

FOR SERVICE TECHNICIAN'S USE ONLY

Tech Sheet

NOTE: This sheet contains important Technical Service Data

Do Not Remove Or Destroy



Electrical Shock Hazard

Only authorized technicians should perform diagnostic voltage measurements.

After performing voltage measurements, disconnect power before servicing.

Failure to follow these instructions can result in death or electrical shock.



Electrical Shock Hazard

Disconnect power before servicing.

Replace all parts and panels before operating. Failure to do so can result in death or electrical shock.

Voltage Measurement Safety Information

When performing live voltage measurements, you must do the following:

- Verify the controls are in the off position so that the appliance does not start when energized.
- Allow enough space to perform the voltage measurements without obstructions.
- Keep other people a safe distance away from the appliance to prevent potential injury.
- Always use the proper testing equipment.
- After voltage measurements, always disconnect power before servicing.

Component Specifications table

Components	Item	Specification
Compressor (VMU1113YB)	Rated Voltage-Frequency	230V/75-225Hz
	Maximum Current	5A
	U-V / V-W / W-U Resistance	23Ω (20°C)
	Watt	130W
Compressor (DZ90Z1C)	Rated Voltage-Frequency	230V/80-300Hz
	Maximum Current	4A
	U-V / V-W / W-U Resistance	20Ω (20°C)
Evaporator Fan	Rotation (facing name plate side)	Clockwise
	RPM	1500RPM
	Watt	2.28W (Max: 2.76W)
Defrost Heater	Wattage	115VAC, 190 ±5%W
	Resistance	67~73Ω
Control Board	Operating Voltage	12VDC
Inverter Board	Operating Voltage	115 ±15%VAC
Temperature Sensor	Type	Negative-temperature-coefficient thermistor (NTC)
	Rating	B(-18/25)=3771k±2% R(-18)=16.9kΩ±2%
Door Switch	Type	Mechanical
	Rated Voltage	250VAC
	Rated Current	2.5A
LED Light Board	Rated Voltage	12VDC
	Rated Power	4W
Water Valve	Wattage	110~127VAC, 50/60Hz,20W
Ice Maker(OPTIONAL)	Rated Voltage	115V/60Hz
	Watt	160W

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Resistance table for the thermistors

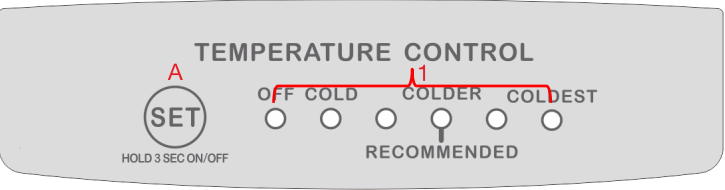
T(°C)	Rmin(kΩ)	Rcent(kΩ)	Rmax(kΩ)	DR(%)	DT(°C)
-40	60.601	63.497	66.505	4.74%	0.72
-39	56.927	59.571	62.313	4.60%	0.70
-38	53.495	55.908	58.407	4.47%	0.69
-37	50.287	52.489	54.766	4.34%	0.67
-36	47.287	49.297	51.371	4.21%	0.66
-35	44.482	46.315	48.203	4.08%	0.64
-34	41.858	43.528	45.247	3.95%	0.63
-33	39.402	40.924	42.487	3.82%	0.61
-32	37.103	38.489	39.910	3.69%	0.59
-31	34.950	36.211	37.503	3.57%	0.58
-30	32.933	34.080	35.253	3.44%	0.56
-29	31.043	32.086	33.150	3.32%	0.54
-28	29.271	30.218	31.183	3.19%	0.53
-27	27.610	28.469	29.343	3.07%	0.51
-26	26.052	26.830	27.621	2.95%	0.49
-25	24.589	25.294	26.009	2.83%	0.48
-24	23.217	23.854	24.500	2.71%	0.46
-23	21.928	22.504	23.086	2.59%	0.44
-22	20.718	21.237	21.761	2.47%	0.43
-21	19.580	20.048	20.519	2.35%	0.41
-20	18.512	18.932	19.355	2.23%	0.39
-19	17.507	17.884	18.263	2.12%	0.37
-18	16.562	16.900	17.238	2.00%	0.35
-17	15.638	15.975	16.313	2.11%	0.38
-16	14.770	15.105	15.442	2.23%	0.40
-15	13.955	14.288	14.623	2.34%	0.42
-14	13.190	13.519	13.851	2.46%	0.45
-13	12.470	12.796	13.124	2.57%	0.47
-12	11.794	12.115	12.440	2.68%	0.49
-11	11.158	11.474	11.794	2.79%	0.52
-10	10.559	10.870	11.186	2.90%	0.54
-9	9.996	10.302	10.612	3.01%	0.57
-8	9.466	9.766	10.071	3.12%	0.59
-7	8.967	9.261	9.560	3.23%	0.62
-6	8.497	8.785	9.078	3.34%	0.64
-5	8.054	8.335	8.623	3.45%	0.67
-4	7.637	7.912	8.193	3.56%	0.69
-3	7.243	7.512	7.787	3.67%	0.72
-2	6.872	7.134	7.404	3.77%	0.74
-1	6.522	6.778	7.041	3.88%	0.77
0	6.192	6.441	6.698	3.99%	0.80

T(°C)	Rmin(kΩ)	Rcent(kΩ)	Rmax(kΩ)	DR(%)	DT(°C)
1	5.880	6.123	6.374	4.09%	0.82
2	5.585	5.822	6.067	4.20%	0.85
3	5.307	5.538	5.776	4.30%	0.88
4	5.045	5.269	5.501	4.41%	0.90
5	4.797	5.015	5.241	4.51%	0.93
6	4.562	4.774	4.994	4.61%	0.96
7	4.340	4.546	4.761	4.71%	0.99
8	4.130	4.331	4.539	4.82%	1.01
9	3.932	4.127	4.329	4.92%	1.04
10	3.744	3.933	4.130	5.02%	1.07
11	3.566	3.750	3.942	5.12%	1.10
12	3.397	3.576	3.763	5.22%	1.13
13	3.238	3.411	3.593	5.32%	1.16
14	3.087	3.255	3.431	5.42%	1.18
15	2.943	3.107	3.278	5.51%	1.21
16	2.808	2.966	3.133	5.61%	1.24
17	2.679	2.833	2.995	5.71%	1.27
18	2.557	2.706	2.863	5.81%	1.30
19	2.441	2.586	2.738	5.90%	1.33
20	2.331	2.471	2.620	6.00%	1.36
21	2.226	2.363	2.507	6.09%	1.39
22	2.127	2.260	2.399	6.19%	1.42
23	2.033	2.161	2.297	6.28%	1.45
24	1.943	2.068	2.200	6.38%	1.48
25	1.858	1.979	2.107	6.47%	1.52
26	1.777	1.895	2.019	6.56%	1.55
27	1.701	1.814	1.935	6.66%	1.58
28	1.627	1.738	1.855	6.75%	1.61
29	1.558	1.665	1.779	6.84%	1.64
30	1.492	1.596	1.706	6.93%	1.67
31	1.429	1.530	1.637	7.02%	1.71
32	1.369	1.467	1.571	7.11%	1.74
33	1.312	1.407	1.508	7.20%	1.77
34	1.257	1.349	1.448	7.29%	1.81
35	1.205	1.295	1.390	7.38%	1.84
36	1.156	1.243	1.335	7.47%	1.87
37	1.109	1.193	1.283	7.55%	1.91
38	1.064	1.146	1.233	7.64%	1.94
39	1.021	1.100	1.185	7.73%	1.97
40	0.980	1.057	1.140	7.81%	2.01

T(°C)	Rmin(kΩ)	Rcent(kΩ)	Rmax(kΩ)	DR(%)	DT(°C)
41	0.941	1.016	1.096	7.90%	2.041
42	0.904	0.976	1.054	7.99%	2.076
43	0.868	0.939	1.014	8.07%	2.110
44	0.834	0.903	0.976	8.16%	2.145
45	0.802	0.868	0.940	8.24%	2.180
46	0.771	0.835	0.905	8.32%	2.216
47	0.741	0.804	0.871	8.41%	2.251
48	0.713	0.774	0.839	8.49%	2.287
49	0.686	0.745	0.809	8.57%	2.323
50	0.660	0.717	0.780	8.65%	2.359
51	0.635	0.691	0.751	8.73%	2.395
52	0.612	0.666	0.724	8.82%	2.432
53	0.589	0.642	0.699	8.90%	2.468
54	0.567	0.618	0.674	8.98%	2.505
55	0.546	0.596	0.650	9.06%	2.542
56	0.527	0.575	0.627	9.14%	2.579
57	0.507	0.554	0.606	9.21%	2.617
58	0.489	0.535	0.585	9.29%	2.655
59	0.472	0.516	0.565	9.37%	2.693
60	0.455	0.498	0.545	9.45%	2.731
61	0.439	0.481	0.527	9.53%	2.769
62	0.423	0.464	0.509	9.60%	2.807
63	0.409	0.448	0.492	9.68%	2.846
64	0.394	0.433	0.475	9.76%	2.885
65	0.381	0.418	0.460	9.83%	2.924
66	0.368	0.404	0.444	9.91%	2.963
67	0.355	0.391	0.430	9.98%	3.003
68	0.343	0.378	0.416	10.06%	3.042
69	0.332	0.365	0.402	10.13%	3.082
70	0.320	0.353	0.389	10.20%	3.122
71	0.310	0.342	0.377	10.28%	3.162
72	0.300	0.331	0.365	10.35%	3.203
73	0.290	0.320	0.353	10.42%	3.244
74	0.280	0.310	0.342	10.49%	3.284
75	0.271	0.300	0.332	10.57%	3.325
76	0.262	0.290	0.321	10.64%	3.367
77	0.254	0.281	0.311	10.71%	3.408
78	0.246	0.272	0.302	10.78%	3.450
79	0.238	0.264	0.292	10.85%	3.492
80	0.230	0.256	0.284	10.92%	3.534

T(°C)	Rmin(kΩ)	Rcent(kΩ)	Rmax(kΩ)	DR(%)	DT(°C)
81	0.223	0.248	0.275	10.99%	3.58
82	0.216	0.240	0.267	11.06%	3.62
83	0.209	0.233	0.259	11.13%	3.66
84	0.203	0.226	0.251	11.19%	3.70
85	0.197	0.219	0.244	11.26%	3.75
86	0.191	0.212	0.236	11.33%	3.79
87	0.185	0.206	0.230	11.40%	3.83
88	0.179	0.200	0.223	11.46%	3.88
89	0.174	0.194	0.216	11.53%	3.92
90	0.169	0.188	0.210	11.60%	3.96
91	0.164	0.183	0.204	11.66%	4.01
92	0.159	0.178	0.198	11.73%	4.05
93	0.154	0.173	0.193	11.79%	4.10
94	0.150	0.168	0.187	11.86%	4.14
95	0.145	0.163	0.182	11.92%	4.19
96	0.141	0.158	0.177	11.99%	4.23
97	0.137	0.154	0.172	12.05%	4.28
98	0.133	0.149	0.168	12.12%	4.32
99	0.129	0.145	0.163	12.18%	4.37
100	0.126	0.141	0.159	12.24%	4.42
101	0.122	0.137	0.154	12.31%	4.46
102	0.119	0.134	0.150	12.37%	4.51
103	0.116	0.130	0.146	12.43%	4.55
104	0.112	0.126	0.142	12.49%	4.60
105	0.109	0.123	0.138	12.55%	4.65
106	0.106	0.120	0.135	12.62%	4.70
107	0.103	0.117	0.131	12.68%	4.74
108	0.101	0.113	0.128	12.74%	4.79
109	0.098	0.110	0.125	12.80%	4.84
110	0.095	0.108	0.121	12.86%	4.89
111	0.093	0.105	0.118	12.92%	4.93
112	0.090	0.102	0.115	12.98%	4.98
113	0.088	0.099	0.112	13.04%	5.03
114	0.086	0.097	0.109	13.09%	5.08
115	0.083	0.094	0.107	13.15%	5.13
116	0.081	0.092	0.104	13.21%	5.18
117	0.079	0.090	0.101	13.27%	5.23
118	0.077	0.087	0.099	13.33%	5.28
119	0.075	0.085	0.097	13.39%	5.33
120	0.073	0.083	0.094	13.44%	5.38

Display Function Operation Instructions



■ Operation Button: “A” Temperature Adjustment Key

■ Function Mark: “1” Setting Gear: “OFF, 1~5”

Initial State Upon Power-On

■ The display panel fully illuminates for 3 second, then resumes display and operation with the mode and set temperature stored before power cut-off.

Display Operating Rules

■ The display lights up when the door switch is opened and turns off when the door switch is closed. User operations are only valid when the display is lit.

Button Operating Rules

■ Temperature Setting: Each press of the temperature adjustment key switches the set temperature once, which takes effect immediately without flashing confirmation.

Forced Defrost

■ Access

After power-on for 1 minute, if the door is opened more than 3 times within 5 seconds, tap the temperature adjustment key to enter this mode; the interior light flashes at a frequency of 0.5Hz.

■ Execution

The compressor and freezer fan stop running, and the defrost heater activates to complete a full defrost cycle.

■ Exit

The unit exits forced defrost mode once the defrost exit temperature is reached. It resumes the operating state prior to entering forced defrost, and the cabinet light stops flashing.

Fault Code Definition & Indication

■ Fault Definition

Sensor Short Circuit Fault: Detected sensor temperature higher than 50°C/ 122°F
Sensor Open Circuit Fault: Detected sensor temperature lower than -50°C/ -58°F

■ Fault Indication

Light Flashes	Fault Type
Flash once	Refrigerator compartment temperature sensor fault
Flash twice	Defrost temperature sensor fault
Flash six times	Freezer compartment temperature sensor fault

Note: A light that is ON for 0.5 seconds and OFF for 0.5 seconds counts as one flash. After each flash sequence, there is a 3-second pause. If multiple faults are present, the corresponding fault codes are displayed cyclically in sequence.

■ Inverter Board Fault Indication

Indicator Light Flashes	Fault Type	Possible Causes of Fault
Flash once	Hardware Overcurrent	1.Instant heavy current passing through sampling resistor (e.g., phase-to-phase short circuit) 2.Compressor damage 3.Damaged current detection hardware
Flash twice	Overvoltage	DC bus voltage exceeds overvoltage threshold, or abnormal voltage detection circuit
Flash three times	Undervoltage	DC bus voltage drops below undervoltage threshold, or abnormal voltage detection circuit
Flash four times	Locked Rotor	1.Compressor failure 2.Locked motor shaft or excessive motor load
Flash five times	Phase Loss	Inverter board not connected to motor, or broken phase wire
Flash six times	Loss of Synchronization	1.Compressor out of sync 2.Mismatch between program and compressor
Flash seven times	Software Overcurrent	Motor phase current exceeds limit value: 1.Excessive load 2.Compressor abnormality
Flash ten times	Overpower	Excessive power caused by overloaded load or other factors

Notes:
1.A light that is ON for 0.5 seconds and OFF for 0.5 seconds counts as one flash. A 3-second pause follows each flash sequence.
2.When powered on, the compressor will automatically attempt to restart 300 seconds after the protective shutdown.

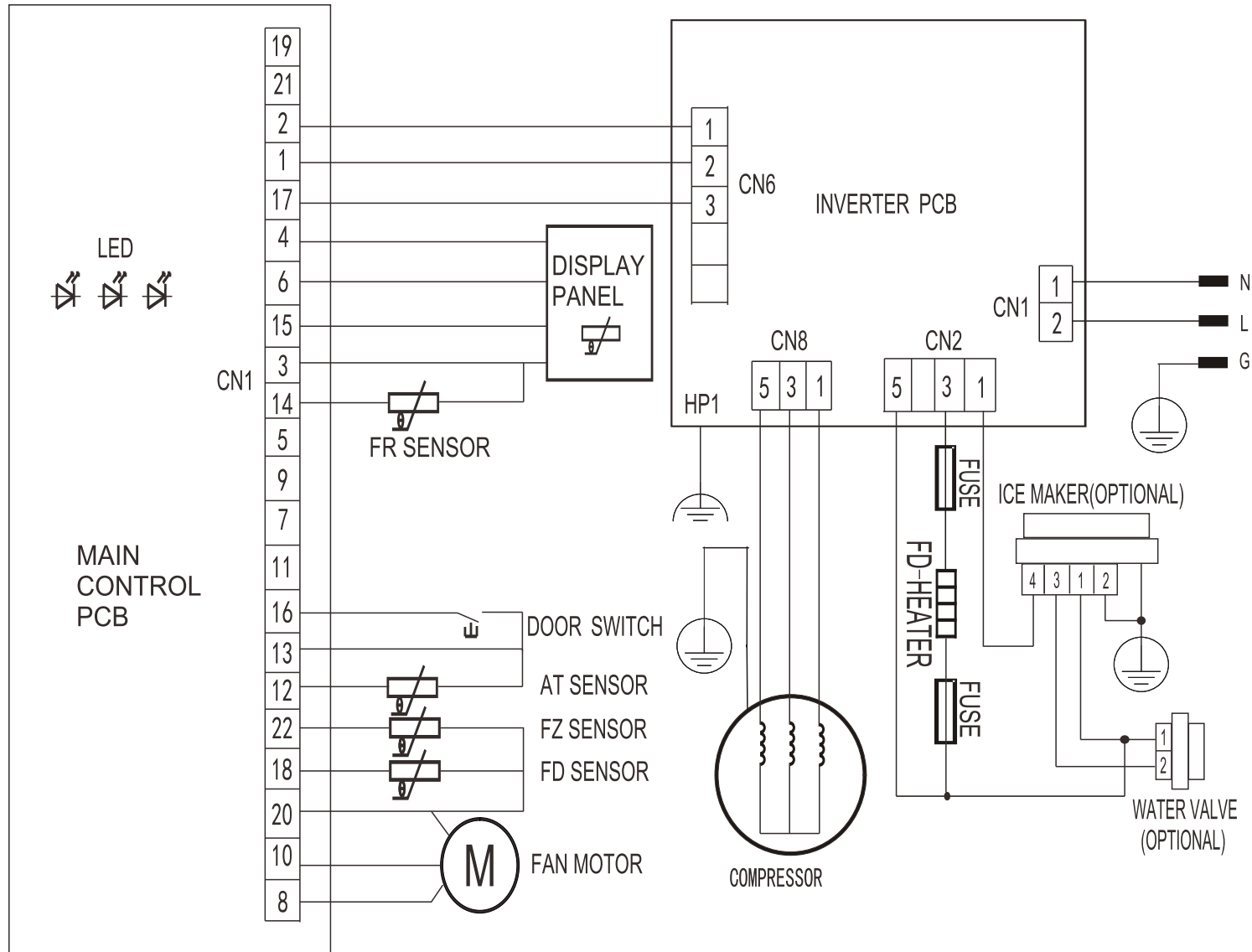
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Circuit Diagram



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Wiring Diagram

