel Assy Rear(Outdoor)	1
435511B	67601608	Cover Assy Control(Outdoor)	1
135500	67601506	Cover	1
661400	67601103	Coil Expansion	1
552113	67605306	Tube Assy Condenser(Out)	1
552200	67606301	Valve Expansion Body	1
263230A	67604812	Thermistor Assy NTC	1
263230B	67604817	Thermistor Assy NTC	1
552116	67606108	Tube Assy Reverse	1
552202	67606403	Valve Reverse	1
561410	67601904	Drawing Assy	1
W49810	67604606	Supporter Assy	1
552203A	67606505	Valve Service	1
552203B	67606501	Valve Service	1
554031	67601301	Condenser Assy Bending	1

Outdoor Unit

Model : MR18C3J



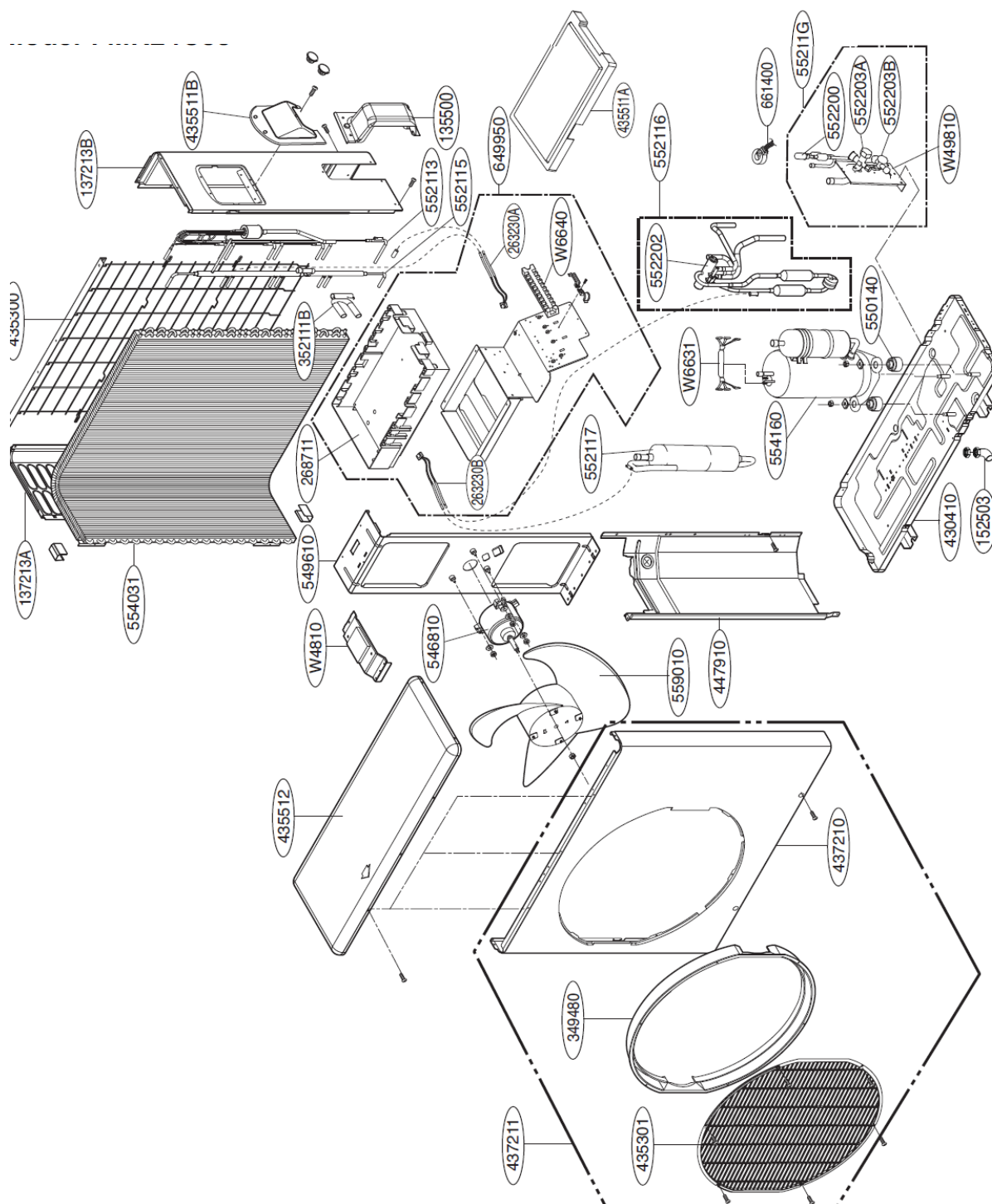
LOC	Description
263230A	Thermistor for suction air temperature
263230B	Thermistor for condense middle temperature
263230C	Thermistor for discharge pipe temperature

Model: MR18C3J

MR18C3J			
Loc No.	P/N_FRD	Description	Qty
437211	67603848	Panel Assembly, Front(Outdoor)	1
237202	67603838	Panel, Front	1
435301	67602524	Grille, Discharge	1
349480	67603601	Orifice	1
430410	67600604	Base Assembly, Outdoor	1
152503	67603500	Nipple, Drain	1
559010	67602116	Fan, Propeller	1
546810	67603327	Motor Assembly, DC, Outdoor	1
349600	67301801	Bracket, Motor	1
435512	67601614	Cover Assembly, Top(Outdoor)	1
649950	67600938	Case Assembly, Control(Outdoor)	1
268711C	67603946	PCB Assembly, Main	1
552112	67605301	Tube Assembly, Condenser(In)	1
W6640	67601405	Connector, Terminal Block	1
447910	67600306	Barrier Assembly, Outdoor	1
261704	67604902	Transformer, Reactor	1
554160	67604202	Compressor Set	1
550140	67601702	Damper, Compressor	3
W6631	67602606	Harness, Single	1
437212	67603818	Panel Assembly, Rear(Outdoor)	1
435511B	67601608	Cover Assembly, Control(Outdoor)	1
135500	67601506	Cover	1
661400	67601103	Coil,Expansion	1
552113	67605306	Tube Assembly, Condenser(Out)	1
552200	67606301	Valve, Expansion Body	1
263230A	67604812	Thermistor Assembly, NTC	1
263230B	67604817	Thermistor Assembly, NTC	1
552116	67606108	Tube Assembly, Reverse	1
552202	67606403	Valve, Reverse	1
W49810	67604606	Supporter Assembly	1
552203A	67606505	Valve, Service	1
552203B	67606501	Valve, Service	1
554031	67601301	Condenser Assembly, Bending	1

Outdoor Unit

Model: MR24C3J



LOC	Description
263230A	Thermistor for suction air temperature
	Thermistor for condense middle temperature
263230B	Thermistor for discharge pipe temperature

Outdoor Unit

Model: MR24C3J

MR24C3J			
Loc No.	P/N_FRD	Description	Qty
430410	67600605	Base Assembly,Outdoor	1
554031	67601300	Condenser Assembly,Bending	1
352111B	67605400	Tube Assembly,Connector	1
554160	67601202	Compressor Set,Korea	1
552115	67606008	Tube Assembly,Manifold(Outdoor)	1
552113	67605303	Tube Assembly,Condenser(Out)	1
55211G	67605902	Tube Assembly,Expansion	1
W49810	67604606	Supporter Assembly	1
552203B	67606513	Valve,Service	1
552203A	67606507	Valve,Service	1
552200	67606302	Valve,Expansion Body	1
552117	67606205	Tube Assembly,Suction(Outdoor)	1
552116	67606106	Tube Assembly,Reverse	1
552202	67606403	Valve,Reverse	1
661400	67601101	Coil,Expansion	1
435511A	67601605	Cover Assembly,Control(Outdoor)	1
447910	67600302	Barrier Assembly,Outdoor	1
549610	67600707	Bracket Assembly,Motor	1
W4810	67600719	Bracket	1
546810	67603312	Motor Assembly,DC,Outdoor	1
559010	67602115	Fan,Propeller	1
137213A	67603828	Panel Assembly,Side	1
137213B	67603827	Panel Assembly,Side	1
435512	67601610	Cover Assembly,Top(Outdoor)	1
550140	67601701	Damper,Compressor	3
152503	67603500	Nipple,Drain	1
435300	67602518	Grille,Rear	1
437211	67603803	Panel Assembly,Front(Outdoor)	1
437210	67603810	Panel Assembly,Front(Sub)	1
435301	67602514	Grille,Discharge	1
349480	67603602	Orifice	1
435511B	67601608	Cover Assembly,Control(Outdoor)	1
135500	67601506	Cover	1
649950	67600940	Case Assy Control(Outdoor)	1
268711	67603950	PCB Assy	1
263230A	67604812	Thermistor Assembly,NTC	1
263230B	67604834	Thermistor Assy NTC	1
W6640	67601400	Connector,Terminal Block	1
W6631	67602606	Harness,Single	1



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