

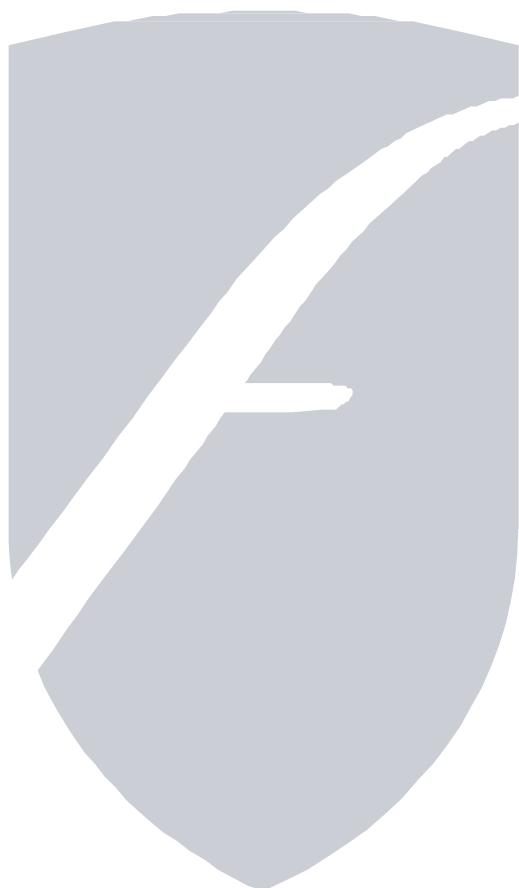


FRIEDRICH

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	
	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	1417	2040	
Running Current	Cooling	A	6.3/7.3	6.3	9	
Starting Current	Cooling	A	6.3/7.3	6.3	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)	8.5(300)/11(389)/14.5(512)/17.0(600)	
	Outdoor,Max	m³/min(CFM)	50(1,766)	50(1,766)	60(2,119)	
Moisture Removal		l/h.	2	2	2.6	
Sound Level	Indoor,H/M/L/Sleep	dB(A)±3	45 / 40 / 35 / 29	45 / 40 / 35 / 29	46 / 40 / 35 / 29	
	Outdoor,Max	dB(A)±3	53	53	54	
Refrigerant & Charge (at 7.5 m/24.6ft)		g(oz)	R410A, 1,350(47.6)	R410A, 1,350(47.6)	R410A, 1,800(63.5)	
Additional Refrigerant charge		g/m(oz/ft)	20(0.22)	20(0.22)	35(0.38)	
Compressor	Type		Twin Rotary	Twin Rotary	Twin Rotary	
	Model		GKT141MB	GKT141MB	GJT240MBA	
	Motor Type		Brushless DC Motor	Brushless DC Motor	Brushless DC Motor	
	Oil Type		PVE(FVC68D)	PVE(FVC68D)	PVE(FVC68D)	
	Oil Charge	cc	470	470	900	
O.L.P. name		-	-	-		
Fan(Indoor)	Type		Cross Flow Fan	Cross Flow Fan	Cross Flow Fan	
	Motor Output	W	30	30	76.1	
Fan(Outdoor)	Type		Propeller	Propeller	Propeller	
	Motor Type		BLDC	BLDC	BLDC	
	Motor Output	W	85	85	124	
Circuit Breaker*		A	20	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)	6.35(1/4)	9.52(3/8)	
	Gas Side	mm(in)	12.7(1/2)	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	1,030*325*245	
		inch	40.6*12.8*9.64	40.6*12.8*9.64	40.6*12.8*9.64	
	Outdoor (W*H*D)	mm	870*655*320	870*655*320	870*800*320	
		inch	34.3*25.8*12.6	34.3*25.8*12.6	34.3*31.5*12.6	
Net Weight	Indoor	kg(lbs)	14.5(31.96)	14.5(31.96)	15(33.1)	
	Outdoor	kg(lbs)	44(97)	44(97)	55(121.25)	
Gross Weight	Indoor	kg(lbs)	18.2(40.1)	18.2(40.1)	18.7(41.23)	
	Outdoor	kg(lbs)	46(101.4)	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	-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	o	
	Allergy free filter		-	-	-	
	Plasma Filter		-	-	-	
	Prefilter(washable/anti-fungus)		o	o	o	
	Auto Clean		o	o	o	
	Natural Air Flow (Auto Wind)		o	o	o	
	Steps, Fan/Cool/Heat		6/6/6	6/6	6/6	
	Airflow Direction Control(Up& Down)		Auto	Auto	Auto	
	Airflow Direction Control(Left & Right)		Auto	Auto	Auto	
	Remote Controller Type		Wireless LCD	Wireless LCD	Wireless LCD	
	Setting Temperature	Cooling	18°C~30°C	18°C~30°C	18°C~30°C	
	Range	Heating	16°C~30°C	-	-	
	Auto Operation		-	-	-	
	Auto Changeover		o	o	o	
	Self-Diagnosis		o	o	o	
	Timer		24h, On/off	24h, On/off	24h, On/off	
	Sleep Operation		o	o	o	
	Soft Dry Operation		o	o	o	
	Restart Delay(minute)		3	3	3	
	Deice Control(Defrost)		o	-	-	
	Hot Start		o	-	-	
	Surge Cool Surge		o	o	o	
	Low Ambient Operation		o	o	o	
	Special Function			Water Level Sensor Wind Baffle kit	Water Level Sensor Wind Baffle kit	Water Level Sensor Wind Baffle kit

Note:

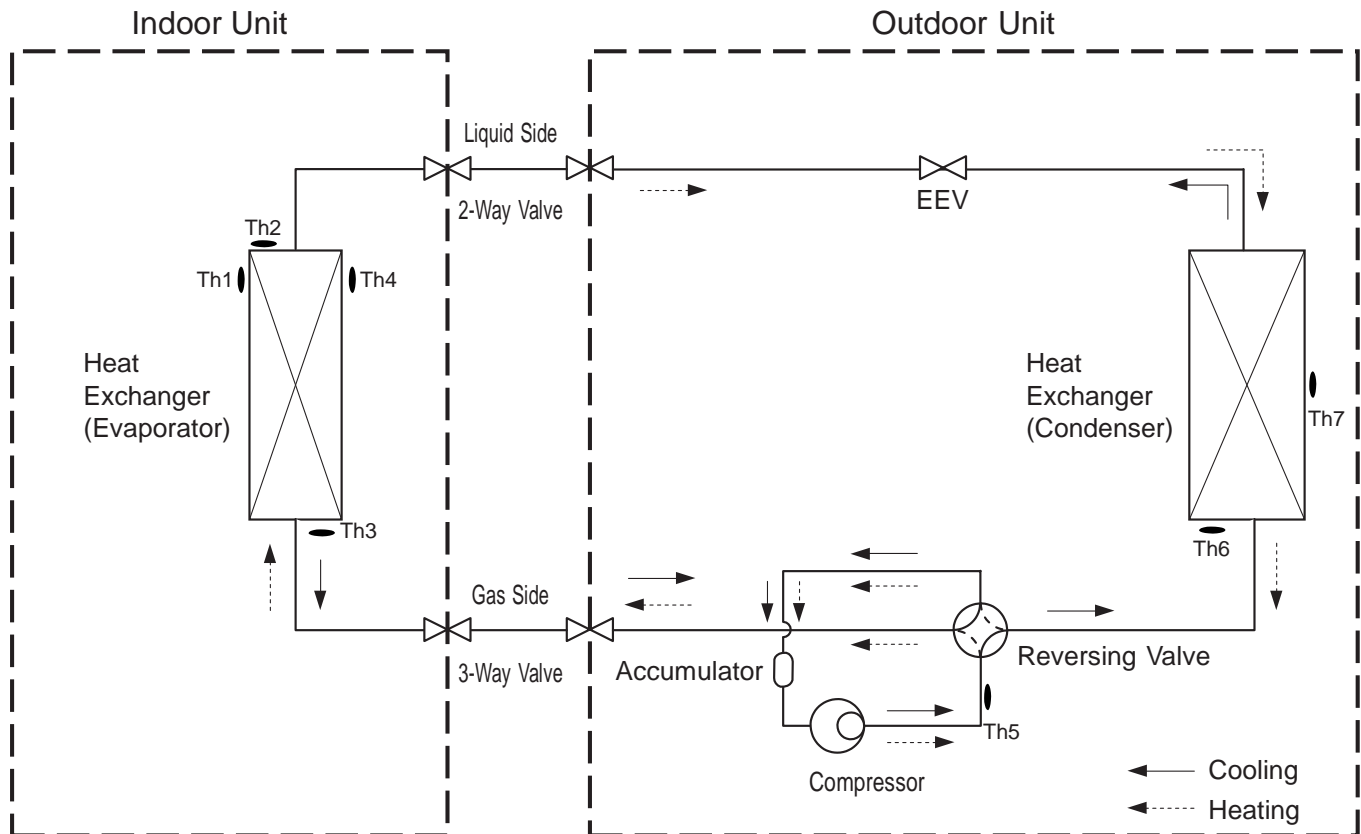
O : Applied, - : No relation

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

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

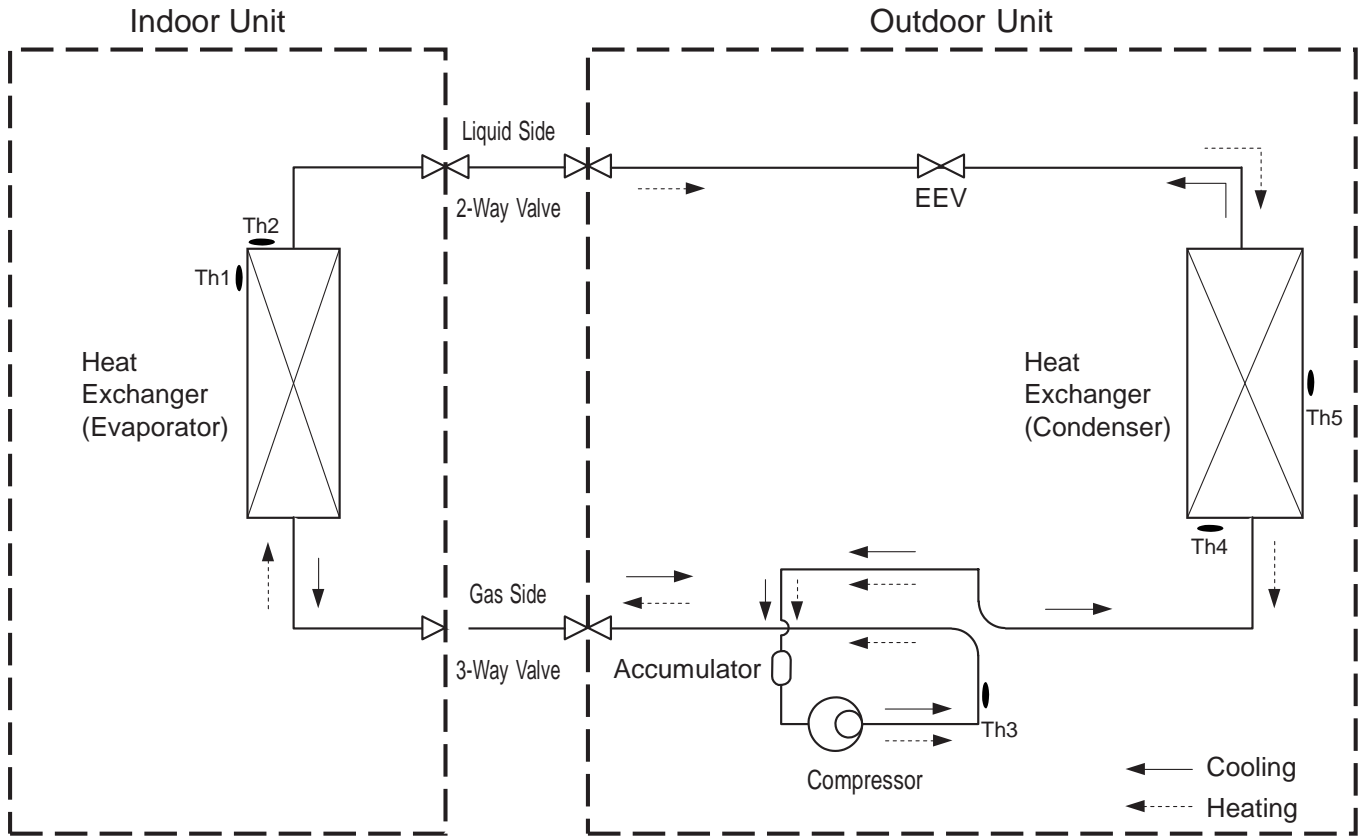
Piping Diagrams

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**



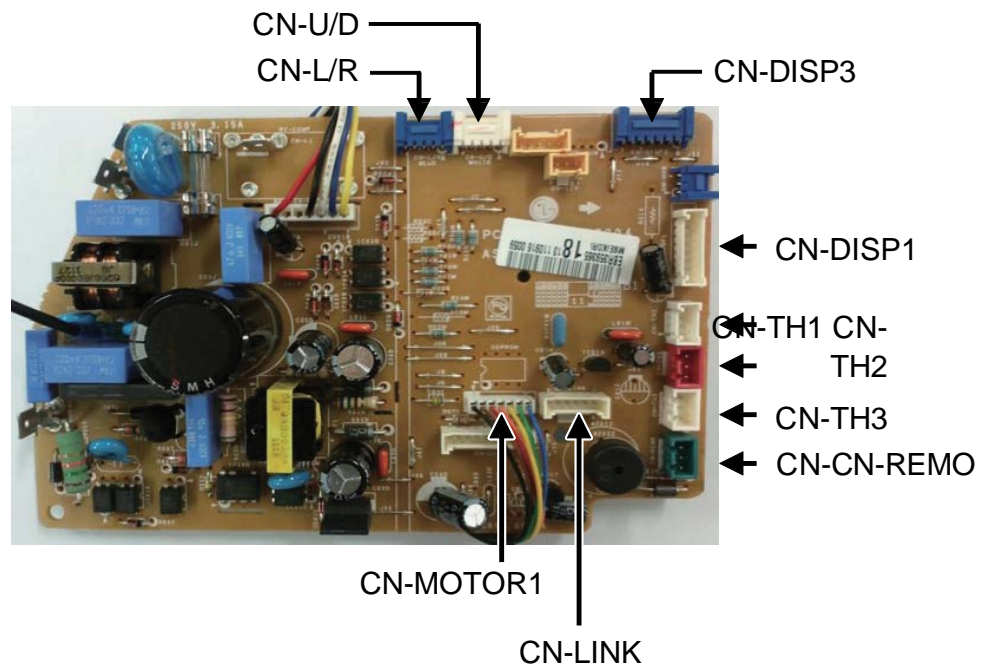
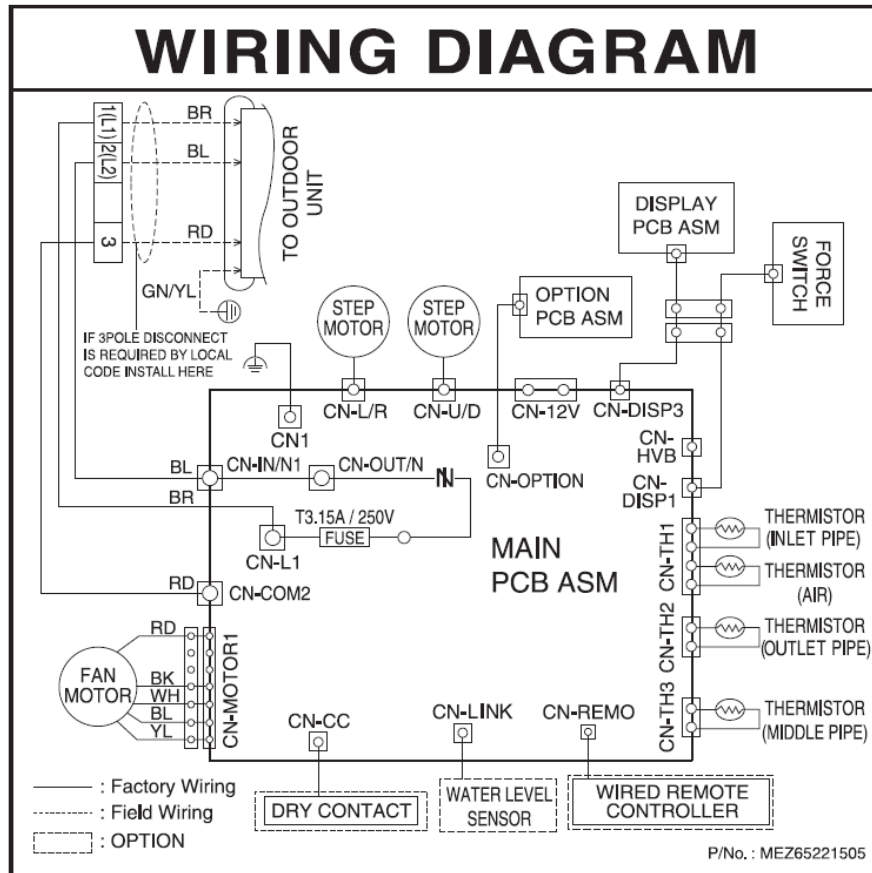
LOC.	Description	PCB Connector
Th1	Thermistor for suction air temperature	CN-TH1(Indoor)
Th2	Thermistor for evaporator middle temperature	CN-TH3(Indoor)
Th3	Thermistor for discharge pipe temperature	CN-TH2(OUTDOOR)
Th4	Thermistor for condensing temperature	CN-TH1(OUTDOOR)
Th5	Thermistor for outdoor air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

※ EEV : Electronic Expansion Valve

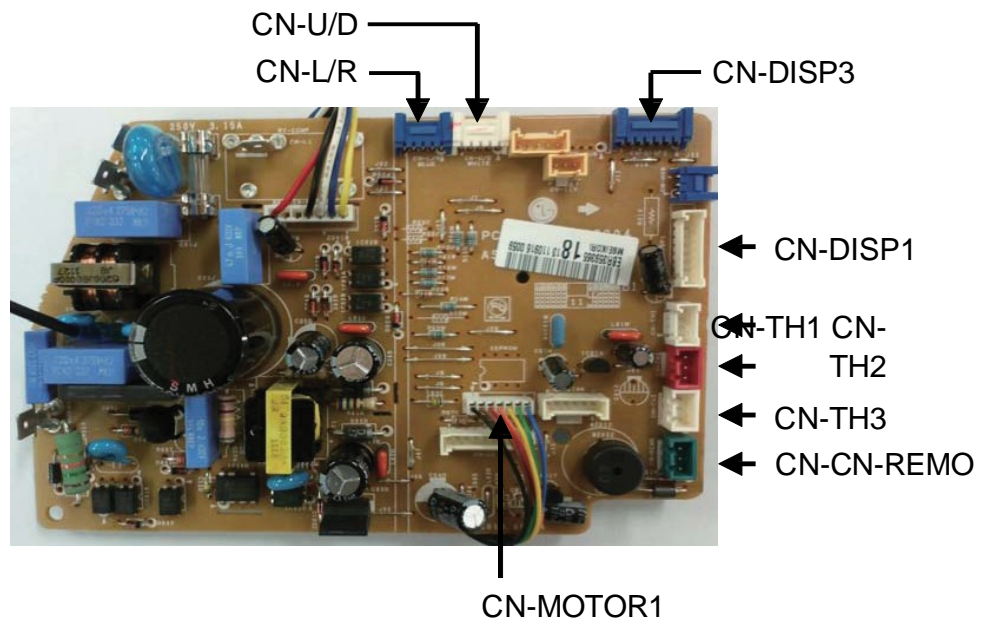
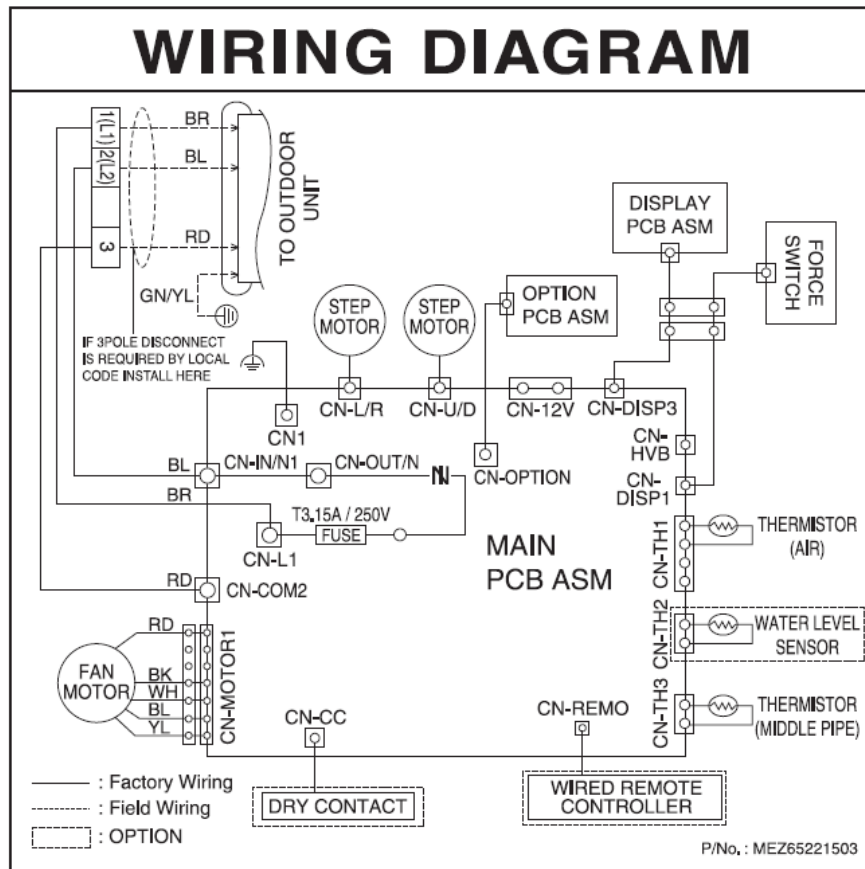
Wiring Diagrams

Indoor Unit

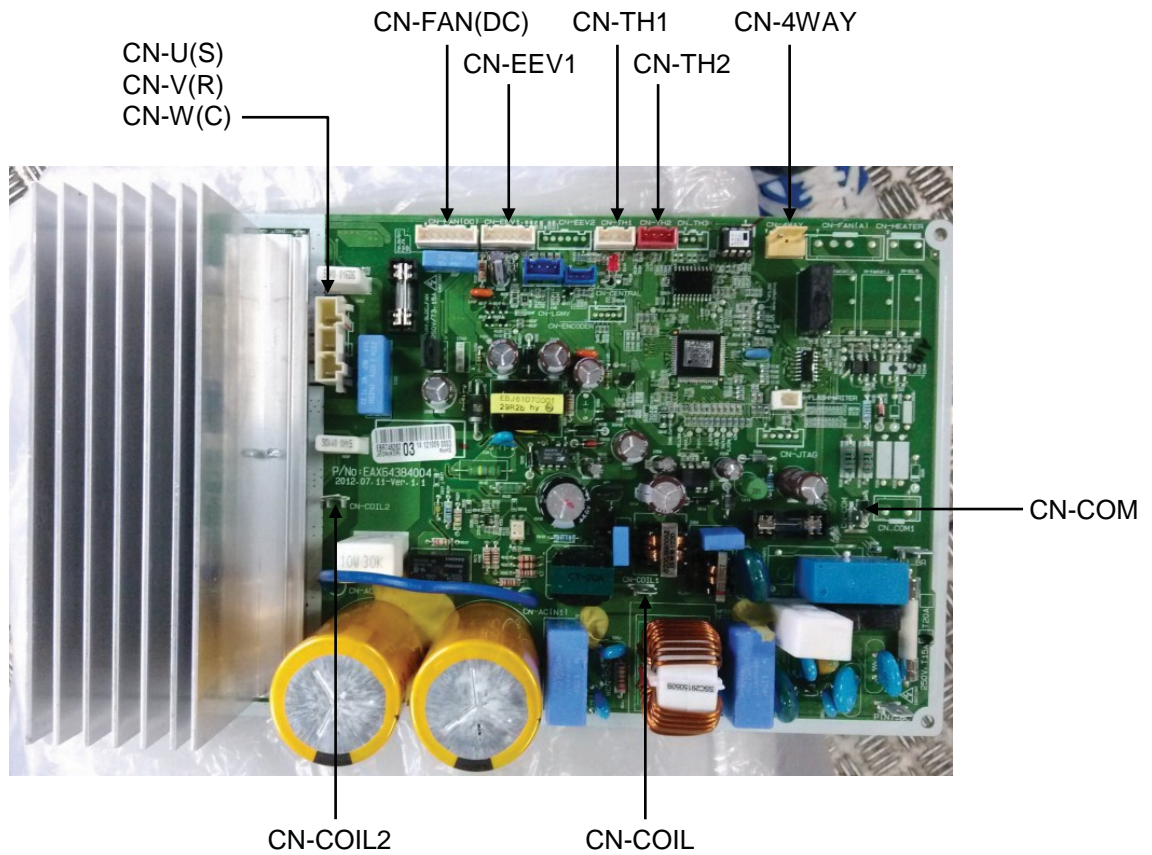
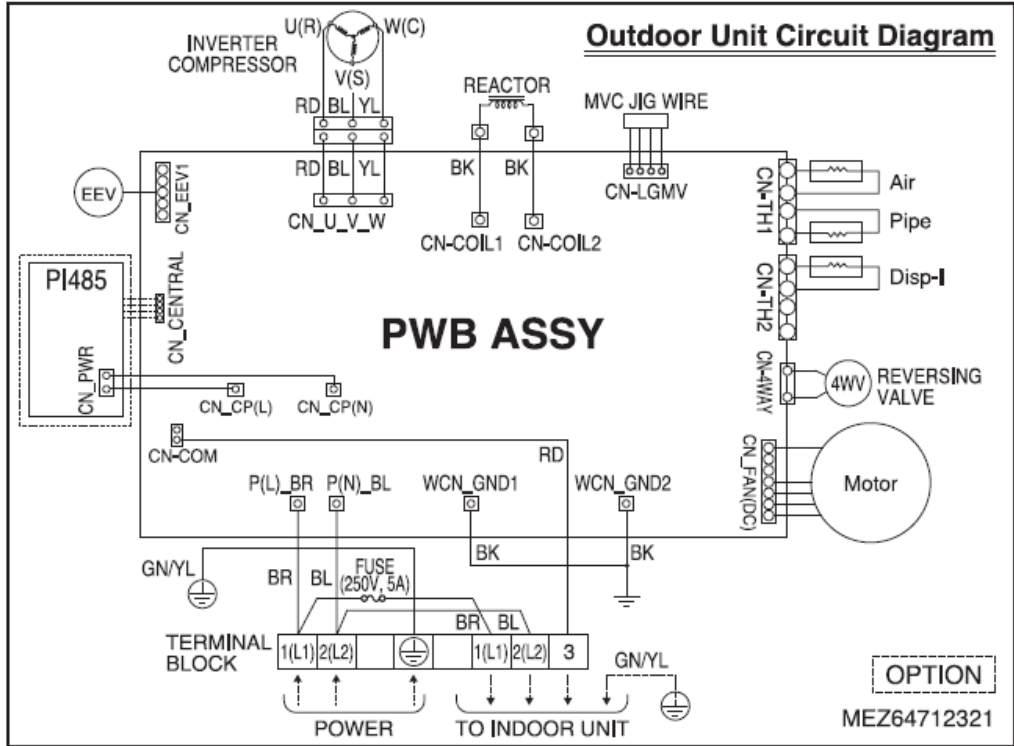
Model : MW18Y3J



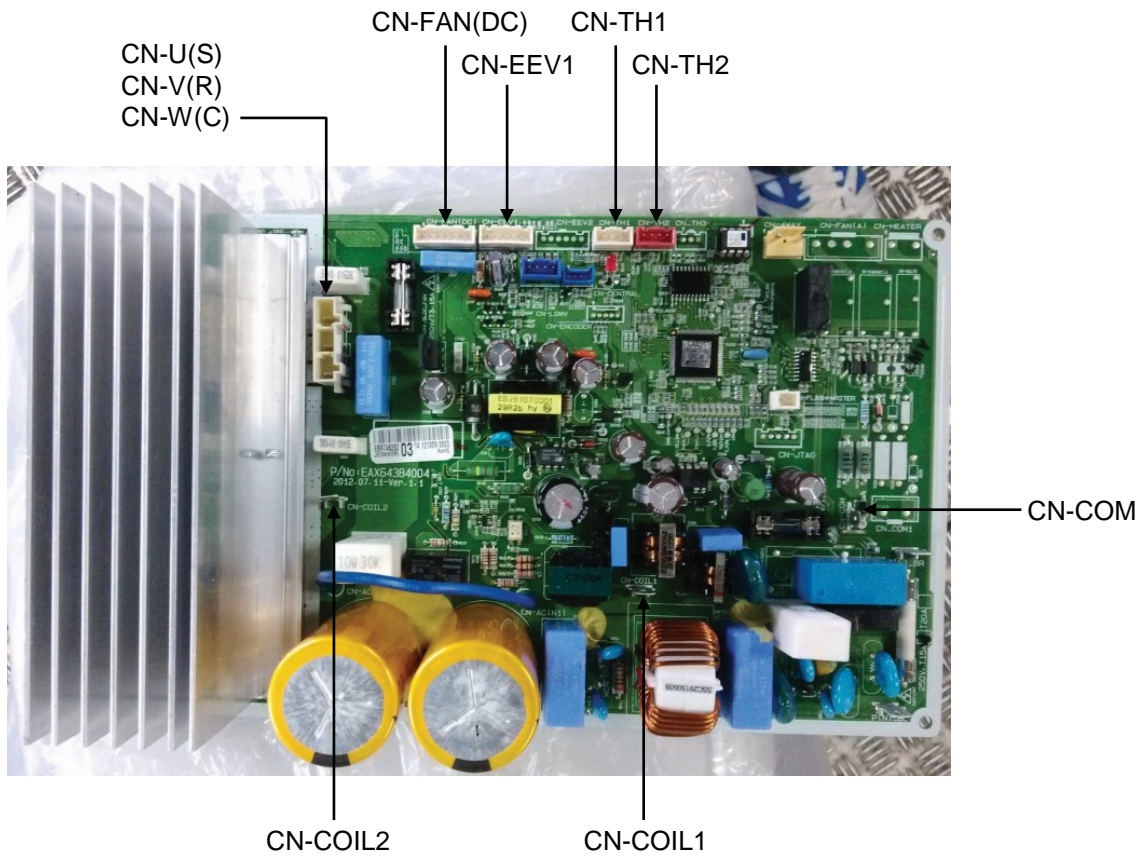
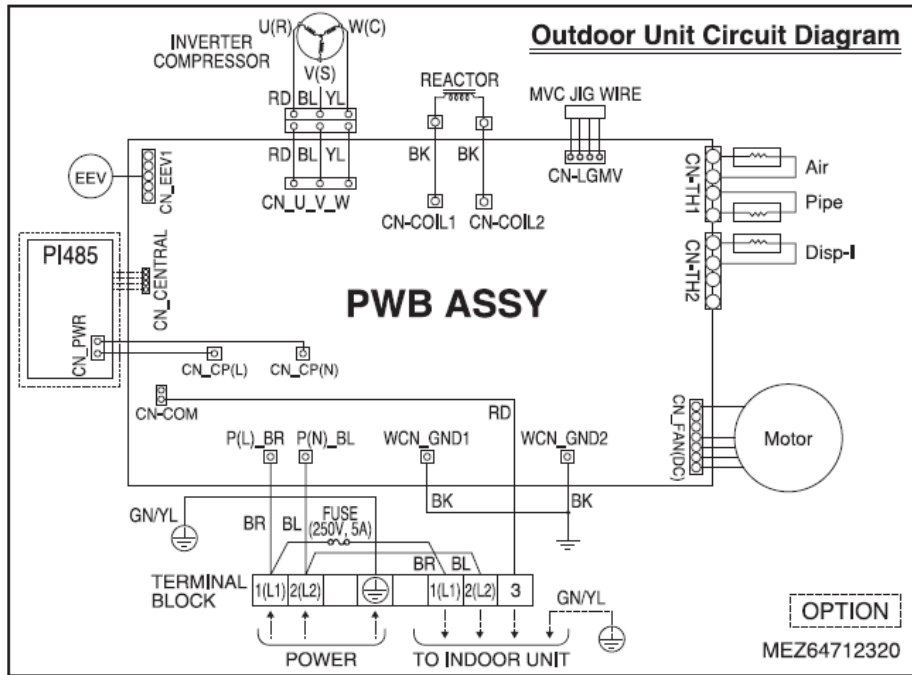
Indoor Unit
Model : MW18C3J
MW24C3J



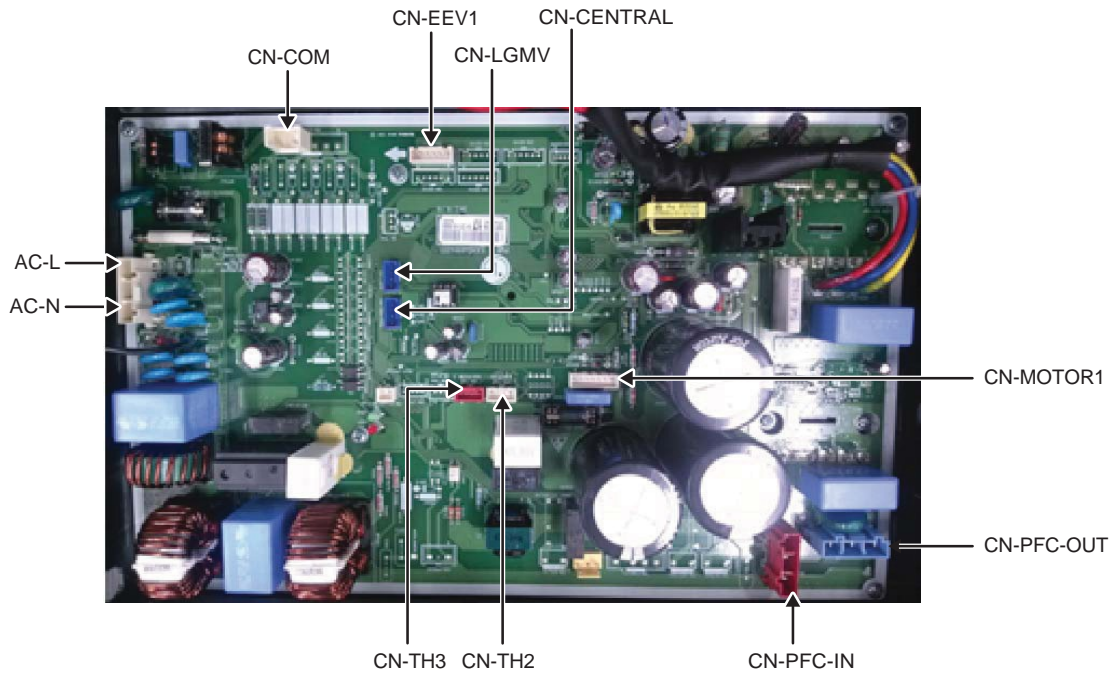
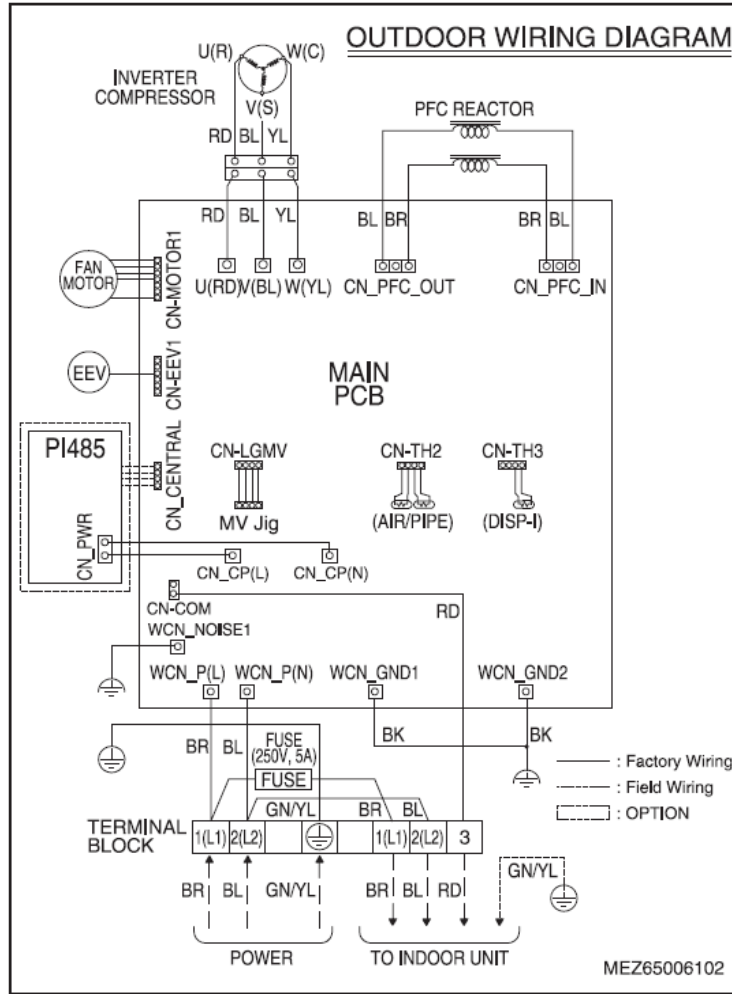
Outdoor Unit
Model : MR18Y3J



Outdoor Unit
Model: MR18C3J

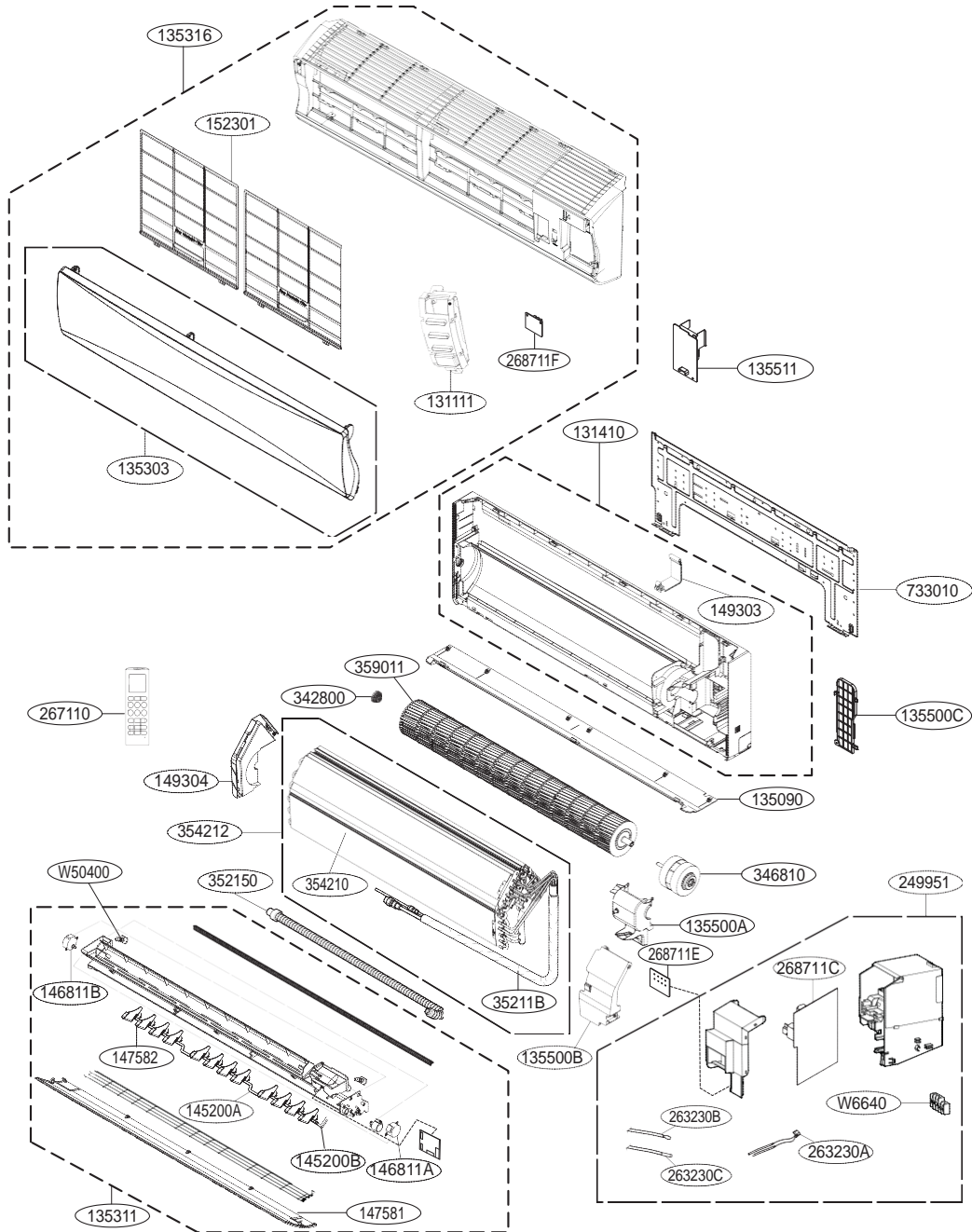


Outdoor Unit
Model : MR24C3J



Exploded View

Indoor Unit
Model : MW18Y3J



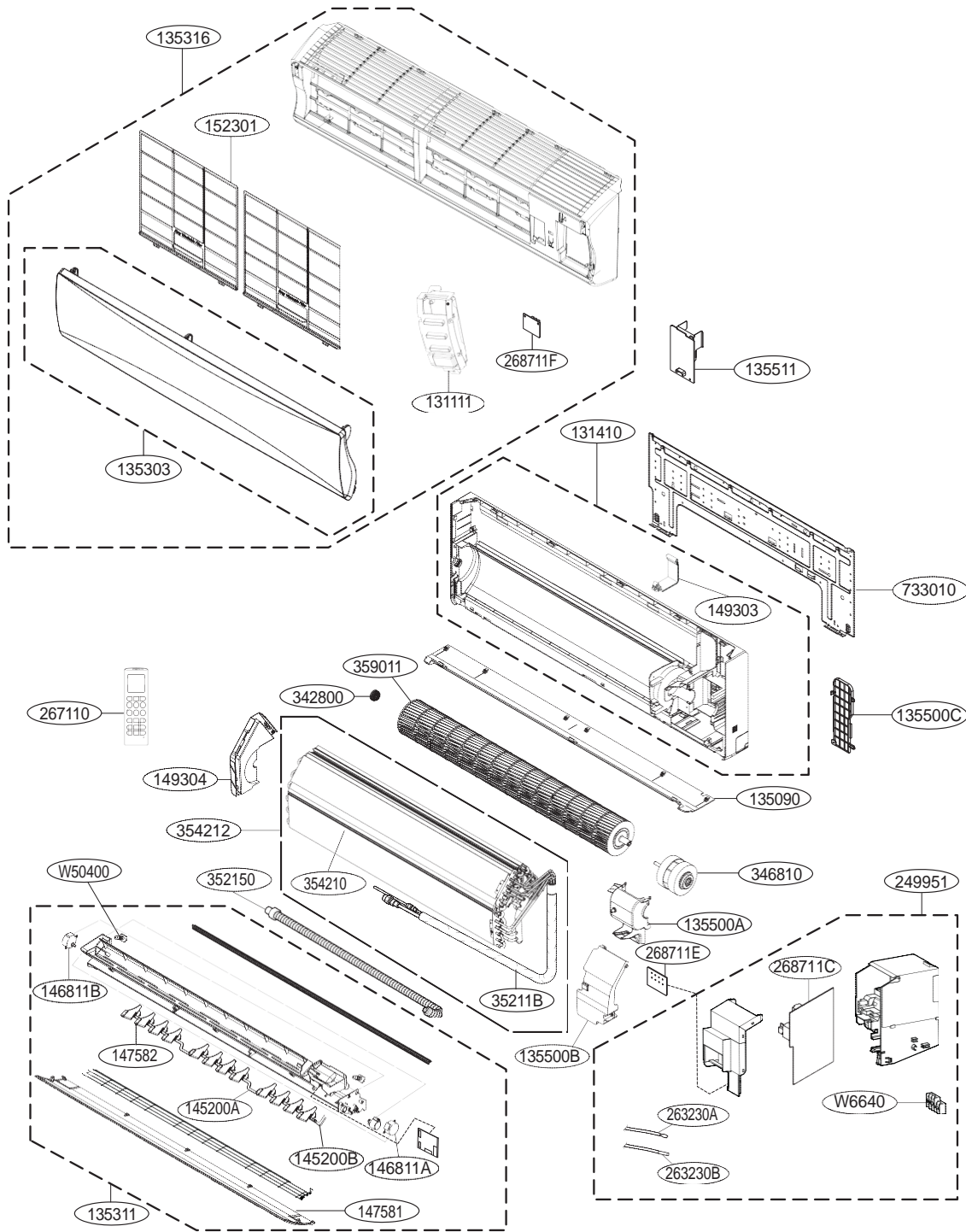
LOC	Description
263230A	Thermistor for suction air temperature
263230B	Thermistor for evaporator inlet temperature
263230C	Thermistor for evaporator outlet temperature
263230C	Thermistor for evaporator middle temperature

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

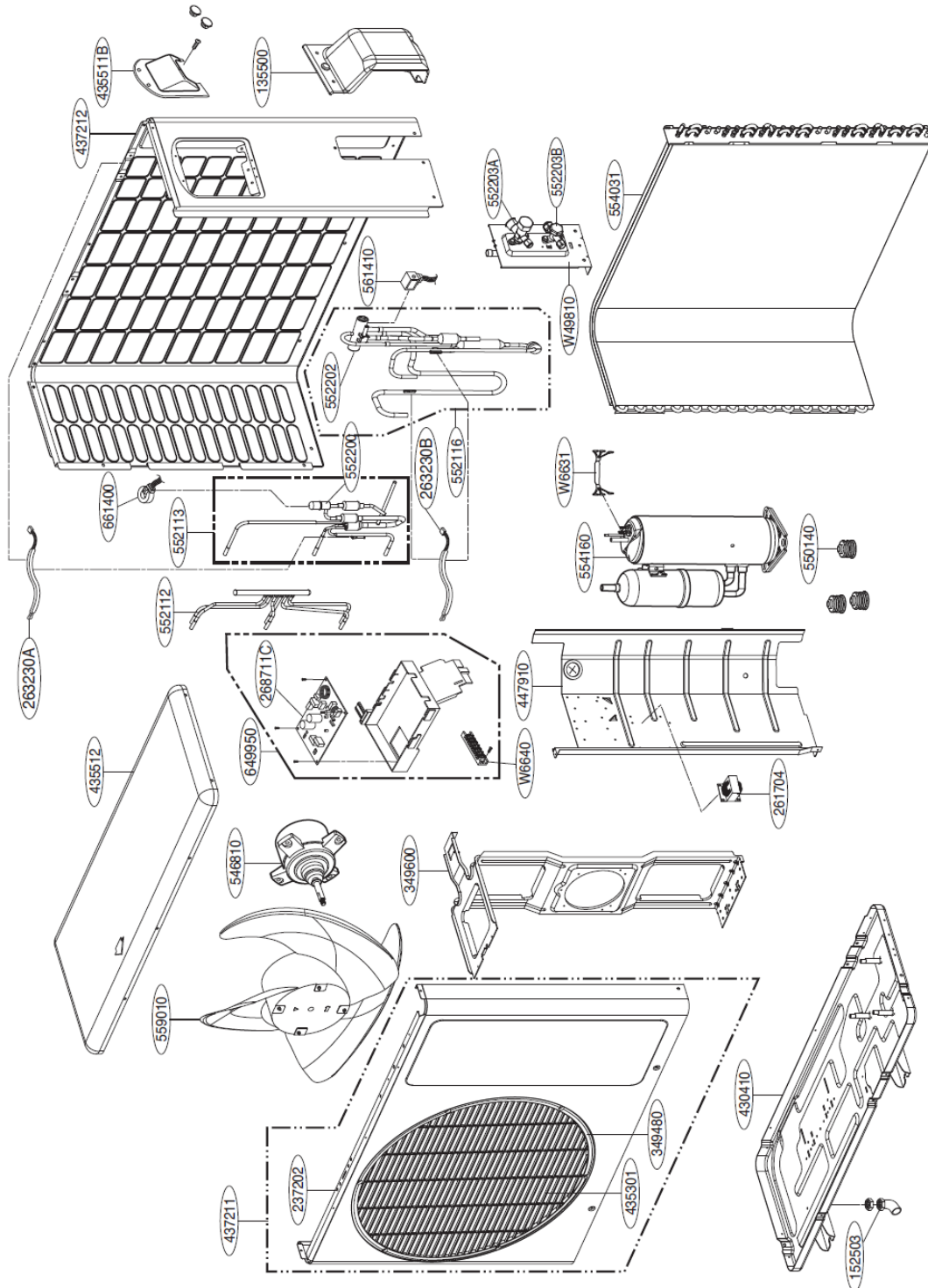
MW18C3J			
Loc No.	P/N_FRD	Description	Qty
131410	67601001	Chassis Assembly	1
149303	67602705	Holder,Tubing	1
346810	67603329	Motor,DC	1
135500A	67601508	Cover	1
359011	67602107	Fan Assembly,Cross Flow	1
342800	67606700	Bearing	1
354212	67602020	Evaporator Assembly,Final	1
354210	67602012	Evaporator 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

Indoor Unit

Model : MR18Y3J



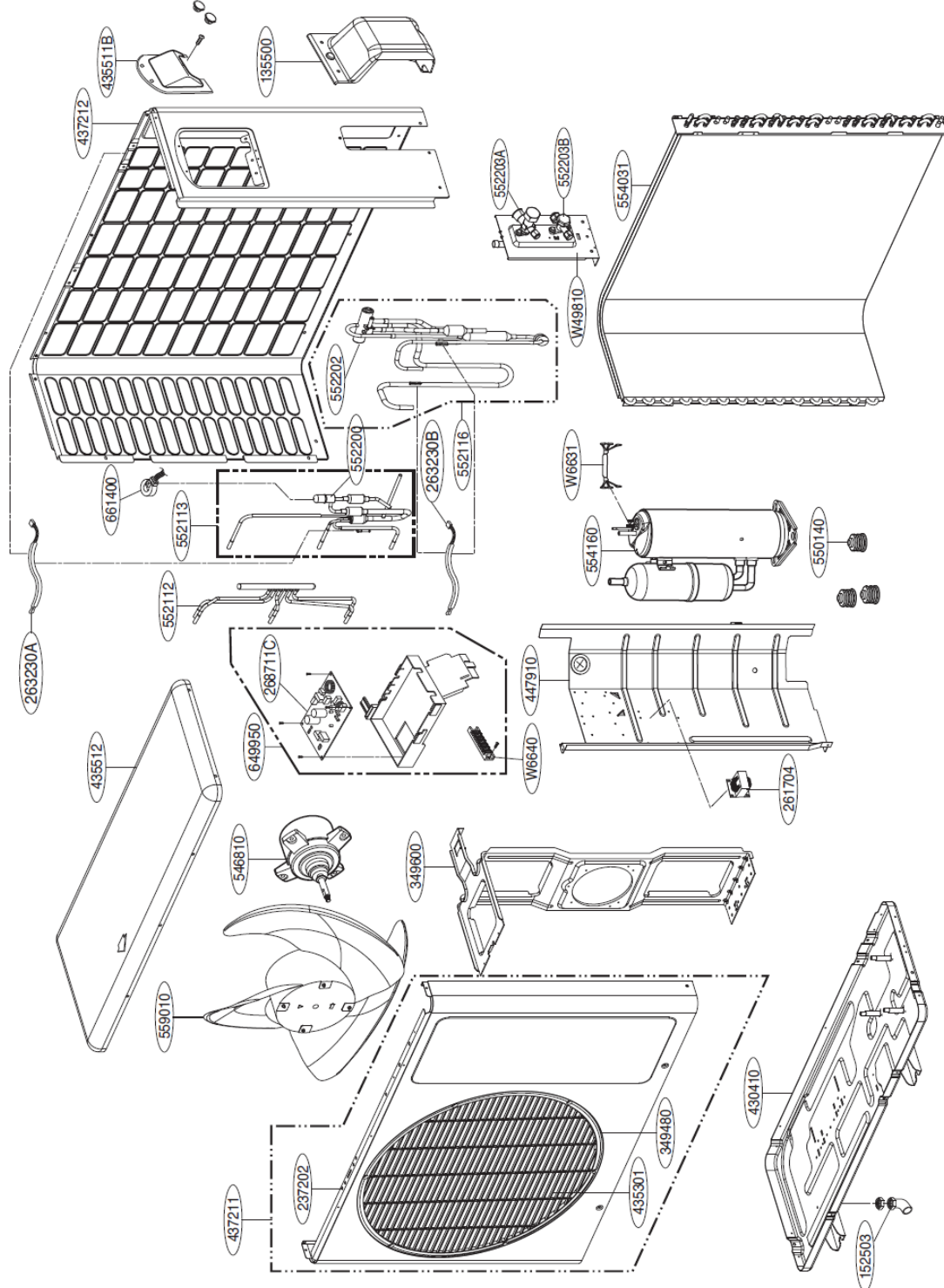
LOC	Description
263230A	Thermistor for suction air temperature
	Thermistor for condense middle temperature
263230B	Thermistor for discharge pipe temperature

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



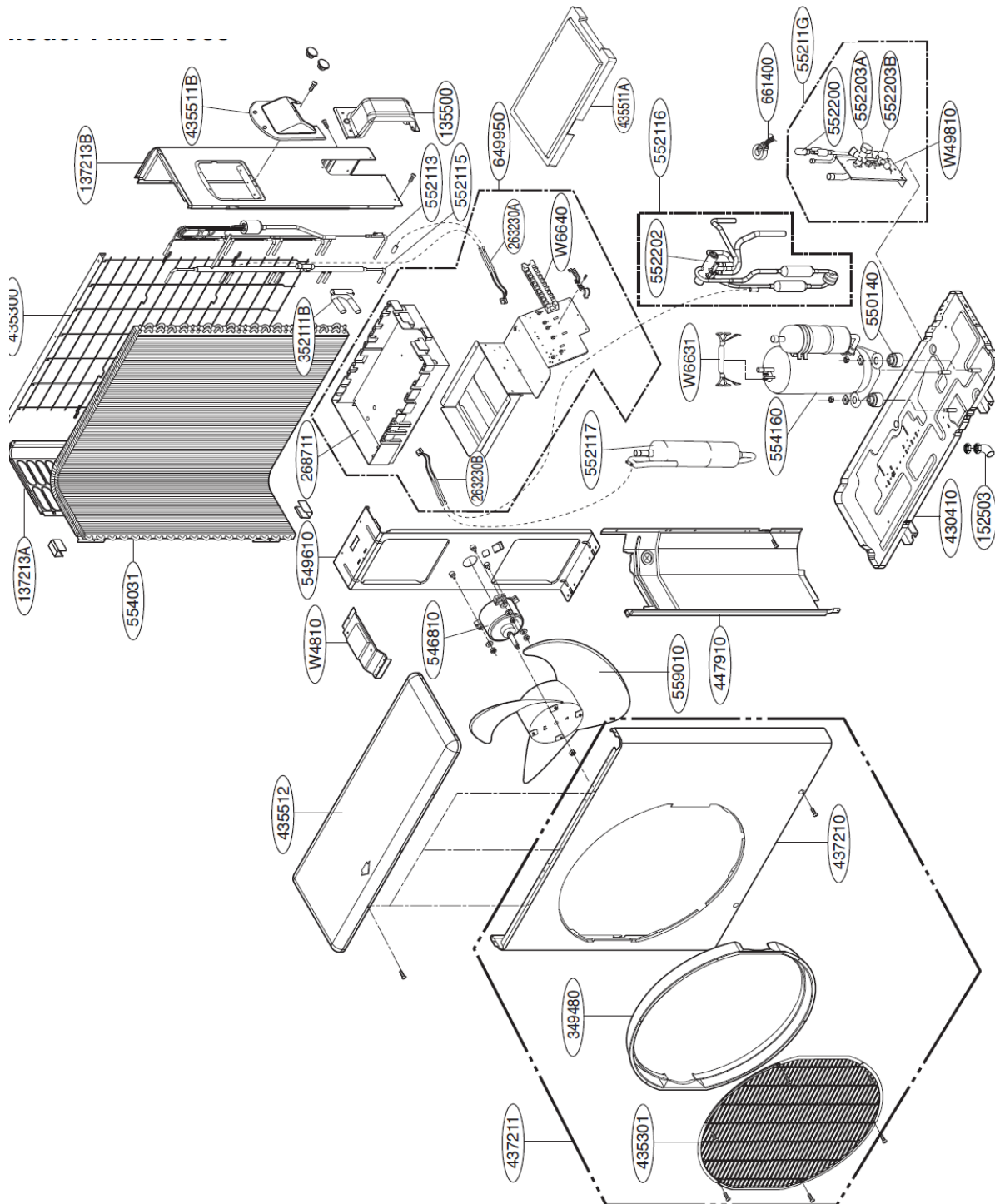
LOC	Description
263230A	Thermistor for suction air temperature
	Thermistor for condense middle temperature
263230B	Thermistor for discharge pipe temperature

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
263230B	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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