GE APPLIANCES

Single-Zone

Ductless Multi-Split Heat Pumps

ENDURE™

Model Lineup:

Outdoor Models

Appearances vary by model

1G24ED2BEA

1G3036ED2BEA

Indoor Models

Appearances vary by model

Wall Mount - Highwall
GS24WP2BEA
GS30WB2BEA
GS36WB2BEA

Cassette
US24LB2BEA
US30LB2BEA
US36LB2BEA

Mid-Static Ducted
US24MB2BEA
US30MB2BEA
US36MB2BEA

Before troubleshooting or servicing equipment, review equipment installation guides and confirm ALL installation requirements & specifications have been met. Including, but not limited to: wiring, clearance, ducting (where applicable), power, and line set requirements. Correct any installation issues before continuing.

GE APPLIANCES a Haier company

AIR&WATER SOLUTIONS

31-5001176 12-25

GE APPLIANCES

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10-16-25: *Edition release.*

ENGLISH

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SAFETY & PRECAUTIONS

FOLLOW ALL WARNINGS, CAUTIONS, AND PRECAUTIONS BELOW, AND INDUSTRY BEST SAFETY PRACTICES AND STANDARDS. FAILURE TO DO SO MAY RESULT IN EQUIPMENT DAMAGE OR FAILURE, AND SERIOUS PERSONAL INJURY OR DEATH.

WARNINGS

Service should be performed by the dealer or another professional.
Improper service may cause water leakage, electrical shock, or fire.

Use only the supplied or specified service parts.
Use of other parts may cause the unit to come lose, water leakage, electrical shock, or fire.

The heat pump must be installed on a solid base that can support the unit's weight.
An inadequate base or incomplete installation may cause injury in the event the unit falls off the base.

Electrical work should be carried out in accordance with the manual and national/local electrical wiring codes and rules of practice.
Insufficient capacity or incomplete electrical work may cause electrical shock or fire.

A dedicated power circuit must be used. The power supply should NEVER be shared by another appliance.

Wiring cable must be long enough to cover the entire distance with no splices.
Do not use an extension cord. Do not put other loads on the power supply, use a dedicated power circuit.
Failure to do so may cause abnormal heat, electric shock or fire.

Only the specified wire types may be used for electrical connections between the indoor and outdoor units.
Firmly clamp the interconnecting wires so they receive no external stresses. Incomplete connections or clamping may cause terminal overheating or fire.

Wiring must not put undue stress or tension on the electrical covers or panels.
Install covers over the wires. Incomplete cover installation may cause terminal overheating, electrical shock, or fire.

If any refrigerant has leaked out during service work, ventilate the room.
The refrigerant produces a toxic gas if exposed to flame.

After all service is complete, check for and repair any system refrigerant leaks.
The refrigerant produces a toxic gas if exposed to flames.

When servicing or relocating the system, keep the refrigerant circuit free from substances other than the specified refrigerant (R454B), such as air or moisture
The presence of air or other foreign substance in the refrigerant circuit causes an abnormal pressure rise or rupture, resulting in injury.

During pump-down, stop the compressor before removing the refrigerant piping.
If the compressor is still running, and the stop valve is open during pump-down, air will be sucked into the system while the compressor is running. This will cause abnormal pressure and noncondensables added to the system.

Unit must NOT be grounded to a utility pipe, arrester, or telephone line ground.
An complete ground may cause electrical shock, or fire. A high surge current from lightning or other sources may cause damage to the heat pump.

CAUTIONS

The heat pump must not be installed in a place where there is danger of exposure to flammable gas.
If the gas builds up around the unit, it may catch fire.

Drain piping must comply with installation guidelines.
Inadequate piping may cause flooding.

Tighten flare nuts according to the specified torque using a torque wrench.
If flare nuts are overtightened, they may eventually crack and cause refrigerant leakage.

Ensure proper clearances around unit per installation guidelines.

SPECIFICATIONS

NOTE

Our continued commitment to quality products may mean a change in specifications without notice.
Visit GEAppliancesAirandWater.com to access current specification tables online.

	Outdoor Unit	1G24ED2BEA	1G3036ED2BEA	1G3036ED2BEA
	Indoor Unit	GS24WP2BEA	GS30WB2BEA	GS36WB2BEA
Cooling	Rated Capacity Btu/hr	24,000	30,000	32,400
	Capacity Range Btu/hr	4,500-26,000	6,000-31,000	6,000-33,500
	SEER2	20	20	20
	EER2	11.2	11.2	10.5
	Moisture Removal Pt./hr	6	7.5	7.9
Heating	Rated Heating Capacity 47°F Btu/hr	24,000	31,000	37,000
	Heating Capacity Range Btu/hr	4,000-26,000	6,500-32,500	6,500-37,000
	HSPF2 (IV)	9.5	9.5	9.5
	Rated Heating Capacity 5°F Btu/hr	22,000	25,800	26,200
	Heating Capacity at 5°F / Capacity at 47°F	92%	83%	71%
	COP 5°F	1.8	1.8	1.8
Operating Range	Cooling (Without Wind Baffle or Top Cover)	23~115°F (-5~46°C)	23~115°F (-5~46°C)	23~115°F (-5~46°C)
	Heating	-22~75°F (-30~24°C)	-22~75°F (-30~24°C)	-22~75°F (-30~24°C)
Power Supply	Voltage, Cycle, Phase (V/Hz/-)	208-230/60/1	208-230/60/1	208-230/60/1
	Maximum Fuse Size A	30	40	40
	Minimum Circuit Amp A	22	25	25
Outdoor Unit	Compressor Type	DC Inverter Rotary	DC Inverter Rotary	DC Inverter Rotary
	Outdoor Noise Level dB	64	72	73
	Dimension: H x W x D in (mm)	30 1/8 x 40 3/16 x 17 1/8 (765 x 1021 x 435)	33 1/16 x 43 1/8 x 19 7/8 (840 x 1095 x 505)	33 1/16 x 43 1/8 x 19 7/8 (840 x 1095 x 505)
	Weight (Net/Ship) - lbs (kg)	134.7/173.06 (61.1/78.5)	165.42/211.64 (75/96)	165.42/211.64 (75/96)
	Basepan Heater	Yes	Yes	Yes
Indoor Unit	Fan Speed Stages	5 + Auto	5 + Auto	5 + Auto
	Airflow CFM: Cooling (Turbo/High/Med/Low/Quiet)	800/730/630/535/440	800/725/650/510/430	840/765/690/550/470
	Airflow CFM: Heating (Turbo/High/Med/Low/Quiet)	800/730/630/535/440	800/725/650/510/430	840/765/690/550/470
	Indoor Sound Level dB: Cooling (Turbo/High/Med/Low/Quiet)	54/50/47/44/38	55/53/49/44/40	56/54/50/44/40
	Indoor Sound Level dB: Heating (Turbo/High/Med/Low/Quiet)	54/50/47/44/38	55/53/49/44/40	56/54/50/44/40
	Auto Up-Down Louver	Yes	Yes	Yes
	Auto Left-Right Louver	Yes	No	No
	Drain Pipe Size O.D in	5/8	5/8	5/8
	Dimension: H x W x D in (mm)	13 1/2 x 44 1/2 x 9 1/8 (343 x 1129 x 232)	14 3/8 x 52 3/4 x 10 3/4 (365 x 1341 x 274)	14 3/8 x 52 3/4 x 10 3/4 (365 x 1341 x 274)
	Weight (Net/Ship) - lbs (kg)	34.86/43.03 (15.8/19.5)	46.34/56.27 (21/25.5)	46.34/56.27 (21/25.5)
	Factory-Installed Refrigerant Detection Sensor (RDS)	No	No	No
	Refrigerant Detection Sensor (RDS) Compatible	Yes (UALS01A, sold seperately)	Yes (UALS01A, sold seperately)	Yes (UALS01A, sold seperately)
	WiFi*	Built-in	Built-in	Built-in
Refrigerant Lines	Refrigerant	R454B	R454B	R454B
	Connections	Flare	Flare	Flare
	Liquid O.D. in	1/4	3/8	3/8
	Suction O.D. in	1/2	5/8	5/8
	Factory Charge Oz	77.7	109.4	109.4
	Maximum Line Length Ft / m	165/50	165/50	165/50
	Maximum Height Ft / m	100/30	100/30	100/30

*WiFi includes SmartHQ™ Home and SmartHQ™ Service compatibility.

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	Outdoor Unit	1G24ED2BEA	1G3036ED2BEA	1G3036ED2BEA
	Indoor Unit	**US24LB2BEA**	**US30LB2BEA**	**US36LB2BEA**
	Panel (required, sold separately)	GALCP01GA	GALCP01GA	GALCP01GA
Cooling	Rated Capacity Btu/hr	24,000	30,000	36,000
	Capacity Range Btu/hr	6,000-25,000	9,000-32,000	9,000-37,500
	SEER2	20	20	19
	EER2	12	12	11
	Moisture Removal Pt./hr	3.78	5.00	6.63
Heating	Rated Heating Capacity 47°F Btu/hr	26,000	32,000	37,000
	Heating Capacity Range Btu/hr	6,000-27,000	9,000-33,500	9,000-38,500
	HSPF2 (IV)	10.0	10.0	10.0
	Rated Heating Capacity 5°F Btu/hr	22,000	27,000	29,000
	Heating Capacity at 5°F / Capacity at 47°F	85%	84%	78%
	COP 5°F	1.8	1.8	1.8
Operating Range	Cooling (Without Wind Baffle or Top Cover)	23~115°F (-5~46°C)	23~115°F (-5~46°C)	23~115°F (-5~46°C)
	Heating	-22~75°F (-30~24°C)	-22~75°F (-30~24°C)	-22~75°F (-30~24°C)
Power Supply	Voltage, Cycle, Phase (V/Hz/-)	208-230/60/1	208-230/60/1	208-230/60/1
	Maximum Fuse Size A	30	40	40
	Minimum Circuit Amp A	22	25	25
Outdoor Unit	Compressor Type	DC Inverter Rotary	DC Inverter Rotary	DC Inverter Rotary
	Outdoor Noise Level dB	68	72	73
	Dimension: H x W x D in (mm)	30 1/8 x 40 3/16 x 17 1/8 (765 x 1021 x 435)	33 1/16 x 43 1/8 x 19 7/8 (840 x 1095 x 505)	33 1/16 x 43 1/8 x 19 7/8 (840 x 1095 x 505)
	Weight (Net/Ship) - lbs (kg)	134.7/173.06 (61.1/78.5)	165.42/211.64 (75/96)	165.42/211.64 (75/96)
	Basepan Heater	Yes	Yes	Yes
Indoor Unit	Fan Speed Stages	5 + Auto	5 + Auto	5 + Auto
	Airflow CFM: Cooling (Turbo/High/Med/Low/Quiet)	1033/873/858/640/400	1247/1200/1033/873/650	1247/1200/1033/873/650
	Airflow CFM: Heating (Turbo/High/Med/Low/Quiet)	1033/873/858/640/400	1247/1200/1033/873/650	1247/1200/1033/873/650
	Indoor Sound Level dB: Cooling (Turbo/High/Med/Low/Quiet)	46/44/41/38/35	51/50/45/44/39	51/50/45/44/39
	Indoor Sound Level dB: Heating (Turbo/High/Med/Low/Quiet)	46/44/42/39/36	51/50/45/44/39	51/50/45/44/39
	Auto Up-Down Louver	Yes	Yes	Yes
	Auto Left-Right Louver	No	No	No
	Dimension: H x W x D in (mm)	9 3/4 x 33 x 33 (248 x 840 x 840)	9 3/4 x 33 x 33 (248 x 840 x 840)	9 3/4 x 33 x 33 (248 x 840 x 840)
	Weight (Net/Ship) - lbs (kg)	56.22/85.32 (25.5/38.7)	56.22/85.32 (25.5/38.7)	56.22/85.32 (25.5/38.7)
	Drain Pipe Size O.D in	1*	1*	1*
	Condensate Pump	Built-In	Built-In	Built-In
	Max. Drain-Lift Height in (mm)	47 1/4 (1200)	47 1/4 (1200)	47 1/4 (1200)
	Factory-Installed Refrigerant Detection Sensor (RDS)	No	No	No
	Refrigerant Detection Sensor (RDS) Compatible	Yes (UALS01A, sold seperately)	Yes (UALS01A, sold seperately)	Yes (UALS01A, sold seperately)
	WiFi**	Built-in	Built-in	Built-in
Refrigerant Lines	Refrigerant	R454B	R454B	R454B
	Connections	Flare	Flare	Flare
	Liquid O.D. in	3/8	3/8	3/8
	Suction O.D. in	5/8	3/4	3/4
	Factory Charge Oz	77.7	109.4	109.4
	Maximum Line Length Ft / m	165/50	165/50	165/50
	Maximum Height Ft / m	100/30	100/30	100/30

*Condensate drain adapter shipped with the indoor unit is designed to accept a 3/4" PVC pipe.

**WiFi includes SmartHQ™ Home and SmartHQ™ Service compatibility.

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	Outdoor Unit	1G24ED2BEA	1G3036ED2BEA	1G3036ED2BEA
	Indoor Unit	US24MB2BEA	US30MB2BEA	US36MB2BEA
Cooling	Rated Capacity Btu/hr	24,000	30,000	36,000
	Capacity Range Btu/hr	6,000-25,000	9,000-31,000	9,000-36,500
	SEER2	18.2	17.6	17.4
	EER2	11.7	10.8	9.8
	Moisture Removal Pt./hr	4.19	5.07	7.6
Heating	Rated Heating Capacity 47°F Btu/hr	26,000	32,000	36,000
	Heating Capacity Range Btu/hr	6,000-26,500	9,000-33,000	9,000-36,500
	HSPF2 (IV)	10.5	10	9.5
	Rated Heating Capacity 5°F Btu/hr	23,000	24,000	26,000
	Heating Capacity at 5°F / Capacity at 47°F	88%	75%	72%
	COP 5°F	1.8	1.8	1.8
Operating Range	Cooling (Without Wind Baffle or Top Cover)	23~115°F (-5~46°C)	23~115°F (-5~46°C)	23~115°F (-5~46°C)
	Heating	-22~75°F (-30~24°C)	-22~75°F (-30~24°C)	-22~75°F (-30~24°C)
Power Supply	Voltage, Cycle, Phase (V/Hz/-)	208-230/60/1	208-230/60/1	208-230/60/1
	Maximum Fuse Size A	30	40	40
	Minimum Circuit Amp A	22	25	25
Outdoor Unit	Compressor Type	DC Inverter Rotary	DC Inverter Rotary	DC Inverter Rotary
	Outdoor Noise Level dB	68	72	73
	Dimension: H x W x D in (mm)	30 1/8 x 40 3/16 x 17 1/8 (765 x 1021 x 435)	33 1/16 x 43 1/8 x 19 7/8 (840 x 1095 x 505)	33 1/16 x 43 1/8 x 19 7/8 (840 x 1095 x 505)
	Weight (Net/Ship) - lbs (kg)	134.7/173.06 (61.1/78.5)	165.42/211.64 (75/96)	165.42/211.64 (75/96)
	Basepan Heater	Yes	Yes	Yes
Indoor Unit	Fan Speed Stages	5 + Auto	5 + Auto	5 + Auto
	Airflow CFM: Cooling (Turbo/High/Med/Low/Quiet)	927/844/667/564/482	1236/1130/953/812/688	1236/1130/953/812/688
	Airflow CFM: Heating (Turbo/High/Med/Low/Quiet)	927/844/667/564/482	1236/1130/953/812/688	1236/1130/953/812/688
	Indoor Sound Level dB: Cooling (Turbo/High/Med/Low/Quiet)	44/43/42/40/38	46/45/41/38/36	46/45/41/38/36
	Indoor Sound Level dB: Heating (Turbo/High/Med/Low/Quiet)	44/43/42/40/38	46/45/41/38/36	46/45/41/38/36
	Dimension: H x W x D in (mm)	9 3/4 x 47 1/2 x 27 1/2 (248 x 1207 x 700)	9 3/4 x 63 1/4 x 27 1/2 (248 x 1607 x 700)	9 3/4 x 63 1/4 x 27 1/2 (248 x 1607 x 700)
	Weight (Net/Ship) - lbs (kg)	87.74/123.46 (39.8/56)	115.08/158.29 (52.2/71.8)	115.08/158.29 (52.2/71.8)
	Drain Pipe Size O.D in	1*	1*	1*
	Max. External Static Pressure in.W.G (Pa)	0.6 (150)	0.6 (150)	0.6 (150)
	Condensate Pump	Built-in	Built-in	Built-in
	Max. Drain-lift height in (mm)	27 1/2 (700)	27 1/2 (700)	27 1/2 (700)
	Factory-Installed Refrigerant Detection Sensor (RDS)	Yes	Yes	Yes
	WiFi**	Built-in	Built-in	Built-in
Refrigerant Lines	Refrigerant	R454B	R454B	R454B
	Connections	Flare	Flare	Flare
	Liquid O.D. in	3/8	3/8	3/8
	Suction O.D. in	5/8	3/4	3/4
	Factory Charge Oz	77.7	109.4	109.4
	Maximum Line Length Ft / m	165/50	165/50	165/50
	Maximum Height Ft / m	100/30	100/30	100/30

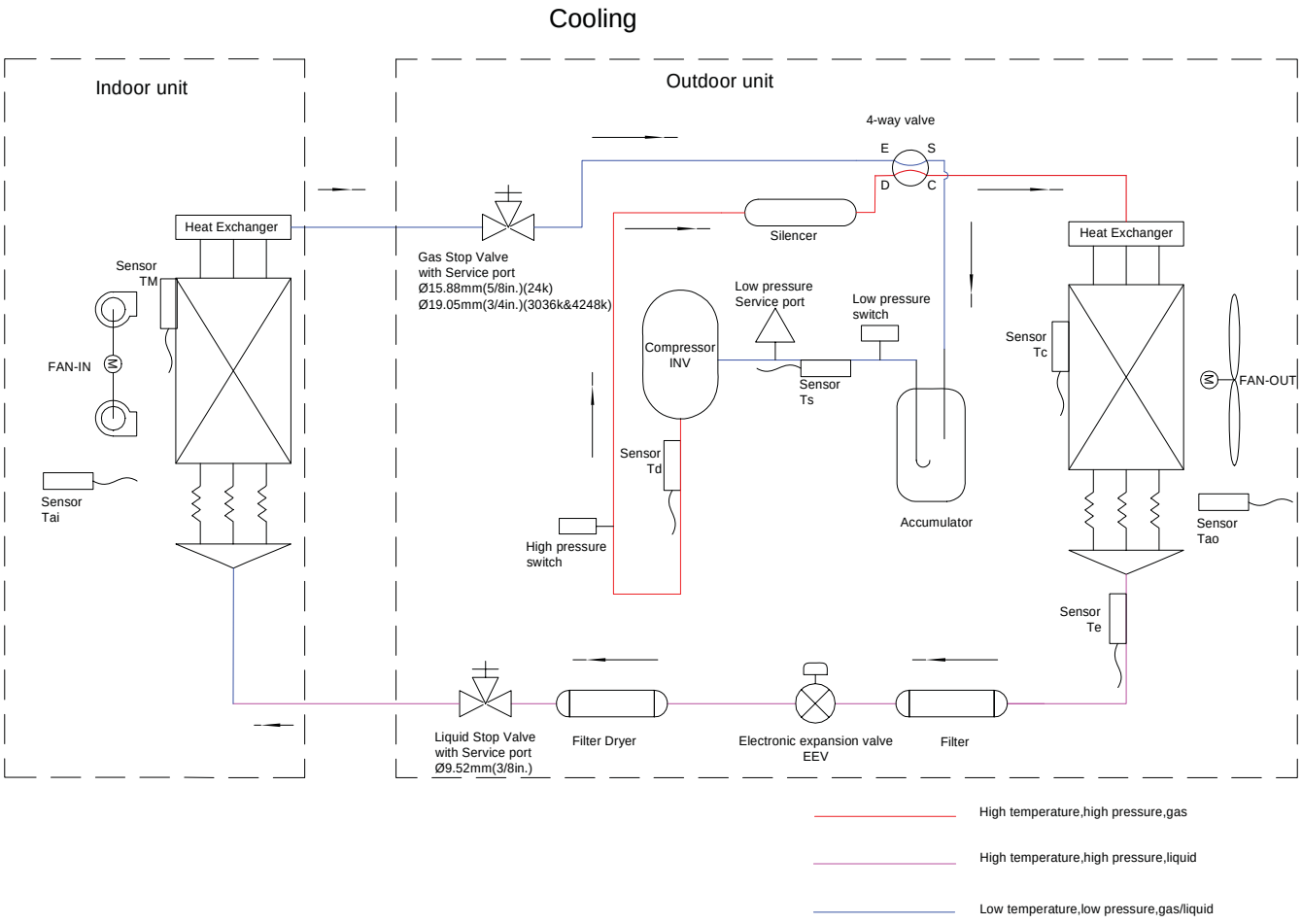
*Condensate drain adapter shipped with the indoor unit is designed to accept a 3/4" PVC pipe.

**WiFi includes SmartHQ™ Home and SmartHQ™ Service compatibility.

Cooling Mode

When the outdoor unit receives the startup signal of the thermostat, it will enter the cooling startup pre-processing stage. If 5 minutes have passed since the last shutdown, the outdoor fan will immediately turn on, and the compressor will turn on 30s later. After each shutdown, it will wait 5 minutes before it is turned on again. Wait 3 minutes for the first power-on.

With the compressor operating, refrigerant will begin to flow throughout the refrigeration circuit. The operating frequency of the compressor will be displayed on the Service Monitor Board.

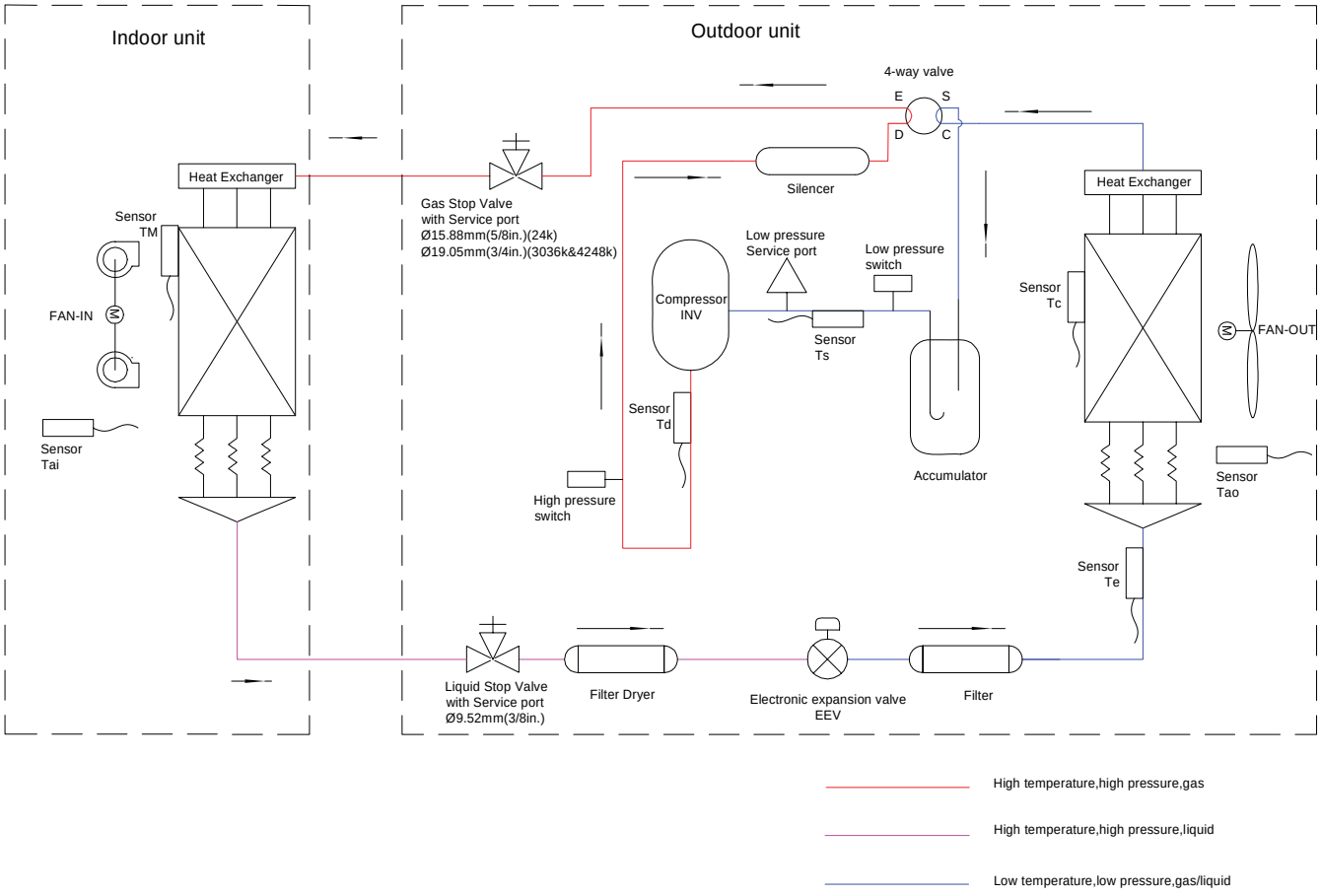


Sensor	Definition	Sensor	Definition
Td	Compressor discharge sensor	Te	Outdoor coil out sensor
Tc	Coil temperature sensor	Ts	Compressor suction temperature sensor
Tao	Outdoor air temperature	Ps/Pd	Pressure switch
Tai	Indoor air temperature		

Heating Mode

When the outdoor unit receives the heating start signal from the thermostat, if the compress-off downtime meets the minimum standby time, the four-way valve will be powered on until the compressor starts, and the four-way valve will be reversed after the external fan starts. The minimum standby time is 5 minutes, and the initial power-on is 3 minutes.

With the compressor operating, refrigerant will begin to flow throughout the refrigeration circuit. The operating frequency of the compressor will be displayed on the Service Monitor Board



Sensor	Definition	Sensor	Definition
Td	Compressor discharge sensor	Te	Outdoor coil out sensor
Tc	Coil temperature sensor	Ts	Compressor suction temperature sensor
Tao	Outdoor air temperature	Ps/Pd	Pressure switch
Tai	Indoor air temperature		

Defrost Operation

In the heating mode and along with the ambient sensor, the defrost sensor monitors the temperature of the outdoor coil to determine if defrost is needed. If the compressor has been running for 10 minutes continuously and for 45 minutes overall, the difference between the ambient sensor (Ta) and the defrost sensor (Te) will be checked. The system will initiate the defrost cycle if the following conditions can be met for 5 continuous minutes:

Te ≤ C x Ta-A

Te: Defrost temperature sensor

Ta: Ambient temperature

C: If Ta < 32°F/0°C then C=0.80, If Ta≥ 32°F/0°C then C=0.60

A: 8, moderate climate (factory setting) 6, severe climate (alternate setting)

End defrosting: If the defrost sensor (Te) detects the temperature of the outdoor coil is above 44°F (7°C) for 60 seconds or is above 54°F (12°C) for 30 seconds, the defrost cycle will terminate. If these temperatures cannot be reached, the defrost cycle will automatically terminate in 10 minutes.

Timed Defrost Option (SW1-4 ON): When the outdoor ambient temperature sensor (Ta) detects temperature less than 32°F (0°C), In heating mode, if the compressor runs continuously for 60 minutes or cumulatively for 240 minutes the system will defrost. Defrosting frequency is 68 HZ, with a defrosting time of 60 minutes.

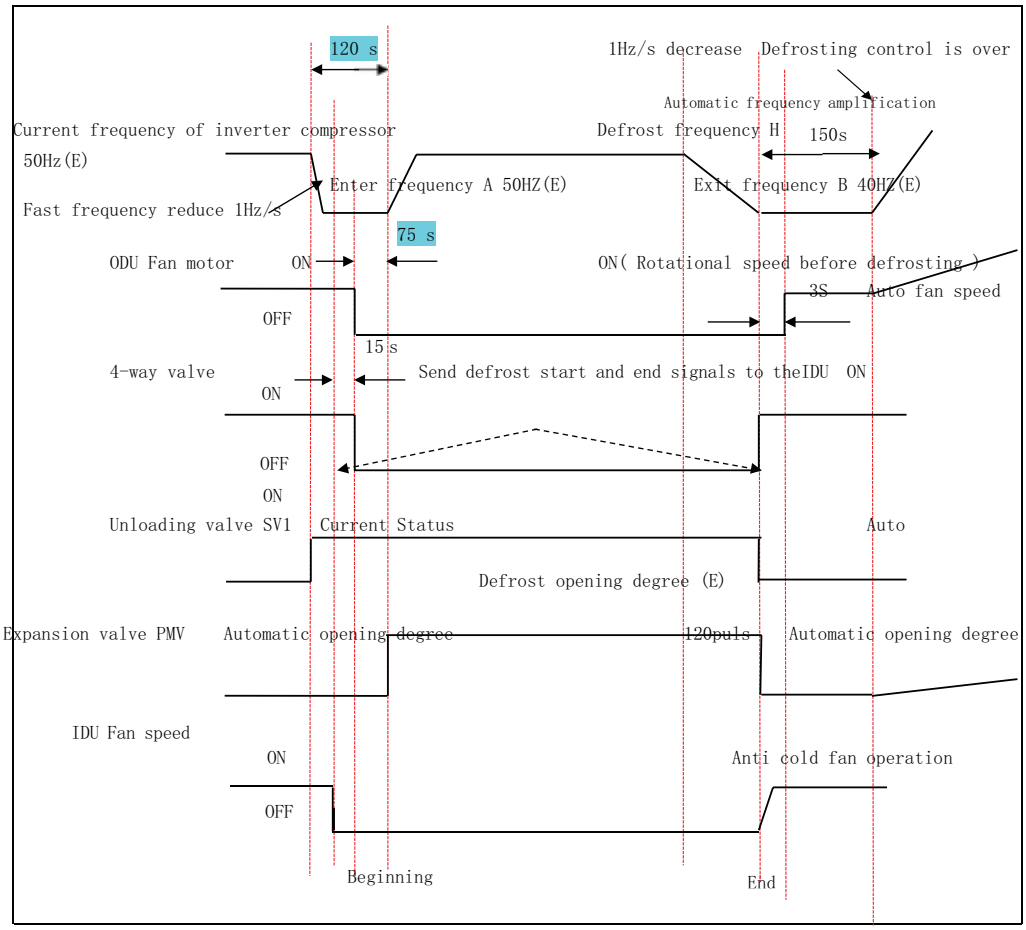
Strong Defrost Control

Remote controller: When ODU is in heating mode or shutdown state, set fan to high speed and temperature to 30°C. Press the sleep button six times within 5 seconds. After the buzzer sounds three times, the unit will enter manual defrost mode.

Wired controller: Heating mode, set fan to high speed and temperature to 30°C, and press ↑ button 6 times.

ODU dip switch: Service monitor board SW1-1~SW1-4 from off-off-off-off to off-off-off-on.

End defrosting: If the defrost sensor (Te) detects the temperature of the outdoor coil is above 44°F (7°C) for 60 seconds or is above 54°F (12°C) for 30 seconds, the defrost cycle will terminate. If these temperatures cannot be reached, the defrost cycle will automatically terminate in 10 minutes.



Dry Mode (Dehumidifying Mode)

When Tai>Tset+2°C, the indoor unit mode is the same as that of the cooling operation, and the fan speed is also controlled according to the cooling mode in auto mode. The working mode sent to the outdoor unit is cooling mode.

When Tset<Tai≤Tset+2°C, the operating mode sent by the indoor unit to the outdoor unit is dehumidification.

The indoor unit sends dehumidification mode to the outdoor unit, under the following conditions:

- Condition A: Indoor unit operates for 10 minutes with the indoor fan at low speed.
- Condition B: Indoor unit stops for 6 minutes with fixed S-Code=0 and the indoor fan stops.

Conditions A and B alternate during operation.

When Tai ≤ Tset, the operation mode sent to the outdoor unit is shutdown. If the ambient temperature is less than 16°C, the indoor unit fan will be stopped, otherwise it will continue to blow low fan speed.

Auto Restart

When this is enabled, the following functions will automatically resumes after a power loss: ON/OFF State, Mode of Operation, Fan Speed, Temperature Set Point, Louver Swing settings. If there was a timer set or the system was in Sleep mode, they will be canceled upon restart.

Wired Controller:

Auto Restart is enabled by Default.

Wireless Controller:

Enable: Press the Sleep button 10 times within 7 seconds. You will hear 4 beeps as confirmation.

Disable: Press the Sleep button 10 times within 7 seconds. You will hear 2 beeps as confirmation.

Note: When both a wired controller and a wireless controller are present, only the wired controller's auto restart takes effect. The wireless controller can be configured, but its settings will be overwritten to match the state of the wired controller.

Compressor and Outdoor Fan

Compressor

The compressor will start in low frequency. After a brief time delay, the compressor will come up to operating speed to meet the demand requirement for capacity.

Outdoor Fan:

When adjusting the fan speed, the unit should remain at each speed for 30+ seconds to avoid speed-change malfunctions. In Cooling Mode, the wait time between speed levels should be 15 seconds.

Cooling or Dehumidifying Mode: Five seconds after compressor starts, the outdoor fan will start running at medium speed. After 30 seconds, it begins to control the fan speed according to the temperature conditions of the outdoor environment.

ODU Fan and Compressor Speed Logic

(Tao: Outdoor Air Temperature, Tc: Outdoor Coil Temperature, Te: Outdoor Coil Out temperature)

1. Compressor target speed in defrosting: 24K-60rps, 30K-80rps, 36K-60rps

2. Oil Return frequency: 50rps

3.1. Cooling fan control: each speed change interval of at least 45s

Priority control conditions:
- Tao≥40°C, ODU fan speed 7
- Tao≥32°C, ODU fan speed 6

Control of speed increase:
- Tc>35°C, ODU fan speed from the stop to 1
- Tc>36°C, ODU fan speed step by step from 1 to 5
- Tc>45°C, ODU fan speed from 5 to 6

3.2 Heating fan control: each speed change interval of at least 45s

Priority control conditions:
- Tao<5°C, ODU fan speed 6

Control of speed decrease:
- Te>12°C, ODU fan speed 5
- Te>10°C, ODU fan speed step by step from 5 to 1

Control of speed increase:
- Tc<4°C, ODU fan speed step by step from 1 to 5
- Tc<2°C, ODU fan speed from 5 to 6

Speed level	1G24ED2BEA	1G3036ED2BEA
1	250	250
2	350	300
3	400	400
4	490	500
5	600	550
6	680	650
7	720	700

Fan Logic after Reaching Target Temperature

SW1_7 defaults to OFF: In cooling mode, both compressor and fan are stopped when the target temperature is reached.

SW1_7 set to ON: In cooling mode, the compressor stops but the fan continues to run when the target temperature is reached. In heating mode, both compressor and fan are stopped when the target temperature is reached. In fan mode, the fresh air remains on regardless of compressor status.

Fan Logic for Residual Heat Discharge

When heating is shut down, or energy demand S-code=0, or outdoor compressor is OFF: The indoor fan operates at low speed until coil temperature <20°C (if outdoor temperature ≤10°C) or coil temperature <18°C (if outdoor temperature >10°C), then the indoor fan stops.

From receiving the shutdown signal to final shutdown, the maximum operating time shall not exceed 50 seconds.

Note: S-code (no energy demand, for example, when the unit reaches the temperature)

Maximum Compressor Frequency (Hz)

Mode	US24LB2BEA	US24MB2BEA	US30LB2BEA	US30MB2BEA
Cooling	70	70	75	75
Heating	110	110	110	110
Defrosting	60	60	80	80

Mode	US36LB2BEA	US36MB2BEA
Cooling	70	70
Heating	110	110
Defrosting	60	60

Mode	GS24WP2BEA	QS30WP2BEA	QS36WP2BEA
Cooling	66	75	75
Heating	101	90	93
Defrosting	60	80	80

Outdoor Unit Electronic Expansion Valve (EEV)

When unit starts, the EEV valves will energize and change to a standard opening. When operation starts, the EEV will change position to keep the suction vapor superheat level at around 10°F. The EEV routinely opens and closes to maintain the compressor discharge temperature within an acceptable range.

When the unit is shut off the opening size of the expansion valve of the indoor unit is 5 steps.

Electronic characteristics

Max. open angle	470 pulses

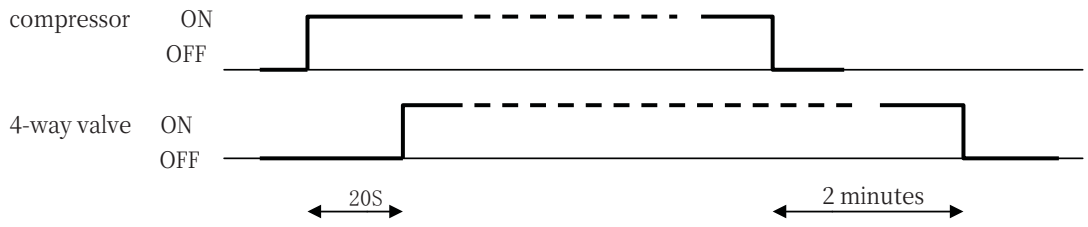
Open angle limitation of EEV

	Unit stop	Max. open angle	Thermostat OFF	Min. open angle
Cool/ dry	5 pulses	470 pulses	200 pulses	80 pulses
Heat	50 pulses	470 pulses	200 pulses	76 pulses

Four-Way Valve Control

Under heating mode, the four-way valve opens. If the compressor does not start or changes to a non-heating mode, the compressor will be stopped for 2 minutes, and then the four-way valve will shift.

When the compressor starts in the heating mode, there is a 20s delay before power is applied to the 4-way valve to switch the flow of hot refrigerant to the indoor coil. When the call for heat is satisfied and the compressor shuts off, a 2-minute delay will occur before the 4-way valve is powered down and switches back to the at-rest (cooling) position.



If the 4-way valve does not switch into the heating mode, after 10 minutes of compressor run time and the indoor coil temperature is below 81°F/27°C, the compressor will stop and the unit will display a 17-flash error code on the outdoor PCB.

Base Pan Heater

Power supply:196~254VAC

Logic During Normal Operation

(Tao: Outdoor Air Temperature)

Tao≤-11°C for 5 minutes:

1. -16°C≤Tao≤-11°C, the base pan heater on for 10 minutes, off for 20 minutes, cycle on.
2. -20°C≤Tao<-16°C, the base pan heater on for 20 minutes, off for 10 minutes, cycle on.
3. Tao<-20°C, permanently on.

Note: 1, 2 must execute a loop before proceeding to the next judgment. When 1 or 2 switches to 3, executes immediately.

Turns off when any of the following conditions are met:

1. The compressor stops running.
2. No heating mode.
3. Tao≥-9°C for 5 minutes.

Model	Pan Heater	Resistance Value
1G24ED2BEA	0150831548C	1.220V/180W,(power range 162~198W) 2. Cold voltage: 1500V/min, hot voltage: 1200V/min 3. The cold insulation resistance is 500MΩ, and the hot insulation resistance is 50MΩ 4. Resistance Value: 268.8Ω
1G3036ED2BEA	0151045703	1.220V/180W,(power range 162~198W) 2. Cold voltage: 1500V/min, hot voltage: 1200V/min 3. The cold insulation resistance>500MΩ The hot insulation resistance>50MΩ 4. Resistance Value: 268.8Ω

In defrosting mode, the following conditions will apply:

Condition	Pan Heater
Tao≤0°C	On

After defrosting mode, the following conditions will apply:

Condition	Pan Heater
10 minutes after defrosting	OFF

Note:
AHRI STANDARD, as soon as the unit enters defrosting mode, the base pan heater starts;
AHRI STANDARD, Tao<-2°C, the base pan heater starts and stops the operation alternately at a 10-minute cycle.

Compressor Heater Band

Operating Logic

(Tao: Outdoor Air Temperature Td: Discharging Temperature)

Power supply:196~254VAC

	Heater OFF	Heater ON
Tao>50°F(10°C) or Td≥68°F(20°C)	100%*60min	0
41°F(5°C)<Tao≤50°F(10°C) and Td<68°F(20°C)	50%*60min	50%*60min
32°F(0°C)<Tao≤41°F(5°C) and Td<68°F(20°C)	33%*60min	66%*60min
Tao≤32°F(0°C)and Td<68°F(20°C)	0	100%*60min

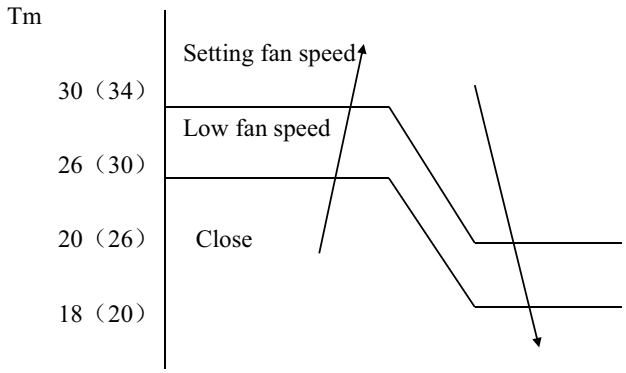
Model No.	Resistance Value
1G24ED2BEA	Rated voltage AC220V, Power 27W±7%, Resistance: 1793Ω±7%
1G3036ED2BEA	

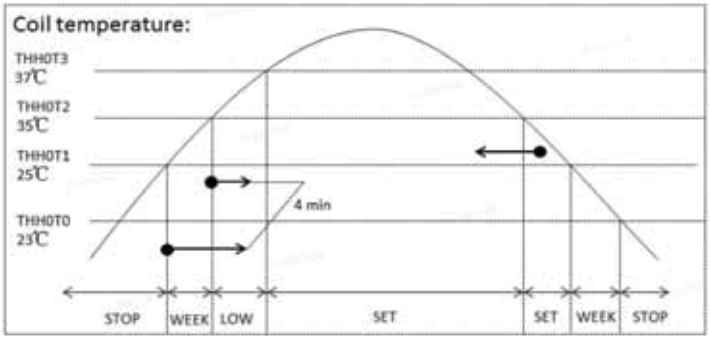
Capacity Loss Per Piping Length

Unit BTU	Unit Tons	Vapor Line Size	Pressure Drop PSI/100 ft.	Equivalent Length/Cooling Capacity Loss(%)					
				25 ft.	50 ft.	80 ft.	100 ft.	125 ft.	150 ft.
24000	2	5/8	7.2	1.8	3.6	5.8	7.2	9	10.8
		3/4	2.5	0.6	1.3	2	2.5	3.1	3.8
36000	3	3/4	5.1	1.3	2.6	4.1	5.1	6.4	7.7
		7/8	2.8	0.7	1.4	2.2	2.8	3.5	4.2

Cold Air Prevention

In heating , the operating state of the indoor fan is controlled according to the indoor coil temperature (Tm) after the compressor is started. For specific operations, refer to the following figure.(The temperature control point in parentheses is when Tao is greater than 10°C)





Cold Air Prevention Logic after Defrosting

- When Tao ≤10°C, the fan starts low-speed operation once the pipe temperature rises from a lower temperature to 26°C. The fan operates at the set speed when the pipe temperature continues to rise to 30°C.
- When Tao>10°C, the fan starts low-speed operation once the pipe temperature rises from a lower temperature to 30°C. The fan operates at the set speed when the pipe temperature continues to rise to 34°C.

ECO Function

Entry condition

In the startup state, the IDU receive the remote controller, wired controller, and ECO button signal to realize the ECO function (or via app). Temperature compensation is only compensated once upon entry, and the newly set temperature is no longer compensated during ECO operation.

Function

ECO functions are effective for both cooling and heating modes.

1. In cooling mode, the user press the ECO button (or via APP) to enter the ECO function, and set the temperature 2 ° F (or 1°C) higher than the current set temperature (The default is °F adjustment), which can be adjusted in the APP; The adjusted set temperature shall not exceed the temperature range in 3 (below).
2. In heating mode, the user presses the ECO button (or via APP) to enter the ECO function, and set the temperature 2 ° F (or 1°C) lower than the current set temperature (The default is °F adjustment), which can be adjusted in the APP; The adjusted set temperature shall not exceed the temperature range in 3 (below).
3. After entering ECO mode, the set temperature range of cooling and heating is 60 ° F to 86 ° F, and the operating range of the set temperature can be reduced through the APP (example: Set temperature range from 60 ° F-86 ° F to 70 ° F-80 ° F). Note: The maximum set temperature≥the minimum set temperature, and the displayed set temperature changes together
4. In cooling mode, during ECO mode, when the set temperature reaches, via APP the user can stop the IDU fan (the ducted will reach the temperature and stop the air by default, and other IDUs won't.
5. The different Settings of ECO functions should be stored in the IDU. The settings remain the same the next time the unit enter eco mode.

Exit condition

In ECO mode, the IDU can exit the ECO mode only by pressing the ECO button or exiting from the APP.

Note: There is a difference between temperatures in °F and °C. °F values remain normal. °C values are switched based on the conversion.

Forced Heating/Cooling

Outdoor unit dip switch setting(SW1), cooling 60HZ, heating 50HZ fixed frequency operation.

Sw1	1	2	3	4	Description
Force Mode	ON	ON	OFF	OFF	Forced cooling (For AHU and PRO)
	ON	ON	OFF	ON	Forced cooling (For PRO)
	ON	ON	ON	OFF	Forced heating(For PRO)

Temperature Compensation

Setting Temperature Compensation with Remote Control

The factory default setting is 0°C for heating mode.

1. Apply power to the unit.
2. Set to Heating Mode to set heating temperature compensation, or Cooling mode to set cooling temperature compensation.
3. Set the temperature at 24C.
4. Press the SLEEP button 7 times within 5 seconds.
5. The unit will beep 2 times to confirm.
6. Change the setting to the desired value as follows:
    - If set to 24 (starting point), compensation is zero (0).
    - If set to 25, compensation is - 1°C, the indoor ambient temperature is set to the current actual temperature minus 1°C.
    - If set to 26, compensation is - 2°C, the indoor ambient temperature is set to the current actual temperature minus 2°C, and so on.
    - If set to 23 compensation is +1°C, the indoor ambient temperature is set to the current actual temperature plus 1°C.
    - If set to 22, compensation is +2°C, the indoor ambient temperature is set to the current actual temperature plus 2°C, and so on.
    - Temperature Compensation can be adjusted from -8°C to +6°C
    - To disable temperature compensation (compensation = zero), set to 24
7. Once the desired value has been selected, turn OFF the unit via the remote controller to save the compensation settings.

Example: If the unit is sensing 23°C ambient temperature and the compensation has been set to 26 (-2°C), then the logic will use 23-2 = 21°C as room temperature and will show 21°C in the display.

Setting Temperature Compensation with Wired Controller

1. SW1-3 set to OFF (default is OFF).
2. With the display OFF, press & hold the FAN button for 5 seconds to enter temperature compensation interface.
3. The display will show 00 (default) or the current compensation value, in the top right corner of the display.
4. Use TEMP+/ TEMP- buttons to adjust the compensation.
5. Press MODE to confirm.

Notes for the wired controller:

- *When it is Celsius, the range of compensation value is -4°C~ 4°C(0.5 increments). When it is Fahrenheit, the range is -8°F ~ 8°F (1.0 increments).*
- *Temperature compensation changes the ambient temperature reading. I.e.: If the system is sensing the ambient temperature at 72°F and the compensation is set to -2°F then the system will use 70°F in its operation for heating and cooling modes.*
- *This setting will only be valid if SW1-3 is set to OFF.*

Protection Controls

Low Load Protection Control

In order to prevent frosting of the indoor coil, the outdoor system will be stopped if the indoor coil temperature is 32°F for 5 minutes, but the fan will continue to operate. The outdoor system will restart when the indoor coil is above 50°F, and the system has been stopped for 3 minutes. The malfunction will be stored in the malfunction memory and will not be displayed.

High Load Protection Control

The system will be stopped if the indoor coil temperature is above 149°F for 2 minutes. The indoor fan will be controlled by the thermostat. The outdoor system can be restarted when the indoor coil temperature is below 108°F and the system has been stopped for 3 minutes. The malfunction will be stored in the malfunction memory and will not be displayed.

Antifreezing Protection (Highwall Only)

Prevents freeze-up of the indoor coil. The indoor unit coil temperature sensor will shut off the outdoor unit and begin a defrosting routine if the indoor coil is below 32°F for more than 2 minutes. The indoor unit will not report this operation. Once the indoor coil warms up, the system will re-enter cooling mode and operate normally, This protection cycle prevents the indoor coil from developing ice coating during low heat load operation.

Abnormality Confirmation Protocol

Indoor Temperature Sensor Abnormality: The normal temperature ranges from 120°F to -30°F. When the temperature goes beyond this range, the abnormality can be confirmed. If the temperature goes back into the range, the system will automatically resume.

Indoor Heat Interaction Sensor Abnormality: The normal temperature ranges from 120°F to -30°F. When the temperature goes beyond this range, the abnormality can be confirmed. If the temperature goes back into the range, the system will automatically resume.

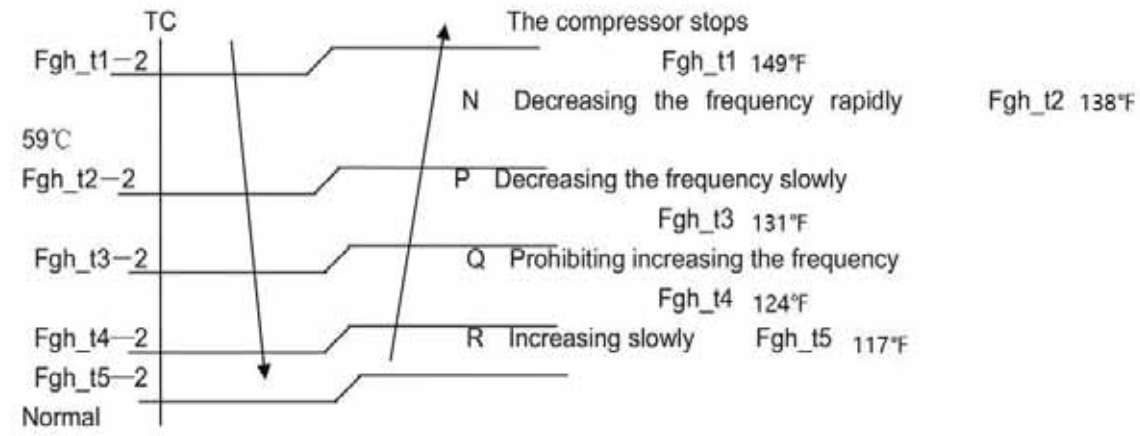
Indoor/Outdoor Malfunction: When the indoor system receives the outdoor malfunction codes, it will store the code into E2 for the malfunction list resume. The indoor system will continue to operate according to the original status, the malfunction code will not be displayed.

Communication Abnormality: If the indoor system can't receive the outdoor system for 8 minutes, the communication abnormality can be confirmed and reported and the outdoor system will be stopped.

Over-Temperature Heat Mode Indoor Coil

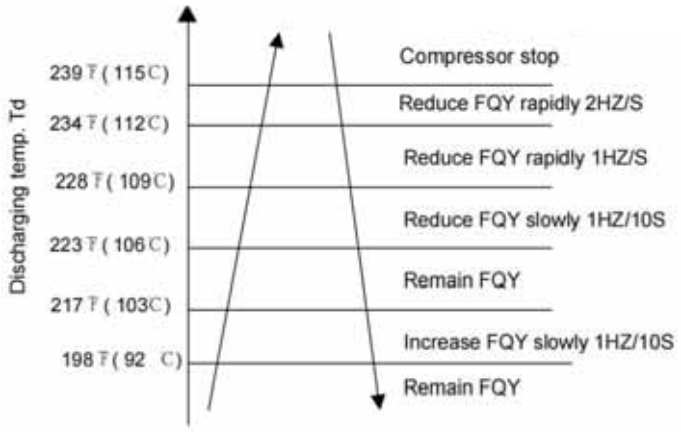
The over-temperature routine will protect the system from excessive high indoor coil temperature during heat mode operation. The routine will initiate if the indoor coil temperature sensor reads temperatures in excess of 131°F. Conditions that cause high indoor coil temperature include indoor fan failure, dirty indoor coil and operating the system in heat mode when outdoor air temperatures exceed operating limit.

Should this routine be initiated, the system will reduce compressor frequency until the indoor coil temperature reaches 117°F. Once this is achieved, the system will return to normal operation.



Compressor Discharge Protection

If the discharge temperature is higher than normal, the compressor will slow down to lower the temperature. If the discharge temperature sensor reaches 239F for 10 seconds, the compressor will shut off. After the 5-minute time delay, the compressor will restart.



Discharge temperature (Td) too high. Compressor reduce frequency according to the outdoor air temperature (Tao). If the discharge temperature still exceeds the limit value, it will report the error.

1. > 239°F (115°C) — Critical Shutdown
   - If the discharge temperature exceeds 239°F (115°C) for 10 seconds, the compressor shuts off immediately.
   - A 5-minute delay is imposed before restart is permitted.
   - Restart Condition: Compressor restarts only if Td has dropped below 221°F (105°C) after the delay.

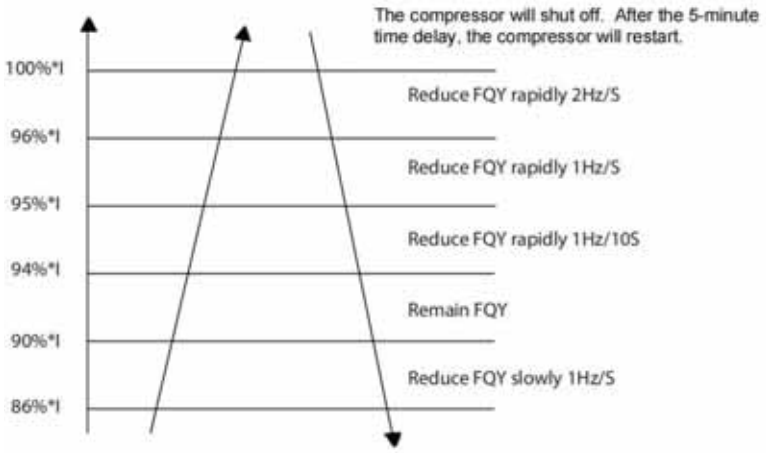
Error Code 08 will be shown when this condition is triggered.

No hard lockout is enforced as the system will continue retrying after each 5-minute timeout, assuming temperatures recover.

2. 234–239°F (112–115°C) — Aggressive Ramp-Down
   - The compressor frequency is reduced at 2 Hz per second until temperature drops into a safer range.
3. 228–234°F (109–112°C) — Standard Ramp-Down
   - The system lowers compressor frequency at a moderate 1 Hz per second.
4. 223–228°F (106–109°C) — Gentle Ramp-Down
   - The system decreases frequency at 1 Hz every 10 seconds, allowing gradual cooling without drastically impacting capacity.
5. 217–223°F (103–106°C) — Stable Zone
   - The compressor holds its current operating frequency without adjustment.
   - This zone is considered safe but closely monitored.
6. 198–217°F (92–103°C) — Recovery Zone
   - As discharge temperature drops below 217°F, the system begins to gradually increase compressor frequency at 1 Hz every 10 seconds, allowing return to full performance.
7. < 198°F (92°C) — Normal Operation
   - No protective adjustments are made.
   - Compressor operates freely per demand and load conditions.

Compressor/High Current Protection

When the current of compressor exceed the the value of limit value, the compressor stop, and report the error.



1. At 100% Current
   - If the current reaches 100% of its rated value, the compressor shuts off to prevent damage.
   - The system waits for 5 minutes before restarting the compressor.
2. Between 96% and 100% of I
   - The compressor frequency is rapidly reduced at 2Hz per second.
3. Between 95% and 96% of I
   - The frequency is reduced more slowly at 1Hz per second.
4. Between 94% and 95% of I
   - The frequency is reduced gradually at 1Hz every 10 seconds.
5. Between 90% and 94% of I
   - The compressor operates at its current frequency without adjustments.
6. Below 90% of I
   - The compressor frequency increases slowly at 1Hz per second, restoring normal operation.

Note: I is rated current.

Model	Compressor Over Current Protection	Compressor Discharge protection	Module Thermal Overload	Low Voltage
1G24ED2BEA	20A	1.Discharing temperature≥103°C (217.4°F), compressor limit frequency	Module temperature≥80(176°F), compressor limit frequency	Voltage no exceed 208/230V (rated voltage)±20%
1G3036ED2BEA	23A	2.Discharing temperature≥115°C (239°F), stop the unit	2.Module temperature≥95°C (203°F), stop the unit	

Low Pressure Protection

With the compressor running, if the low pressure switch opens for 1 minute, the compressor will stop.

If this condition occurs 3 times in an hour, the compressor will lock out and a low pressure error code will be displayed at the indoor unit.

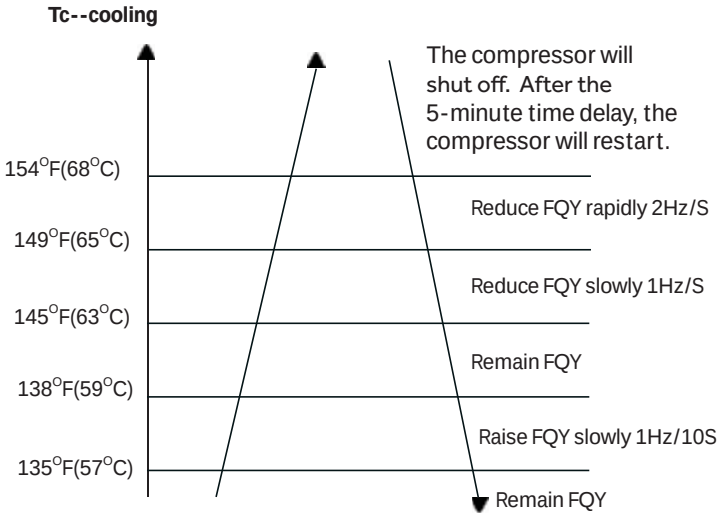
If the compressor is not running and the switch opens for 30 seconds, a low pressure error code will be displayed.

The low pressure switch does not stop compressor operation or signal an error code during the the first 8 minutes of run time when the compressor starts a new cycle.

During defrost, within 6 miutes afer the defrost and duting oil return, shield low pressure switch

High Pressure Protection

High Pressure Protection in Cooling



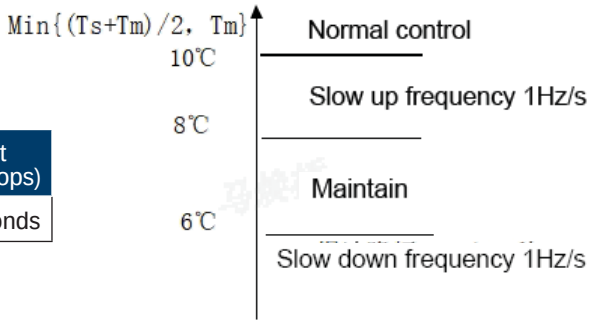
Indoor Antifreeze Protection

When Min{(Ts+Tm)/2, Tm} ≤6 ° C, the compressor frequency decreases at a rate of 1Hz/10s.

When TM starts to rise and 6 ° C ≤ Min{(Ts+Tm)/2, Tm}≤8 ° C, the compressor frequency remains unchanged.

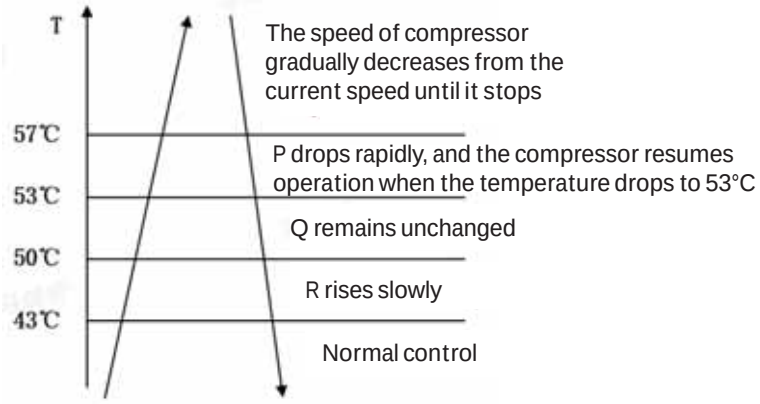
When 8 ° C < Min{(Ts+Tm)/2, Tm}≤10 ° C, the compressor speed rises at 1Hz/10s.

Compressor Speed	Normal Control	Increase 1Hz/10sec	Decrease 1Hz/sec	Freezing Point (Compressor Stops)
Min{(Ts+Tm)/2,Tm}	6-8° C	8-10° C	2-6° C	<2° C for 10 seconds



Indoor Coil Thermal Overload Protection in Heating Mode

Indoor heat exchanger sensor tests the temperature of the indoor heat exchanger. If the temperature is higher than 53°C, the compressor speed is reduced. If the temperature of the indoor heat exchanger is lower than 43°C, normal control is restored.



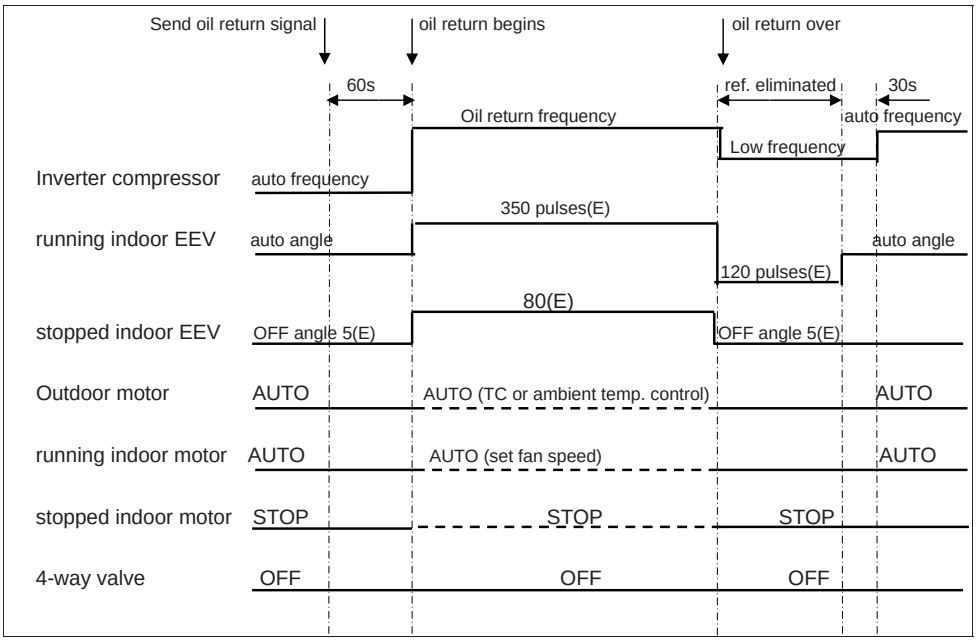
Oil Return Cycle

When the compressor is operating at low load conditions, or the operating frequency has been below 70Hz continuously for 4 hours, the system will enter the oil return cycle. This ensures that oil which may be trapped within the system at low loads will return to the compressor crankcase.

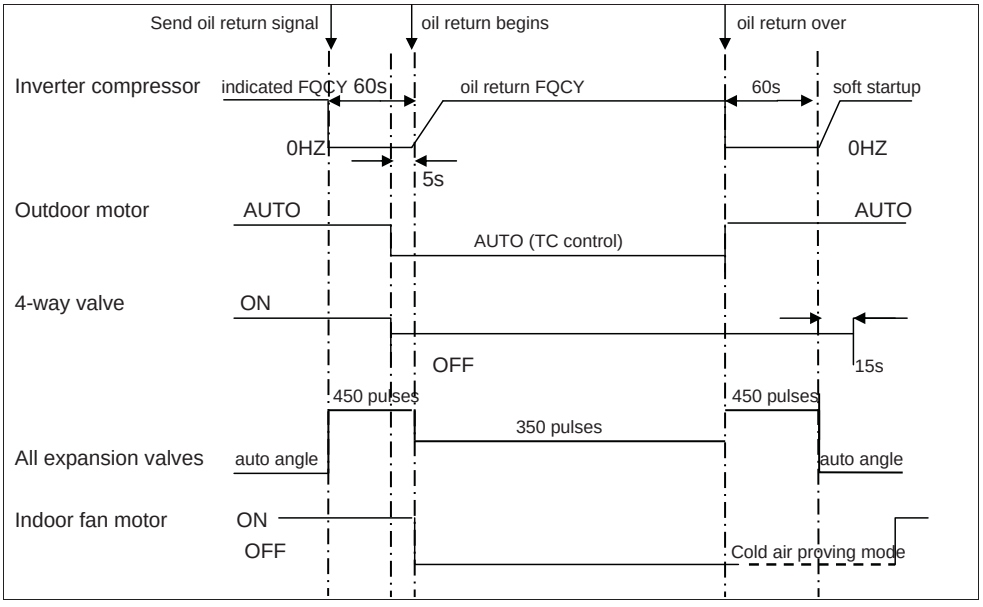
If a 4-hour low speed run time has occurred, the oil return procedure initiates by automatically ramping up the compressor speed to at least 85Hz for a pre-set time, up to a 9-minute maximum. The higher speed will wick hiding oil into the now faster-moving refrigerant and deposit it in the compressor crankcase. To avoid occupant discomfort when the oil return cycle is active, the indoor fan shuts off.

Should an error code result in a system shutdown, the oil return cycle timing will resume when the error code has been cleared.

Oil Return in Cooling Mode



Oil Return in Heating Mode



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1G24ED2BEA
1G3036ED2BEA

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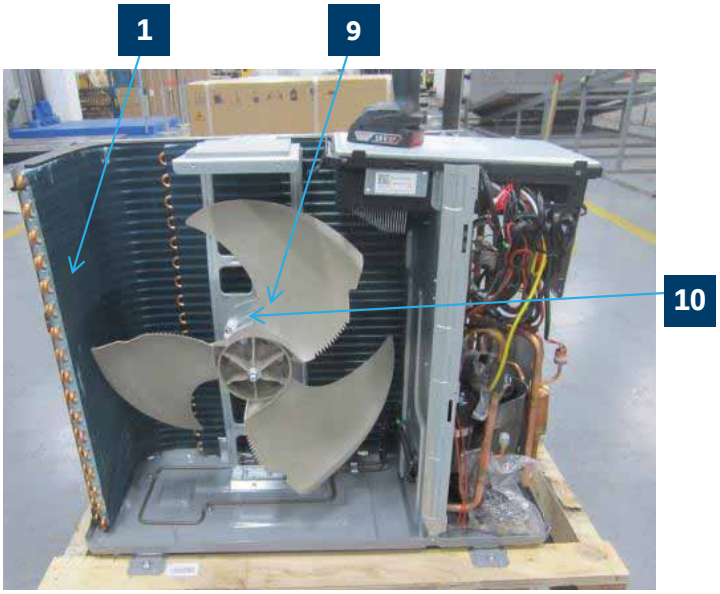
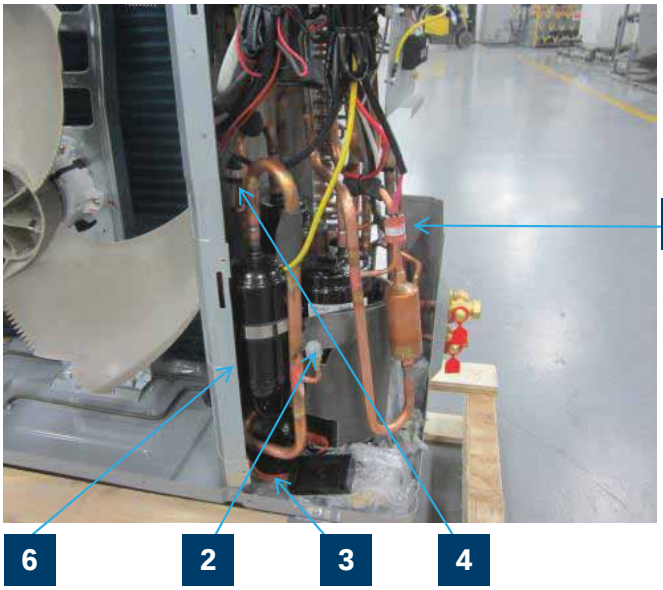
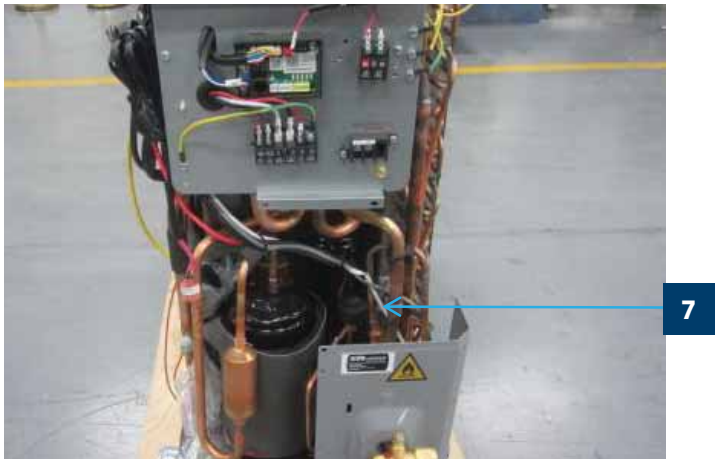
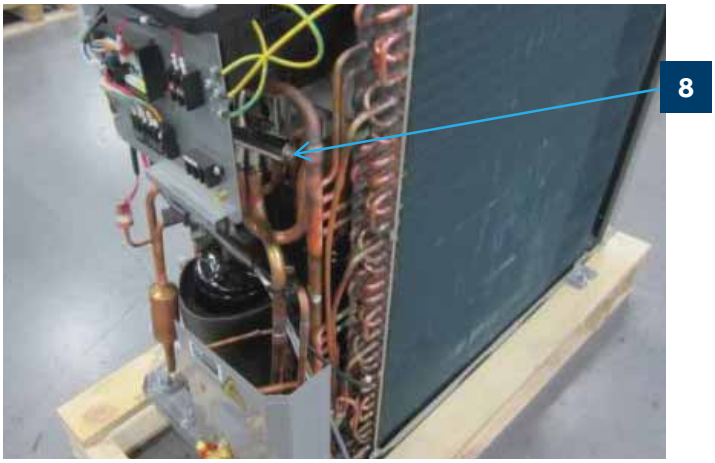
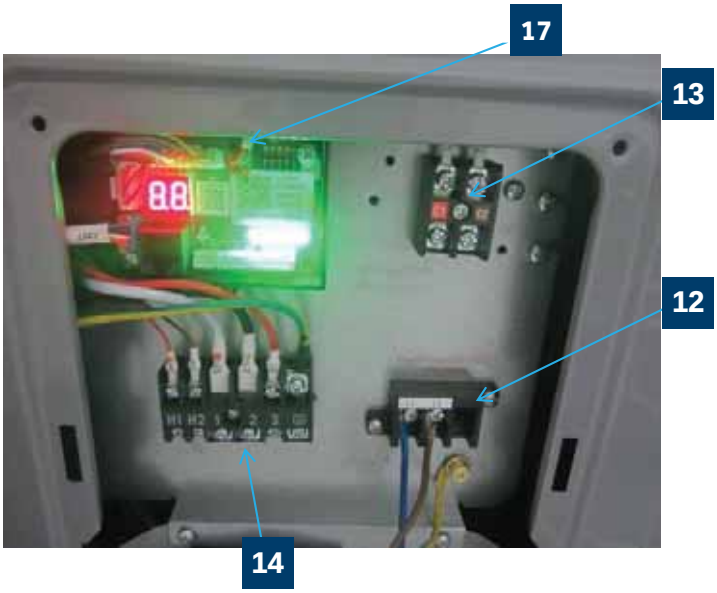
1G24ED2BEA



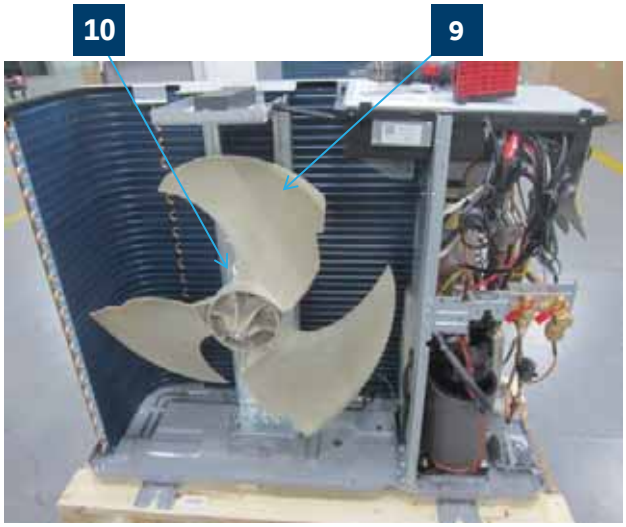


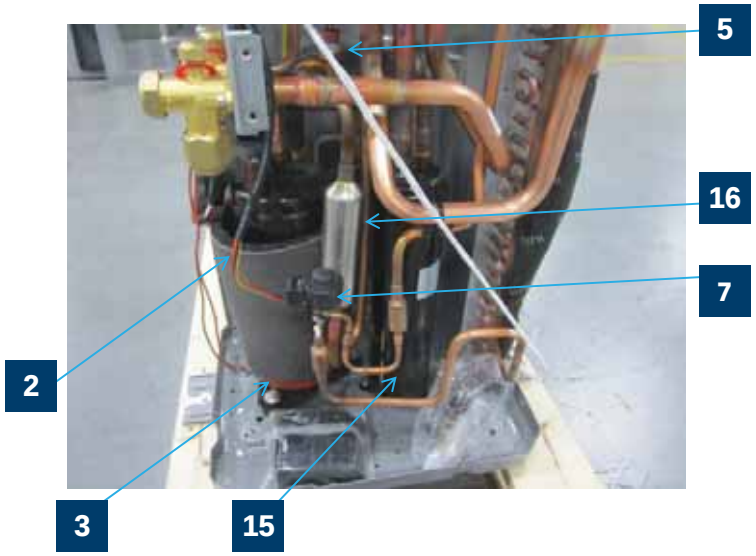


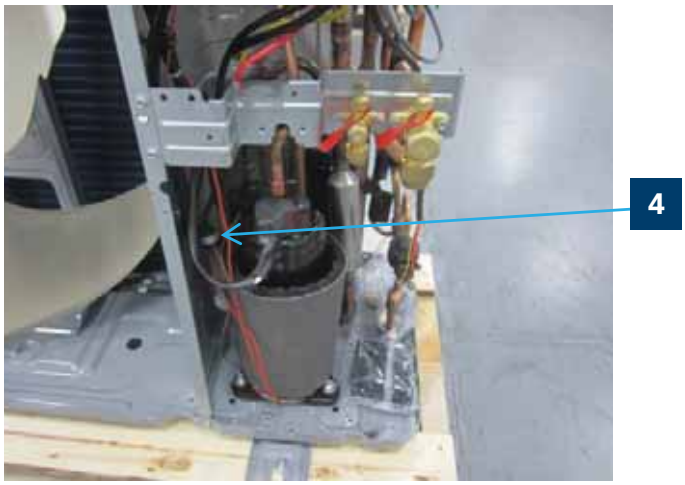




1G3036ED2BEA







1 Heat Exchanger And Pipe

2 Compressor

3 Heating Belt

The compressor heating belt is specifically designed to prevent freezing, icing, and potential malfunctions by maintaining a consistent operational temperature. It effectively safeguards the compressor from cold-induced performance degradation or shutdowns in low-temperature environments, ensuring continuous and reliable operation while extending the equipment's service life.

4 Low Pressure Switch

The low-pressure switch monitors the refrigerant system pressure. It automatically shuts down the compressor when pressure drops below the safe threshold, preventing damage from insufficient refrigerant, pipeline blockages, or leaks. This safeguard ensures system efficiency, avoids mechanical failures, and prolongs equipment lifespan by halting operation under abnormal low-pressure conditions. Trip Pressure: 0.03MPa.

5 High Pressure Switch

The high-pressure switch monitors refrigerant system pressure. It trips to shut down the compressor when pressure exceeds a safe level, preventing damage from overcharging, condenser fouling, or blocked vents, and ensuring system safety and reliability. Trip Pressure: 4.3MPa.

6 Gas-Liquid Segregator

The component separates liquid refrigerant from vapor before it enters the compressor. This prevents liquid slugging, which can damage the compressor by causing hydraulic lock or mechanical stress. By ensuring only vapor enters the compression chamber, it optimizes compression efficiency, reduces wear on moving parts, and minimizes the risk of refrigerant floodback. This improves overall system reliability, extends equipment lifespan, and maintains consistent cooling performance by preventing operational disruptions caused by liquid ingress.

7 Electronic Expansion Valve

It maintains optimal pressure and temperature balance between the condenser and evaporator, ensuring efficient heat transfer. By controlling the refrigerant supply according to load variations, it prevents overfeeding or underfeeding, which could lead to compressor damage or reduced cooling capacity. This precise modulation enhances system efficiency, stabilizes superheat levels, and adapts to changing operational conditions, ensuring consistent performance while minimizing energy consumption.

8 4-Way Valve

The component reverses the refrigerant flow direction to switch between cooling and heating modes. It redirects high-pressure refrigerant from the compressor to either the condenser (for cooling) or the evaporator (for heating), altering the heat exchange process. This allows the system to adapt to seasonal temperature needs, ensuring the indoor unit can provide cool air in summer and warm air in winter. By maintaining proper refrigerant circulation in each mode, it prevents operational inefficiencies and ensures the system delivers consistent thermal comfort while optimizing energy usage for both heating and cooling cycles.

9 Fan

10 Fan Motor

11 PCB (See page B5)

12 Terminal Block for Power Supply

13 Terminal Block for Controller

14 Terminal Block for Indoor Unit

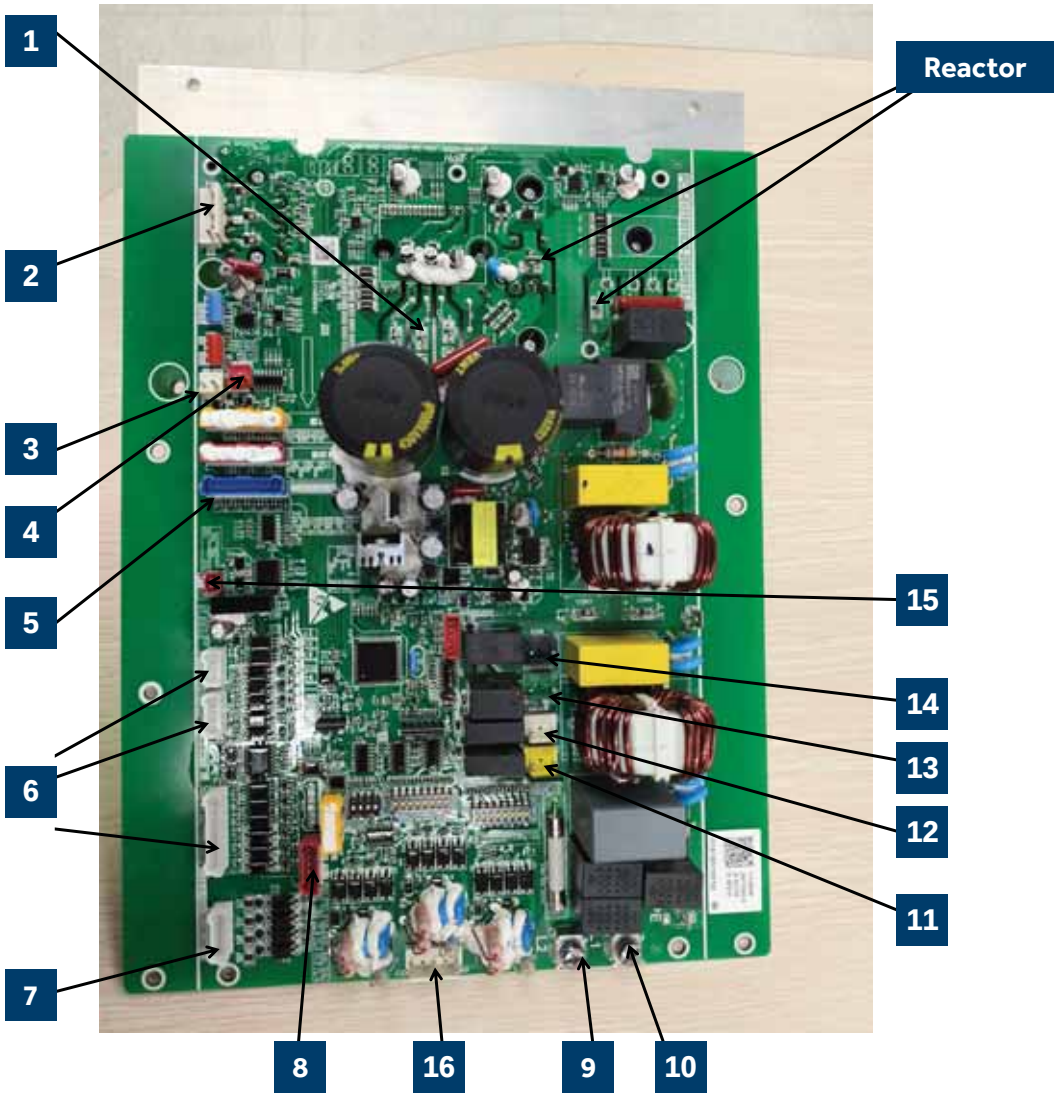
15 Accumulator

The component collects and stores excess liquid refrigerant, preventing it from flooding the compressor during low-load operations or shutdowns. It ensures only vapor enters the compressor by separating liquid refrigerant, avoiding hydraulic damage from liquid slugging. By maintaining a stable refrigerant inventory, it supports consistent system performance, especially during start-up or when load conditions fluctuate. This helps regulate refrigerant flow to the evaporator, prevents refrigerant shortages or overcharges, and enhances overall system efficiency by minimizing energy waste and extending compressor lifespan through reliable vapor-only compression.

16 Silencer

17 Service Monitor Board (See page B6)

PCB Overview



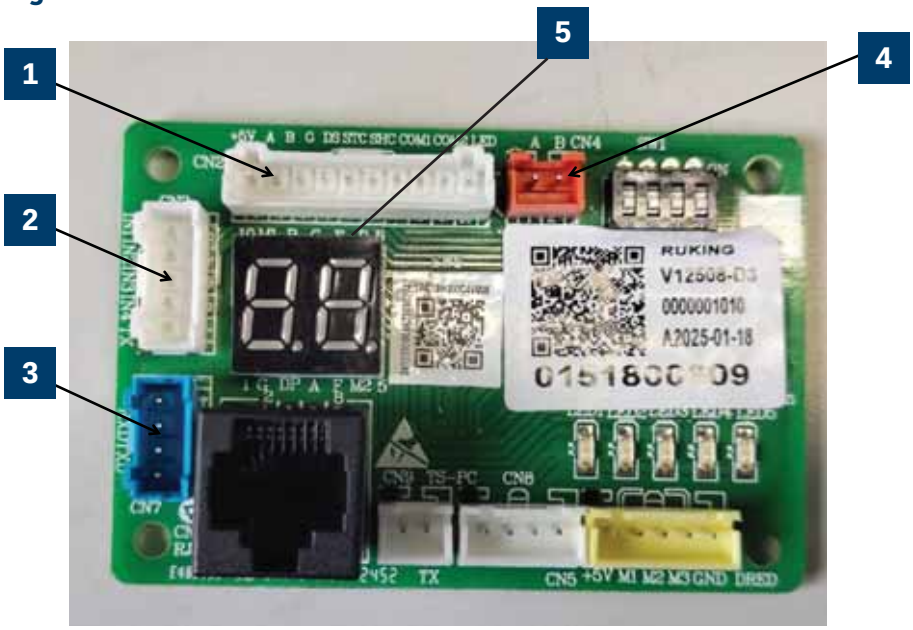
1 U1, V1, W1: Compressor	9 CN3: Power supply L2
2 CN29: Fan Motor	10 CN4: Power supply L1
3 CN25: Low Pressure Switch	11 CN6: Defrosting Signal
4 CN24: High Pressure Switch	12 CN7: Four Way Valve
5 CN21: Temperature Sensor	13 CN9: Crankcase Heater
6 CN13, CN14, CN15: Display board	14 CN8: Base Pan Heater
7 CN26: 24V Thermostat	15 OTA
8 CN1: Electronic Expansion Valve	16 Indoor & Outdoor Units Communication

1 Mains Input Terminal Block

2 IDU Connection Terminal Block

3 Centralized Controller Terminal Block

Light Board: 0151800609



1 CN2: Communication Terminal Block

2 CN3: Communication Terminal Block

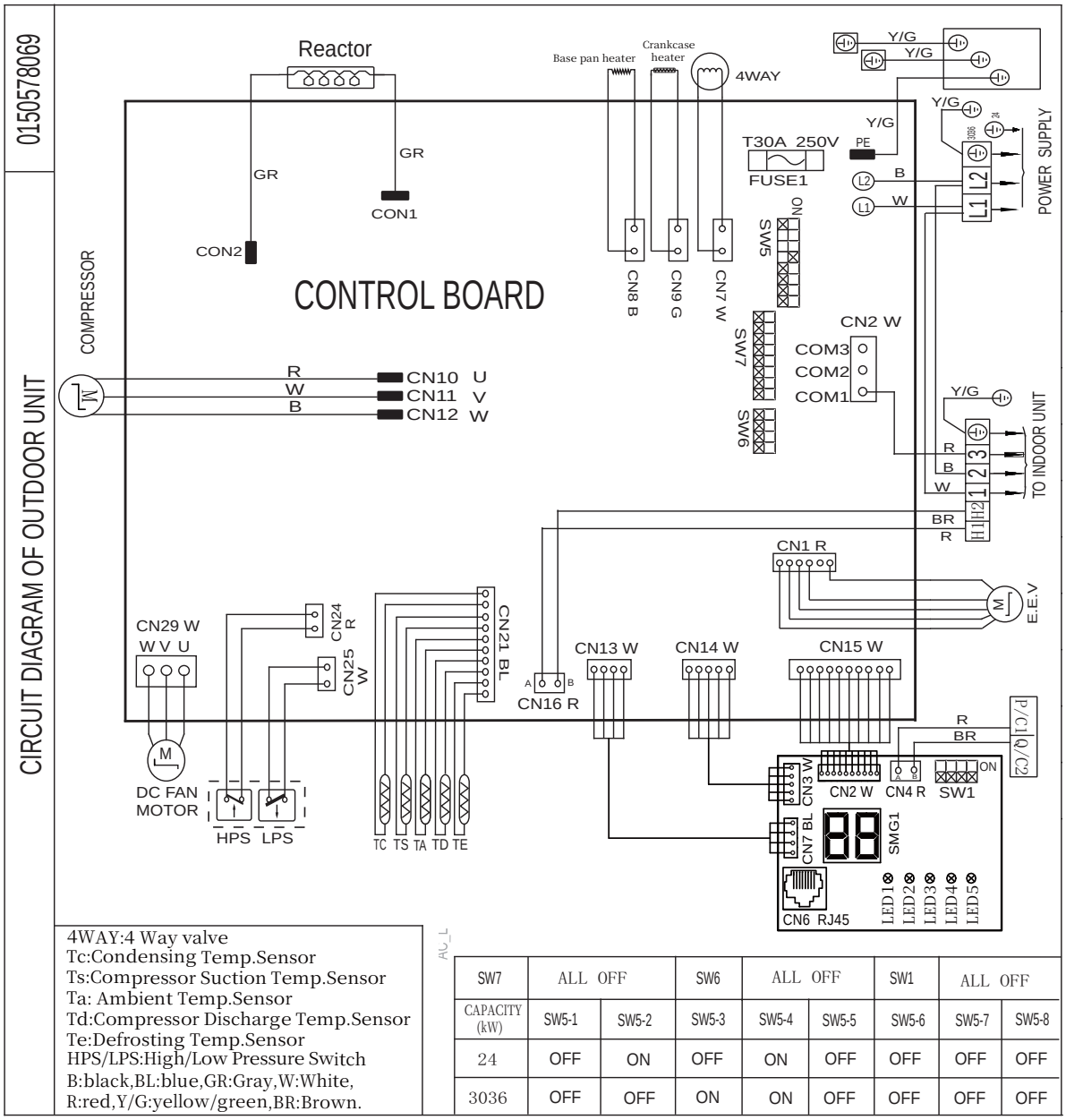
3 CN7: RJ45 Communication Terminal Block

4 CN4: Centralized Controller Communication Terminal Block

5 Service Monitor Board Display

No.	Name	Name meaning
1	Co	Cooling
2	He	Heating
3	Fa	Fan
4	rr	Refrigerant recovery
5	oF	Turn off
6	dE	Dfrost
7	oI	Oil return

When the unit is operating normally, the letters in the above table will be displayed first, followed by the compressor frequency. In case of a fault, it displays the fault code. For example: When in cooling mode, it first shows "Co" and then the compressor frequency.



4WAY:4 Way valve
Tc:Condensing Temp.Sensor
Ts:Compressor Suction Temp.Sensor
Ta: Ambient Temp.Sensor
Td:Compressor Discharge Temp.Sensor
Te:Defrosting Temp.Sensor
HPS/LPS:High/Low Pressure Switch
B:black,BL:blue,GR:Gray,W:White,
R:red,Y/G:yellow/green,BR:Brown.

SW7	ALL OFF		SW6	ALL OFF		SW1	ALL OFF	
CAPACITY (kW)	SW5-1	SW5-2	SW5-3	SW5-4	SW5-5	SW5-6	SW5-7	SW5-8
24	OFF	ON	OFF	ON	OFF	OFF	OFF	OFF
3036	OFF	OFF	ON	ON	OFF	OFF	OFF	OFF

Note: CH: Crankcase heater. EH: Base pan heater

DIP SWITCH SETTINGS

SW1

	Dehumidification		Heating	Defrost		
	1	2				
	SW1-1	SW1-2	SW1-3	SW1-4	Cooling	Heating
Operating Mode	0	0	0	0	Standard Cooling	Standard heating+ordinary defrosting (compatible with 24V and Strong electricity)
	0	0	0	1	Standard Cooling	Standard heating+ordinary defrosting (compatible with 24V and Strong electricity)
	0	0	1	0	Standard Cooling	Strong heating+ordinary defrosting (only effective at 24V)
	0	0	1	1	Standard Cooling	Strong heating+strong defrosting (only effective at 24V)
	1	0	0	0	Dehumidification level 1	Standard heating+ordinary defrosting (only effective at 24V)
	1	0	0	1	Dehumidification level 1	Standard heating+strong defrosting (only effective at 24V)
	1	0	1	0	Dehumidification level 1	Strong heating+ordinary defrosting (only effective at 24V)
	1	0	1	1	Dehumidification level 1	Strong heating+strong defrosting (only effective at 24V)
	0	1	0	0	Dehumidification level 2	Standard heating+ordinary defrosting (only effective at 24V)
	0	1	0	1	Dehumidification level 2	Standard heating+strong defrosting (only effective at 24V)
	0	1	1	0	Dehumidification level 2	Strong heating+ordinary defrosting (only effective at 24V)
	0	1	1	1	Dehumidification level 2	Strong heating+strong defrosting (only effective at 24V)
Force Mode	1	1	0	0	Forced cooling (Strong electricity, 24V universal)	
	1	1	0	1	Forced cooling	
	1	1	1	0	Forced heating	
	1	1	1	1	Refrigerant charging mode	

1. SW4 performs manual defrosting from off to on (only heating is effective, exit conditions refer to normal defrosting, each time the dip switch is turned from OFF to ON, it only enters once, and the next entry must meet the requirement of the dip switch being turned from OFF to ON. After manual defrosting is completed, if the dip switch is still ON, it will enter strong defrosting

2.The DIP switch of the board is valid when the switch is powered on. (To prevent the conflict between the combined DIP switch and the single DIP switch, the combined DIP switch function is delayed for 10s.

SW5, SW6, SW7

SW5-1 - SW5-8

SETTING ITEM	SETTING			DESCRIPTION
ODU HP	SW5-1	SW5-2	SW5-3	
	OFF	OFF	OFF	Reserve
	ON	OFF	OFF	ODU 2HP (18KCapacity)
	OFF	ON	OFF	ODU 3HP (24K Capacity)
	ON	ON	OFF	ODU 3.2HP (30K Capacity)
	OFF	OFF	ON	ODU 4HP (36K Capacity)
	ON	OFF	ON	ODU 4.5HP (42K Capacity)
	OFF	ON	ON	ODU 5HP (48K Capacity)
	ON	ON	ON	ODU6HP (60K Capacity)
Indoor and Outdoor Communication Mode	SW5-4			
	OFF			24V communication mode (AHU)
	ON			Strong electric communication
Reserve	SW5-5	SW5-6		
	OFF	OFF		Reserve
	OFF	ON		Reserve
	ON	OFF		Reserve
	ON	ON		Reserve
24V Signal Truth Table Selection (O or B)	SW5-7			
	OFF			Reserve
	ON			Reserve
Central Control and BMS Control	SW5-8			
	OFF			Central control
	ON			BMS control

Function dip switch selection instructions:

The change in dip switch status can only take effect after the chip is reset after power off.

The corresponding dual fan (PCB 0151801003A) for ODUs with a horsepower greater than or equal to 4.5HP, and the corresponding single fan (PCB 0151801031/A) for units below 4.5HP.

Note: Strong electric communication mode: for the test of 24V ODU and IDU communication 24V energy efficiency test IDU: 24v communication IDU, such as AHU, A-COIL

SW6-1 - SW6-7

SETTING				DESCRIPTION
SW6-1	SW6-2	SW6-3	SW6-4	
OFF	OFF	OFF	OFF	Reserve
OFF	OFF	OFF	ON	Reserve
OFF	OFF	ON	OFF	Reserve
OFF	OFF	ON	ON	Reserve
OFF	ON	OFF	OFF	Reserve
OFF	ON	OFF	ON	Reserve
OFF	ON	ON	OFF	Reserve
OFF	ON	ON	ON	Reserve
ON	OFF	OFF	OFF	Reserve
ON	OFF	OFF	ON	Reserve
ON	OFF	ON	OFF	Reserve
ON	OFF	ON	ON	Reserve
ON	ON	OFF	OFF	Reserve
ON	ON	OFF	ON	Reserve
ON	ON	ON	OFF	Reserve
ON	ON	ON	ON	Reserve

Function dip switch selection instructions:
The power-off setting for dip switch is valid.

SW7-1 - SW7-8

ADDRESS OF CENTRALIZED CONTROLLER									
SW7-1	SW7-2	SW7-3	SW7-4	SW7-5	SW7-6	SW7-7	SW7-8	Function Description	
ON	OFF	OFF	OFF	OFF	OFF	OFF		0*01	1000000*
OFF	ON	OFF	OFF	OFF	OFF	OFF		0*02	0100000*
ON	ON	OFF	OFF	OFF	OFF	OFF		0*03	1100000*
...	...	...	...	...	...	...		...	...
ON	OFF	ON	ON	ON	ON	ON		125	1011111*
OFF	ON	ON	ON	ON	ON	ON		126	0111111*
ON	ON	ON	ON	ON	ON	ON		127	1111111*

When all the DIP switches of SW7 are set to 0, even if the centralized controller is connected, the centralized controller will be in a failed state. Only when any DIP switch of SW7 is set to a non-0 value, the centralized collector can be normally enabled.

In addition, when connecting multiple outdoorl units, it is only necessary to ensure that the DIP switch settings of each outdoorl unit are different from each other.

4-Way Valve

The 4-way valve will control the direction of hot gas discharge via an internal slide assembly. The valve has a line voltage solenoid that is energized in heat mode. The solenoid will direct the internal slide to send the hot gas to the indoor coil. During cooling mode de-energized operation, the internal slide will direct compressor hot gas to the outdoor coil.

4-way valves may have a failure of the electrical solenoid that prevents the valve from shifting, or they may become stuck due to debris lodging inside the valve body. If the valve fails to direct the hot gas in the proper direction, temperature sensors within the outdoor unit will detect the problem and generate an error code.

If the valve fails to shift the hot gas to the proper coil, or it only partially shifts, perform the following:

1. Check for correct refrigerant charge, and that all other operating parameters have been met.
2. In the heating mode, the solenoid will shift after a short time delay. Check for line voltage to the solenoid coil.
3. If the valve has voltage but fails to shift the hot gas to the indoor coil, shut the system down and unplug the 4-way valve from the PCB plug.
4. Use an ohmmeter to check continuity through the solenoid coil. If the coil resistance does not match the chart in this manual, or if a winding shows open or shorted, the solenoid coil will have to be replaced.
5. If the coil resistance is within the tolerance, use a magnet along the valve body to determine the location of the piston. If one end of the piston is against the end of the valve body, it is stuck and the valve must be replaced.
6. Partial shifting of the valve can be detected by measuring the temperature of the suction gas where it enters the reversing valve and then comparing that temperature to the temperature of the suction gas exiting the 4-way valve. There should be no more than 3F difference. Excessive temperature rise through the suction gas path is an indication of a stuck piston. If the piston will not become free by switching from heating to cooling several times, a slight tapping on the valve body, or by using a powerful magnet, the valve will require replacement.

Electronic Expansion Valve (EEV)

1. Check to see if the Electronic expansion valve (EEV) connector is correctly and firmly inserted in the PCB.
2. Turn the power off and back on again,
3. Check to see whether the EEV have a reposition sound. This sound will start after approx 2 min. If the EEV doesn't have noise, please disconnect the connector and check the resistance (refer to resistance tables below).
4. If the resistance is OK, The PCB may be at fault.

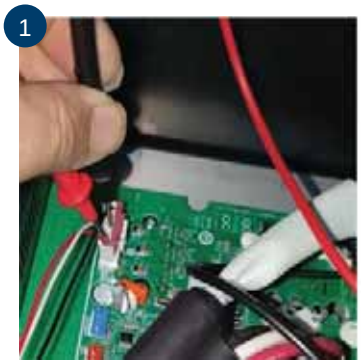
24K EEV (6-pin, 6 wire)

	Red	Brown	Blue	Orange	Yellow	White
Red	-	0L	45	0L	45	0L
Brown	-	-	0L	45	0L	45
Blue	-	-	-	90	0L	0L
Orange	-	-	-	-	0L	90
Yellow	-	-	-	-	-	0L
White	-	-	-	-	-	-

3036K EEV (6-pin, 6 wire)

	Green	Gray	Orange	Red	Yellow	Black
Green	-	0L	45	0L	45	0L
Gray	-	-	0L	45	0L	45
Orange	-	-	-	90	0L	0L
Red	-	-	-	-	0L	90
Yellow	-	-	-	-	-	0L
Black	-	-	-	-	-	-

Outdoor Fan Motor



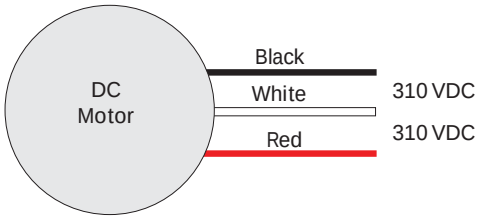
Check that the wiring and plug connections are in good condition.

If the outdoor unit fan motor does not run, or the Service Monitor Board indicates an error code of 09, check the following voltages at connector CN11 on the outdoor unit PCB. Set the meter to read DC volts with a minimum voltage range of 350 volts. All voltage values are approximate. Initiate forced cooling.

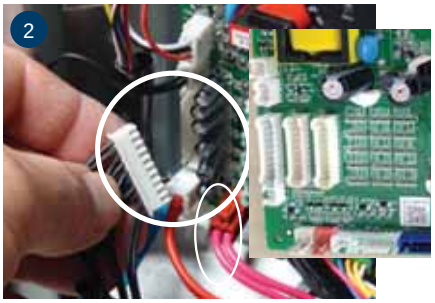
1. DC voltage between the Red and Black wires should read 310 - 334VDC. This is the main voltage for powering the fan motor.
2. DC voltage between the White and Black wires should read 310-334VDC. This is the main voltage for powering the fan motor.
3. DC voltage between the Red and White wires should read 310-334VDC. This is the main voltage for powering the fan motor.

If the outdoor fan initially runs, increases speed then stops, and the Service Monitor Board indicates an error code of 09, the feedback circuit is not functioning. Check that the wiring and plug connections are in good condition.

1G24ED2BEA: 19.7Ω±7%Ω
1G3036ED2BEA: 20.5Ω±10%Ω



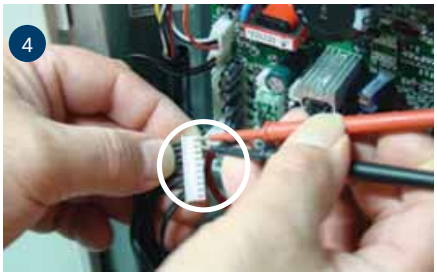
Temperature Sensor



The temperature sensors are negative coefficient thermistors, in which resistance decreases as temperature rises. Should the sensors fail, the PCB will generate an appropriate error code.

To check the calibration of the sensors:

1. Shut off power to the outdoor unit.
2. Disconnect the sensor at the circuit board plug.
3. Measure the temperature of the air surrounding the sensor.
4. Measure the electrical resistance of the sensor using needle probes. Do not force standard probes into the sensor plug.
5. Compare the measured resistance of the sensor against the resistance/temperature specifications (See chart in reference section)
6. If the sensor resistance is outside of the specification tolerances shown on the resistance/temperature table, replace the sensor.



Base Pan Heater

1. Check whether there is voltage at both ends of the terminal. If no, it needs to replace the PCB.
2. If there's nothing wrong with the voltage signal, check the resistance of pan heater. If the value is abnormal, it needs to replace the pan heater.

Compressor Heater Band

1. Check whether there is voltage at both ends of the terminal. If no, it needs to replace the PCB.
2. If there's nothing wrong with the voltage signal, check the resistance of compressor heater band. If the value is abnormal, it needs to replace the pan heater.

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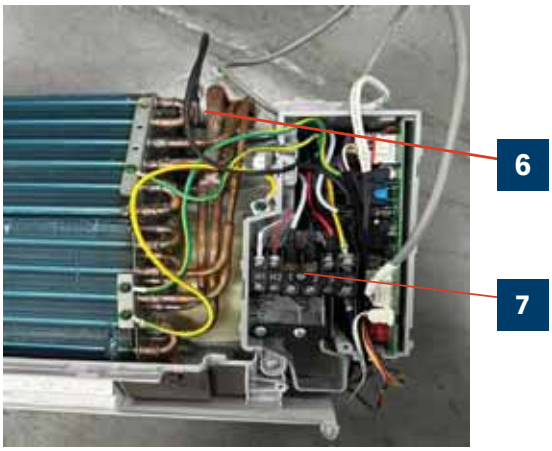
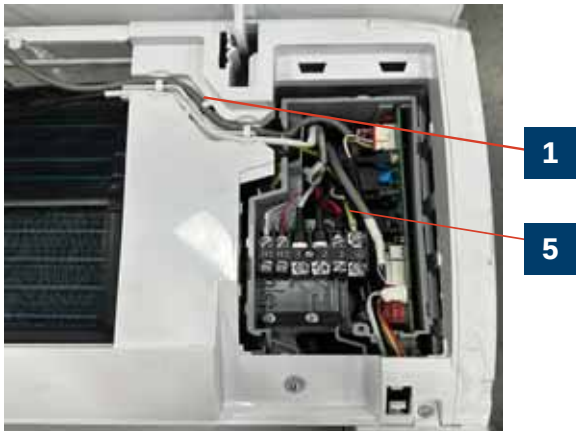
GS24WP2BEA
GS30WB2BEA
GS36WB2BEA

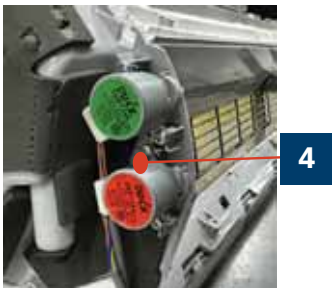
TABLE OF CONTENTS

Indoor Component Identification

GS24WP2BEA

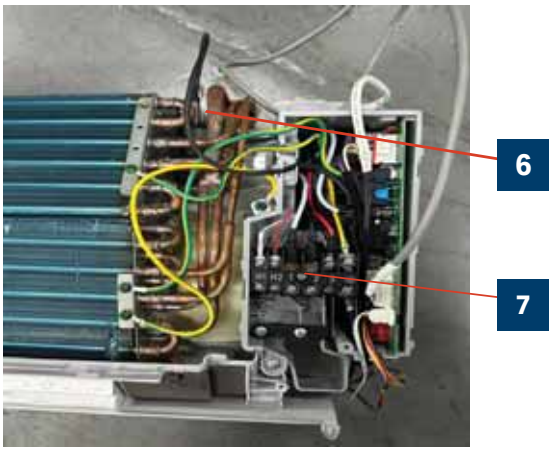


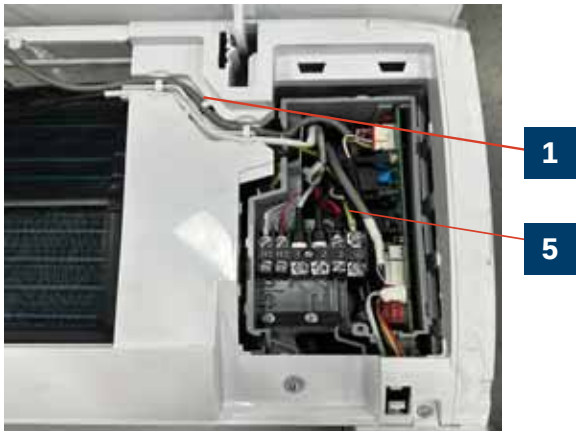




1	Ambient Temperature Sensor
2	Display Panel
3	Fan Motor
4	Louver Motors
5	Power Control Board(PCB)
6	Piping Temperature Sensor
7	Terminal Block
8	R454B Leakage Sensor

GS30WB2BEA, GS36WB2BEA





1	Ambient Temperature Sensor
2	Display Panel
3	Fan Motor
4	Louver Motors
5	Power Control Board(PCB)
6	Piping Temperature Sensor
7	Terminal Block
8	R454B Leakage Sensor

Terminal Block

The unit terminal block receives electrical power from the outdoor unit. There are 4 connections for electrical wires. Terminals 1 and 2 are connected to terminals 1 and 2 of the outdoor unit. This wiring supplies power to the indoor unit.

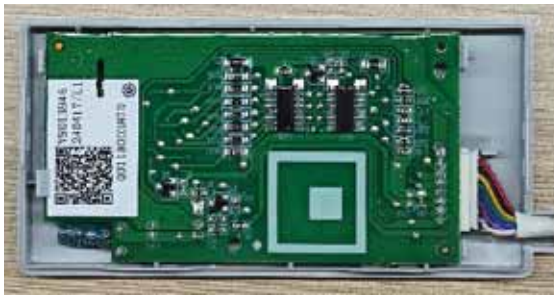
Terminal 3 is a communication wire. The indoor unit sends indoor air temperature, coil temperature and temperature setpoint information to the outdoor unit on this wire. If a splice or break in this wire is present, the indoor unit will not be able to communicate with the outdoor unit. The ERROR CODE will be an E7.

Ambient Temperature Sensor

The Ambient (room) Temperature Sensor is a negative coefficient thermistor that will decrease in resistance with increases in room air temperature. The sensor is located on a clip mounted in the return air stream.

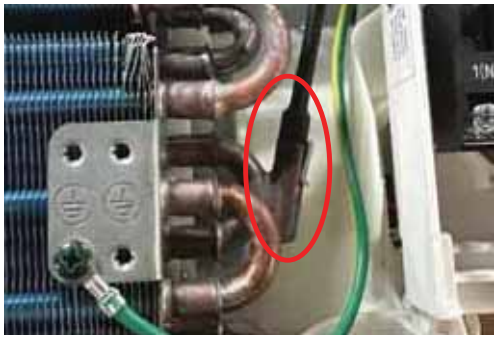
The sensor connects to the control board at Plug CN-6.

Display



The indoor display has an infrared communication circuit that receives The indoor display has an infrared communication circuit that receives operating commands from the remote control. This display will indicate operating modes, error codes, indoor air temperature, timer status, and power status.
The display board connects to the control board at Plug CN-7.

Piping Temperature Sensor



The Piping Temperature Sensor is a negative coefficient thermistor that will decrease in resistance with increases in coil temperature. The sensor is located in a socket soldered to the surface of the indoor coil.

This sensor will monitor the temperature of the indoor coil in both cooling and heating modes of operation. Should abnormally cold or hot coil temperature be detected by this sensor, the system will take steps to correct the condition or report an ERROR CODE.

The sensor connects to the control board at Plug CN-6.

Louver Stepper Motor

GS24WP2BEA

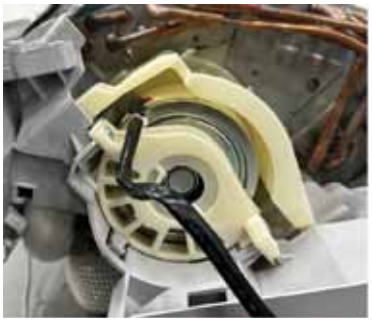
GS30WB2BEA, GS36WB2BEA

The motor moves the louver side to side depending upon selections made at the remote control.

These motors are connected at CN-5.

Fan Motor

GS24WP2BEA



GS30WB2BEA
GS36WB2BEA

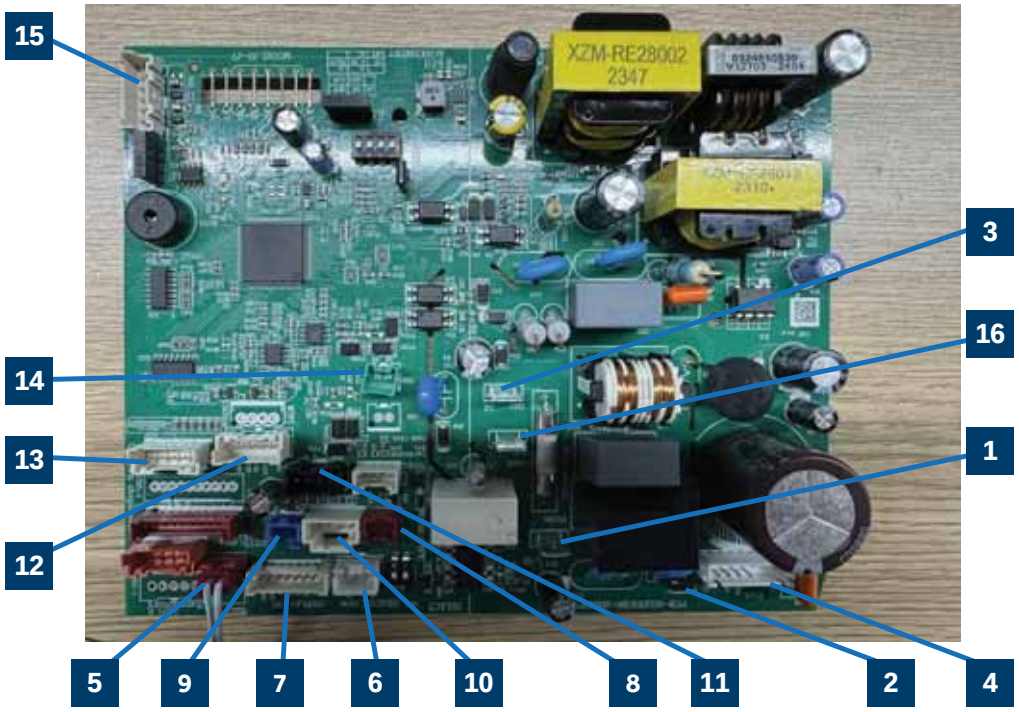
The Fan Motor is a variable speed motor. Fan speed will vary depending upon the temperature variation from set point, or can be set with the remote control to maintain a single set speed.

The Fan Motor is connected to the indoor control board via PLUG CN-9.

Emergency Button

If the remote control is non-functional, the Emergency Button can be used. 73 -78^{O}F will be maintained, until commands are received via the remote control.

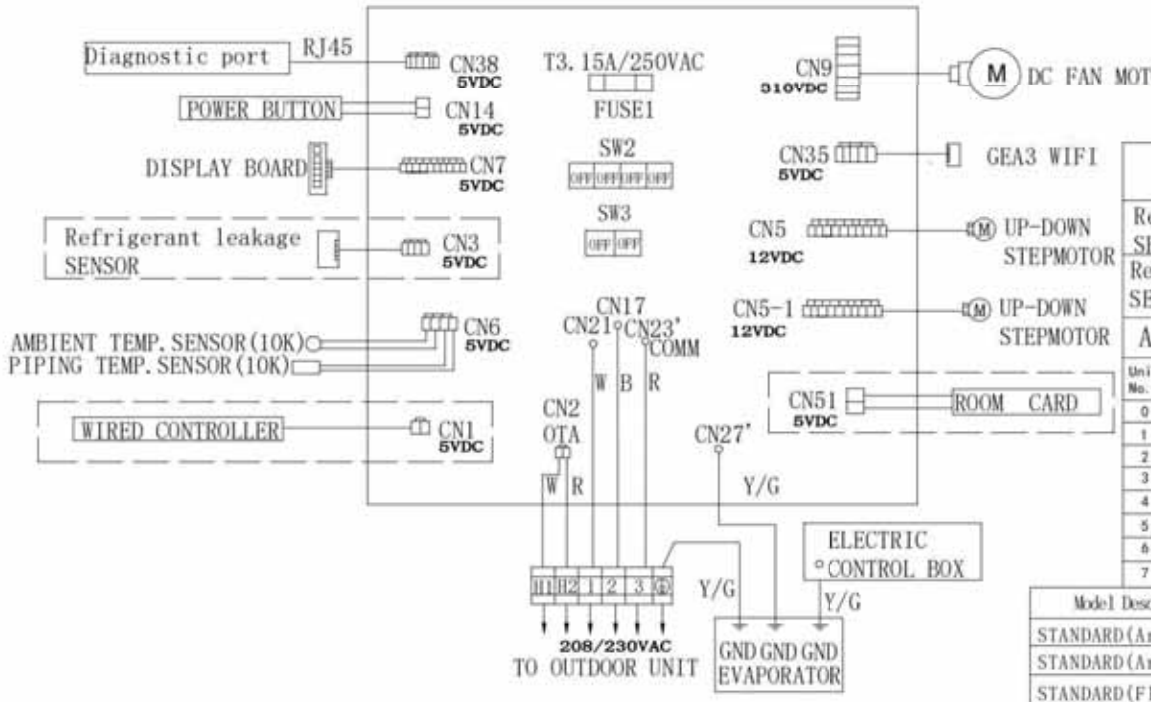
Indoor Unit Control Board



1	CN21: 208/230 AC power from terminal block connections 1(L1)
2	CN27: Connector for GND
3	CN23: Communication connection between the indoor board and the outdoor board
4	CN9: Connector for fan motor
5	CN14: Connector for emergency switch
6	CN36: Connector for the centralized controller
7	CN7: Connector for the display board
8	CN1: Connector for non-polar wire controller
9	CN51: Connector for the room cord
10	CN6: Connector for the temperature sensor
11	CN3: Connector for the leakage sensor
12	CN35: Connector for the WIFI
13	CN5: Connector for the up-down step motor
14	CN2: Connector for the OTA
15	CN38: Connector for the RJ45
16	CN17: 208/230 AC power from terminal block connections 2(L2)

INDOOR UNIT WIRING DIAGRAM

0011534809B



CONTROLLER MODE	SW3 DIP Switch position 1
CENTRAL CONTROLLER	OFF
24V CONTROLLER (WITH ADAPTER)	ON

Function	SW3 DIP Switch position 2
Refrigerant leakage SENSOR enable	ON
Refrigerant leakage SENSOR disable	OFF

Address for Wired Controller

Unit No.	SW2-1	SW2-2	SW2-3	SW2-4	Unit No.	SW2-1	SW2-2	SW2-3	SW2-4
0	OFF	OFF	OFF	OFF	8	ON	OFF	OFF	OFF
1	OFF	OFF	OFF	ON	9	ON	OFF	OFF	ON
2	OFF	OFF	ON	OFF	10	ON	OFF	ON	OFF
3	OFF	OFF	ON	ON	11	ON	OFF	ON	ON
4	OFF	ON	OFF	OFF	12	ON	ON	OFF	OFF
5	OFF	ON	OFF	ON	13	ON	ON	OFF	ON
6	OFF	ON	ON	OFF	14	ON	ON	ON	OFF
7	OFF	ON	ON	ON	15	ON	ON	ON	ON

Model Description	J7	J6	J5	J4	J3
STANDARD(Arctic) 30K	OFF	OFF	ON	OFF	OFF
STANDARD(Arctic) 36K	OFF	OFF	ON	OFF	ON
STANDARD(Flexfit) 30K	OFF	ON	ON	OFF	OFF
STANDARD(Flexfit) 36K	OFF	ON	ON	OFF	ON

Note: Before replacing the board, ensure the jumper wires are cut to match the model description.

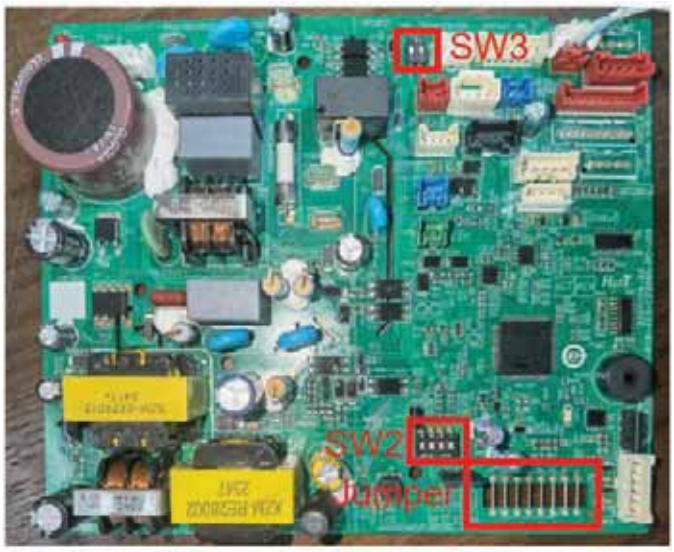
Remarque: avant de remplacer la carte, assurez-vous que les fils de raccordement sont coupés pour correspondre à la description du modèle ci-dessous.

Nota: antes de reemplazar la placa, asegúrese de que los cables puente estén cortados para que coincidan con la descripción del modelo a continuación.

W:WHITE
Y/G:YELLOW/GREEN
R:RED
B:BLACK

Notes:
1. The dotted parts are optional.
2. The two pins of CN51 should be shorted, when the J1 is cut.
3. Before replacing the board, it is necessary to ensure that the machine is matched with the board code.

DIP SWITCH & JUMPER SETTINGS



DIP SW2: Wire Controller Address

SW2-1	SW2-2	SW2-3	SW2-4	Setting	Description
OFF	OFF	OFF	OFF	0#	Default
OFF	OFF	OFF	ON	1#	
OFF	OFF	ON	OFF	2#	
OFF	OFF	ON	ON	3#	
OFF	ON	OFF	OFF	4#	
OFF	ON	OFF	ON	5#	
OFF	ON	ON	OFF	6#	
OFF	ON	ON	ON	7#	
ON	OFF	OFF	OFF	8#	
ON	OFF	OFF	ON	9#	
ON	OFF	ON	OFF	10#	
ON	OFF	ON	ON	11#	
ON	ON	OFF	OFF	12#	
ON	ON	OFF	ON	13#	
ON	ON	ON	OFF	14#	
ON	ON	ON	ON	15#	

DIP SW3

SW3-1	SW3-2	Setting	Description
OFF	--	Central Controller	Default
ON	--	24v Controller	
--	OFF	Refrigerant Leak Detector Disable	
--	ON	Refrigerant Leak Detector Enable	Default

The PCB has a set of jumper wires that must be checked when replacing the PCB. The replacement PCB is shipped with no jumper wires cut.

Jumpers J1, J2, J8

J1	J2	J8	J4	Setting	Description
OFF	--	--	--	Room Card Valid	
ON	--	--	--	Room Card Invalid	Default
--	OFF	--	--	Sub	
--	ON	--	--	Main	Default
--	--	OFF	--	WiFi 2.18 Protocol	
--	--	ON	--	WiFi GE3 Protocol	Default

Jumpers J3-J7

J7	J6	J5	J4	J3	Setting
OFF	OFF	OFF	ON	ON	Endure 24K
OFF	OFF	ON	OFF	OFF	Reserved
OFF	OFF	ON	OFF	ON	Reserved
OFF	ON	ON	ON	OFF	Reserved
OFF	ON	ON	ON	ON	Reserved
ON	OFF	OFF	OFF	OFF	Reserved
ON	OFF	OFF	OFF	ON	Reserved
ON	OFF	OFF	ON	OFF	Reserved
--	--	--	--	--	Reserved
ON	ON	ON	ON	ON	Reserved

US24LB2BEA
US30LB2BEA
US36LB2BEA

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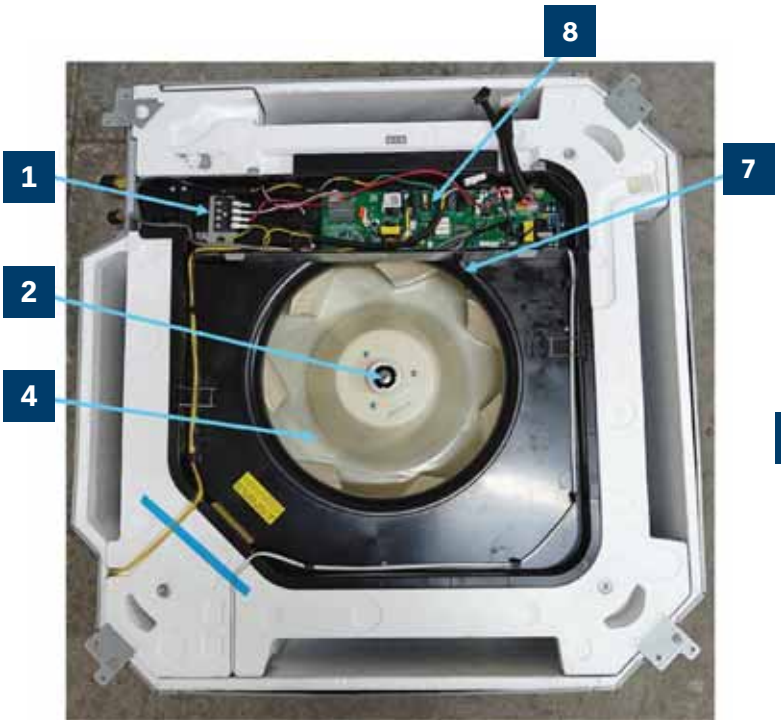
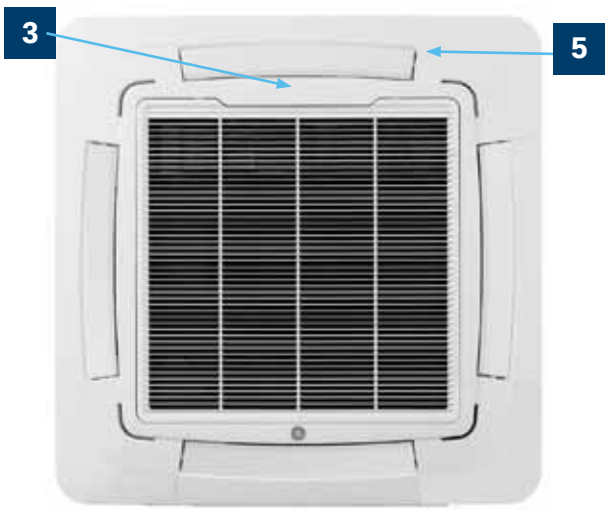
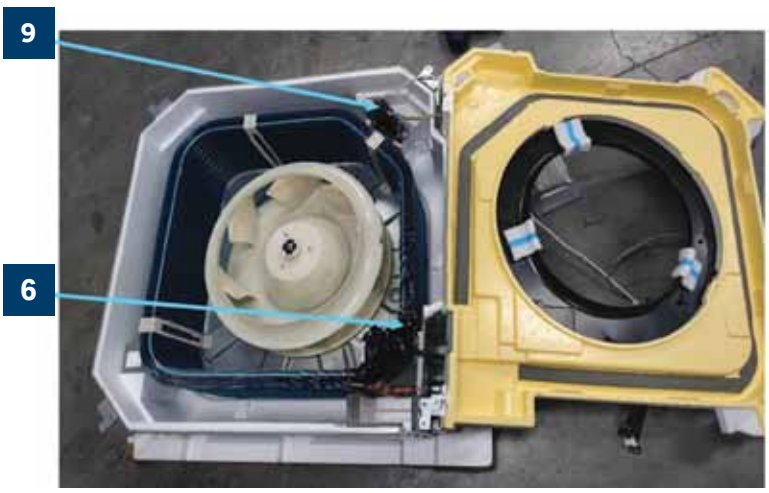
Indoor Component Identification

US09CB2BEA / US12CB2BEA / US18CB2BEA / US24LB2BEA / US30LB2BEA / US36LB2BEA







1 Terminal Block

Power to operate the indoor unit comes from the electrical line voltage terminal block at the outdoor unit. The wiring includes 4 wires, 1, 2, 3 and ground. Wires 1 and 3 complete the data path. These wires should always be 14 gauge AWG stranded cooper, nonshielded type wire. Splices in wires 1 or 3 may cause communication errors.

2 Blower Motor

The indoor unit features a multi speed blower motor that will change speed to match the capacity demand from the outdoor unit. Separate motors located in the indoor unit control the operation of the motorized louvers. All of the louver motors are controlled via commands received from the remote control. The blower motor is controlled by both the remote control and by commands from the outdoor unit ECU.The indoor blower motor is a Multi Speed Fan Motor that is connected to the indoor unit control board. The wiring from the motor to indoor board consists of 4 wires connected to pins common, low , medium and high speeds. During normal operation, the indoor control board will energize the indoor blower motor and request proper speed. The motor has a run capacitor that is located in the Cassette unit' s control box. The run capacitor connects to the motor via two orange wires. This capacitor is field replaceable.

3 Display

The indoor unit has a display that communicates system mode. The indoor unit does not display temperatures or diagnostic codes. When a wired controller is used, this information is displayed on the wired controller. It is recommended to use a wired controller with the cassette unit. When servicing a diagnostic error, ALWAYS refer to the outdoor unit code to make diagnostic decision

4 Blower Assembly

The blower assembly consists of a plastic blower wheel that is connected to a PSC indoor blower motor. A set screw holds the blower wheel to the blower motor.

5 Louver Motors

The louver motors are stepper type motors that move the louvers up/down. The motors are controlled by pulsed voltage that cannot be measured. If the louver does not move when it should, check for a bind in the louvers.

6 Piping Temperature Sensor

The Piping Temperature Sensor senses indoor coil temperature in the cooling mode and in the heating mode. This sensor is used for Anti Freezing and Anti Cold Blow cycles. The sensor also provides critical temperature information to the ECU that may be used in frequency adjustments.

7 Ambient Temperature Sensor

The Ambient Temperature Sensor senses room temperature. This sensor provides room temperature information to the ECU for calculation of inverter capacity and temperature control. Both sensors are negative temperature coefficient type that reduce electrical resistance as temperature rises.

8 Control Board

The indoor unit circuit board controls the switching functions of the indoor unit. All control decisions are made by the outdoor unit ECU. The indoor board has some limited diagnostic capability which will be covered in this manual. Condensate Pump & Float Switch

9 Condensate Pump & Float Switch

In cooling mode (including automatic cooling operation and emergency switch setting cooling mode and dehumidification mode), the pump operates when the compressor is on, and the pump 5 minutes after. For other modes such as conversion heating pump, it also continues to operate for 5 minutes after.

Cooling standby, heating and fan mode, the pump does not run. When the float switch is opened, the water tank is full.

After the controller detects this signal for 2 seconds, the pump starts to work. After the float recovers, the pump continues to work 5 for an additional minutes.

Continuous detection of water full signal for more than 5 minutes, will stop the compressor. The pump continues to operate for 5 minutes. If the float switch is still open or disconnected, the drainage system is reported to be faulty. After the fault, the pump continues to operate until it is detected that the float switch is closed or for 5 minutes.

10 WiFi

Receives and sends wireless signals to enable APP control of system operation

11 Refrigerant Leakage Detector

Detects the concentration of refrigerant in the air. When the refrigerant leakage sensor detects a concentration = 10% of lower flammability limit, an alarm is triggered.

bA No refrigerant leakage detector is installed.

1. The sensor is not detected.
2. If the bA fault is still reported, the refrigerant sensor is abnormal.

AA LFL leakage higher than X% is detected.

1. Cut off the refrigerant, whether Ab is displayed after the refrigerant drops. If so, the sensor is normal; If Ab is not displayed consistently after the refrigerant concentration decreases, the detector is abnormal and needs to be replaced.

AC Communication failure.

1. Check wiring connections. If the fault persists, replace the sensor cable.

Ad Self-check fault.

1. The refrigerant sensor is missing (open circuit), install a new detector.
2. Detector bypass (short circuit). Replace the detector wiring harness. If the fault persists, replace the detector.
3. Detector output exceeds the declared range of the sensor or the expected state is abnormal, replace the refrigerant sensor.

AE/AF Detector life warning

1. The fault is cleared after a new sensor is installed. If the fault persists, it may be a drive board fault.

Dip Switch SW1-5:

0: Refrigerant leakage detector function valid
1: Refrigerant leakage detector function invalid

PCB Overview

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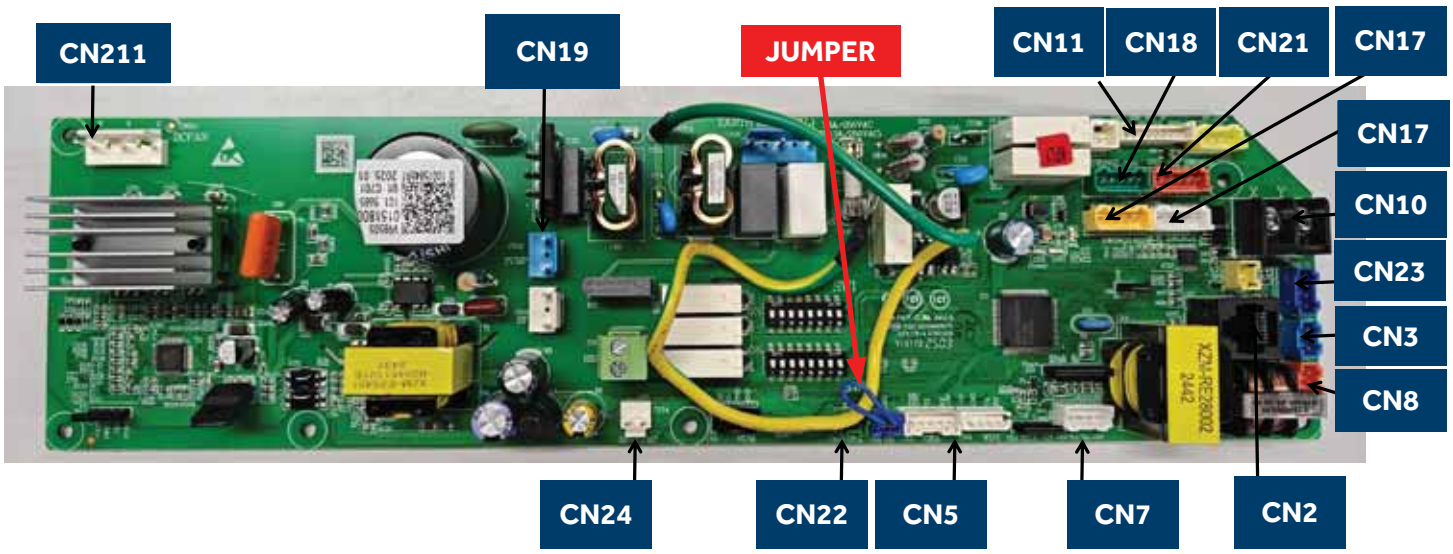
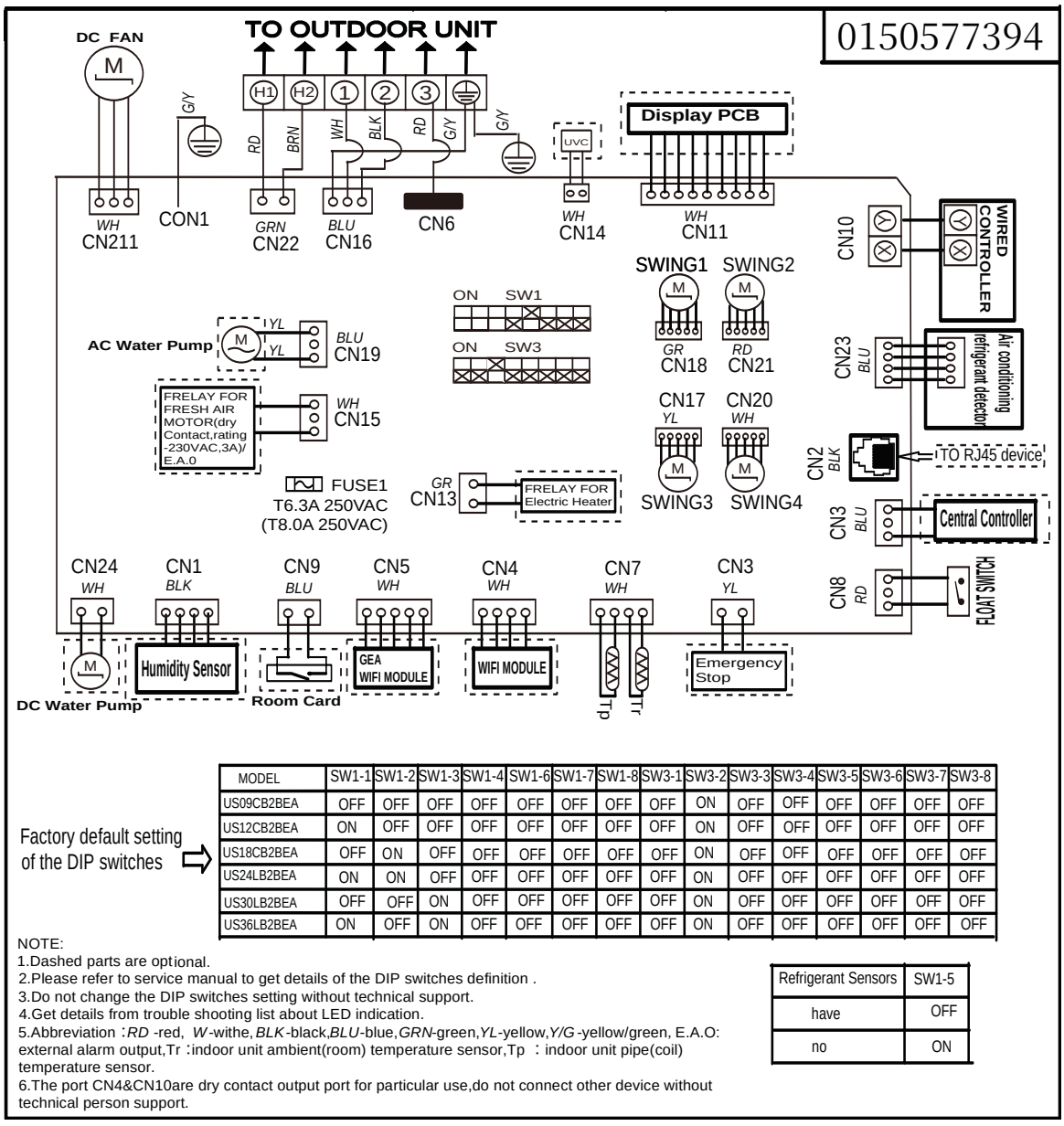


CN2	RJ45 Communication
CN3	Remote Control
CN5	WiFi
CN7	Sensor
CN8	Float Switch
CN10	Wired Controller
CN11	Light Board
CN17	Swing Motor
CN18	Swing Motor
CN19	AC Drain Pump
CN20	Swing Motor
CN21	Swing Motor
CN22	OTA485 Communication
CN23	Refrigerant Sensor
CN24	DC Drain Pump
CN211	Fan Motor

ENGLISH

US24LB2BEA / US30LB2BEA / US36LB2BEA



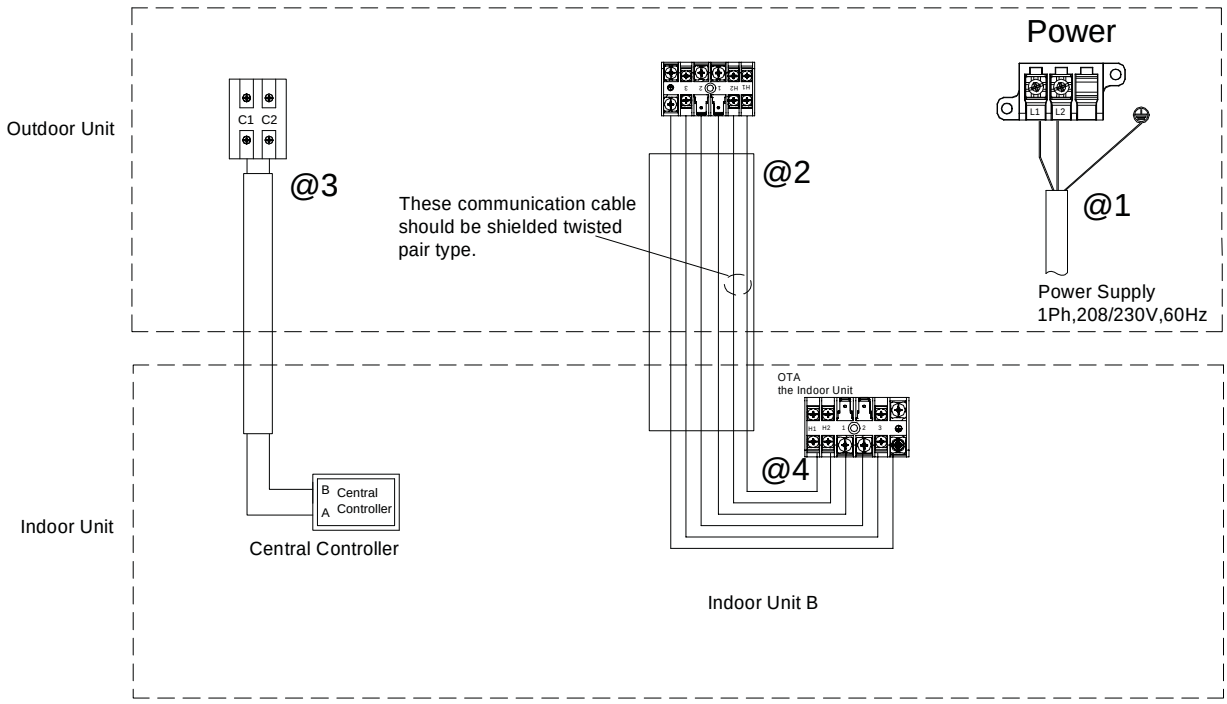
Factory default setting of the DIP switches

MODEL	SW1-1	SW1-2	SW1-3	SW1-4	SW1-6	SW1-7	SW1-8	SW3-1	SW3-2	SW3-3	SW3-4	SW3-5	SW3-6	SW3-7	SW3-8
US09CB2BEA	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	ON	OFF	OFF	OFF	OFF	OFF	OFF
US12CB2BEA	ON	OFF	OFF	OFF	OFF	OFF	OFF	OFF	ON	OFF	OFF	OFF	OFF	OFF	OFF
US18CB2BEA	OFF	ON	OFF	OFF	OFF	OFF	OFF	OFF	ON	OFF	OFF	OFF	OFF	OFF	OFF
US24LB2BEA	ON	ON	OFF	OFF	OFF	OFF	OFF	OFF	ON	OFF	OFF	OFF	OFF	OFF	OFF
US30LB2BEA	OFF	OFF	ON	OFF	OFF	OFF	OFF	OFF	ON	OFF	OFF	OFF	OFF	OFF	OFF
US36LB2BEA	ON	OFF	ON	OFF	OFF	OFF	OFF	OFF	ON	OFF	OFF	OFF	OFF	OFF	OFF

NOTE:
1.Dashed parts are optional.
2.Please refer to service manual to get details of the DIP switches definition .
3.Do not change the DIP switches setting without technical support.
4.Get details from trouble shooting list about LED indication.
5.Abbreviation：*RD* -red, *W*-withe, *BLK*-black,*BLU*-blue,*GRN*-green,*YL*-yellow,*Y/G*-yellow/green, E.A.O: external alarm output,Tr：indoor unit ambient(room) temperature sensor,Tp ：indoor unit pipe(coil) temperature sensor.
6.The port CN4&CN10are dry contact output port for particular use,do not connect other device without technical person support.

Refrigerant Sensors	SW1-5
have	OFF
no	ON

US24LB2BEA

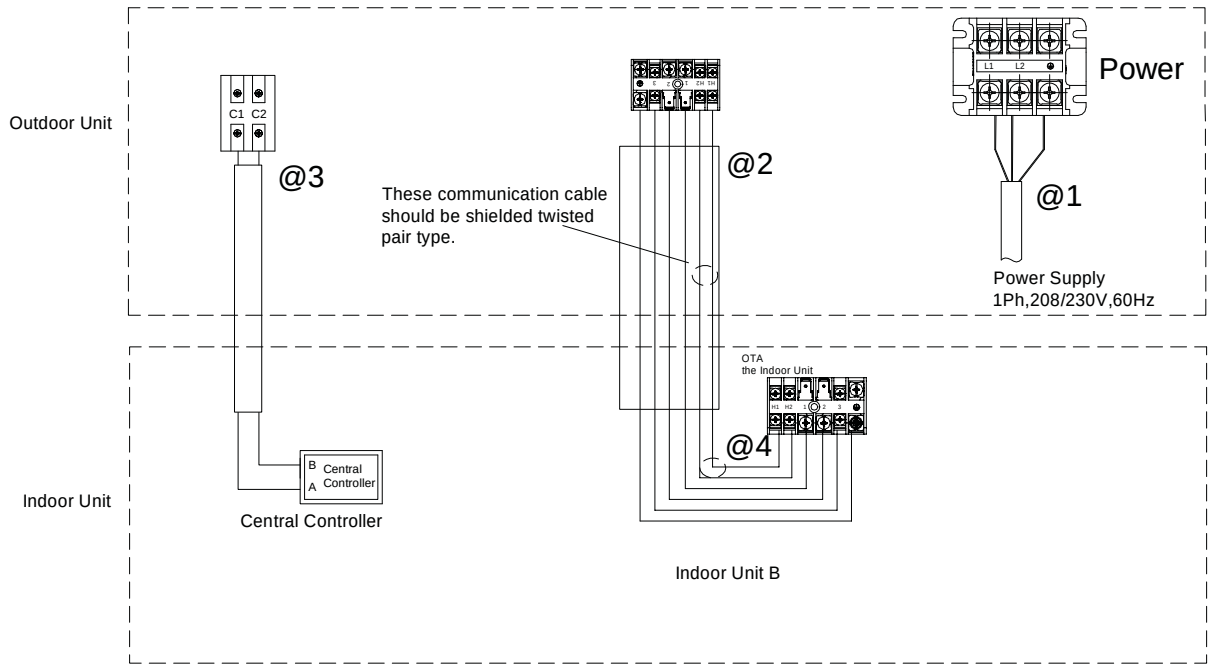


@1 Power supply cable, 3*4mm²
@2 Communication cable for indoor unit and outdoor unit,4*2.5mm²
@3 Communication cable for central controller, wire specification to refer to wired controller manual and real installation length.
@4 The OTA communication cable (H1/H2) should be 2 x 16 AWG shielded.

Caution:

1. The OTA communication cable should be shielded twisted pair type, and need to make the cable's shielded layer connect to earth or the unit shell which connect to earth (indoor side or outdoor side).
2. There should be independent pipeline for communication wire.
3. The distance between OTA communication cable and the power supply cable should be at least 10cm.
4. Ensure specifically that there is an earth leakage breaker (ELB) installed for both the outdoor and indoor unit.
5. If the installation is already fitted with an earth leakage breaker (ELB), ensure that its rated current is large enough to withstand the current of the units (both outdoor and indoor).

US30LB2BEA / US36LB2BEA



DIP SWITCH & JUMPER SETTINGS

DIP SW1

SW1-1	SW1-2	SW1-3	SW1-4	SW1-5	SW1-6	SW1-7	SW1-8	Description
ON	ON	OFF	-	-	-	-	-	24K
OFF	OFF	ON	-	-	-	-	-	30K
ON	OFF	ON	-	-	-	-	-	36K
-	-	-	OFF	-	-	-	-	Room Card Valid
-	-	-	ON	-	-	-	-	Room Card Invalid
-	-	-	-	OFF	-	-	-	Refrigerant Detector Functional
-	-	-	-	ON	-	-	-	The Refrigerant Detector Invalid
-	-	-	-	-	OFF	-	-	Fresh Air
-	-	-	-	-	ON	-	-	Fault Alarm
-	-	-	-	-	-	OFF	-	None - Filter Alarm Reminder + Refrigeration Fan Stops
-	-	-	-	-	-	ON	-	Filter Alarm Reminder + Refrigeration Fan Does Not Stop
-	-	-	-	-	-	-	OFF	Us Models
-	-	-	-	-	-	-	ON	Non-Us Models

DIP SW3

SW3-1	SW3-2	SW3-3	SW3-4	SW3-5	SW3-6	SW3-7	SW3-8	Description
OFF	-	-	-	-	-	-	-	Special Fresh Air Selection For Duct Unit: Valid
ON	-	-	-	-	-	-	-	Special Fresh Air Selection For Duct Unit: Invalid
-	OFF	-	-	-	-	-	-	Cassette Single Swing Wind - Synchronized Swing Of Swing Blades
-	ON	-	-	-	-	-	-	Cassette Unit Four Swing Wind - Four Swing Blades Swing At Different Angles, Misaligned Swing
-	-	OFF	-	-	-	-	-	Electrical Heating: Invalid
-	-	ON	-	-	-	-	-	Electrical Heating: Valid
-	-	-	OFF	-	-	-	-	Model: Ultra-Slim Ducted Unit With 4-Level Static Pressure
-	-	-	ON	-	-	-	-	Model: Medium Static Pressure Duct With 10-Level Static Pressure Adjustment
-	-	-	-	OFF	OFF	OFF	OFF	0# (Wired Control Main) (Default)
-	-	-	-	OFF	OFF	OFF	ON	1# (Line-Controlled Sub Machine)
-	-	-	-	OFF	OFF	ON	OFF	2# (Line-Controlled Sub Machine)
-	-	-	-	OFF	OFF	ON	ON	3# (Line-Controlled Sub Machine)
-	-	-	-	-	-	-	-	--
-	-	-	-	ON	ON	ON	ON	15# (Line-Controlled Sub Machine)

SW3_1 The fan selection function in cooling mode is only applicable to duct and slim duct.
SW3_4 Only applicable to slim duct

Jumper Settings - Model Identification

RJ1	RJ2	RJ3	SW3-2	SW3-3	Description
OFF	OFF	OFF	OFF	OFF	Crane
OFF	OFF	OFF	OFF	ON	Cassette With 1 Oscillating Wind
OFF	OFF	OFF	ON	OFF	Cassette With Four-Way Oscillating Wind
OFF	OFF	OFF	ON	ON	Cassette With Light Panel
OFF	OFF	ON	OFF	OFF	Console
OFF	ON	OFF	OFF	OFF	Small Duct
OFF	ON	OFF	OFF	ON	High-Capacity Duct
-	-	-	-	-	Reserve

Suitable for convertible, 2HP cassette (matched with single swing wind), 2HP cassette (matched with four swing wind), 3HP cassette (equipped with display board). For example, if the convertible has 0 0 0 0, the resistance should be welded RJ1/RJ2/RJ3. Simultaneously dial the second digit of code BM3 to OFF and the third digit to OFF. The same setup method is used for other models.

Resistance Values

	US24LB2BEA	US30LB2BEA	US36LB2BEA
Fan Motor Resistance Value	0150401755C-100W, 28.7Ω±10v		
Louver Resistance Value	0150401794A, 300Ω±7% 0150401794B, 300Ω±7%		

Model	Ambient temperature sensor	Pipe temperature sensor
	Resistance Value	Resistance Value
US24LB2BEA	R25=10KΩ±3% B25/50=3700K±3%	R25=10KΩ±3% B25/50=3700K±3%
US30LB2BEA		
US36LB2BEA		

Measure the Resistance:

Use a multimeter to measure the resistance between any two phases (U, V, W) of the motor (as shown in the following diagram).

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US24MB2BEA
US30MB2BEA
US36MB2BEA

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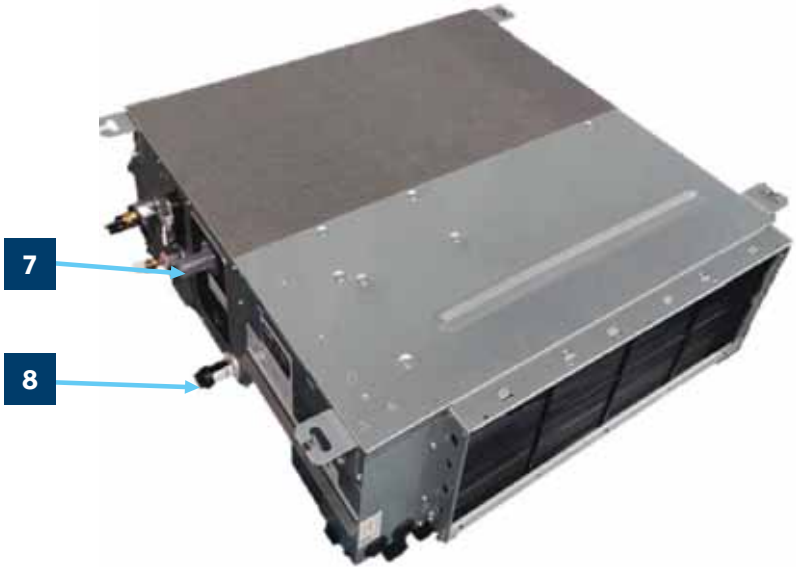
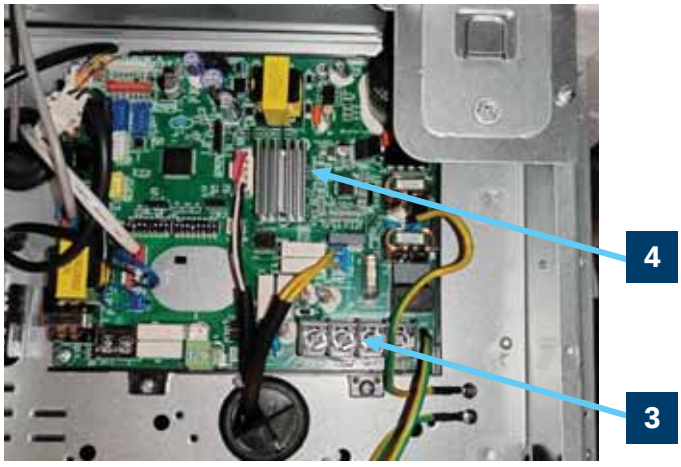
COMPONENTS

US09MB2BEA / US12MB2BEA / US18MB2BEA





1 Evaporator Coil

2 Blower Assembly

The indoor unit features a DC variable speed blower motor that will change speed to match the capacity demand from the outdoor unit. The motor powers blower assembly.

The blower assembly consists of 2 plastic blowers. A set screw holds each blower wheel to the blower motor.

The indoor blower motor is connected to the indoor unit control board. The wiring from the motor to indoor board consists of 3 wires connected to pins that deliver line voltage.

During normal operation, the indoor control board will energize the indoor blower motor and request proper speed.

3 Terminal Block

Power to operate the indoor unit comes from the electrical line voltage terminal block at the outdoor unit. The wiring includes 4 wires, 1, 2, S and ground. Wires 1 and S complete the data path. These wires should always be 14 gauge AWG stranded cooper, non-shielded type wire. Splices in wires 1 or S may cause communication errors.

4 Control Board

Located under the electrical control box cover.

5 Ambient Temperature Sensor

The Ambient Temperature Sensor senses room temperature. This sensor provides room temperature information to the ECU for calculation of inverter capacity and temperature control. Both sensors are negative temperature coefficient type that reduce electrical resistance as temperature rises.

6 Piping Temperature Sensor

The Piping Temperature Sensor senses indoor coil temperature in the cooling mode and in the heating mode. This sensor is used for Anti Freezing and Anti Cold Blow cycles. The sensor also provides critical temperature information to the ECU that may be used in frequency adjustments.

7 Condensate Pump

The Duct unit has a built-in condensate pump. The pump is connected to the circuit board. The pump is energized whenever the Float Switch indicates that water needs to be pumped from the cassette. The float switch connects onto the circuit board.

The float switch and pump are located behind the removable insulated cover next to the electrical control box. The pump is hermetically sealed and requires no maintenance. The float switch is a normally closed switch, that opens as water rises. The float switch requires no maintenance.

8 Gravity Drain Ports

The indoor units have the option for either gravity drain systems or the use of an internal condensate pump with float switch. If high lift is required, the water from the duct unit should be pumped to a field condensate pump that is capable of high lift.

Note: If the Internal condensate pump is not used (only gravity drain), the condensate pump must be disconnected from the PCB (CN4).

PCB Overview

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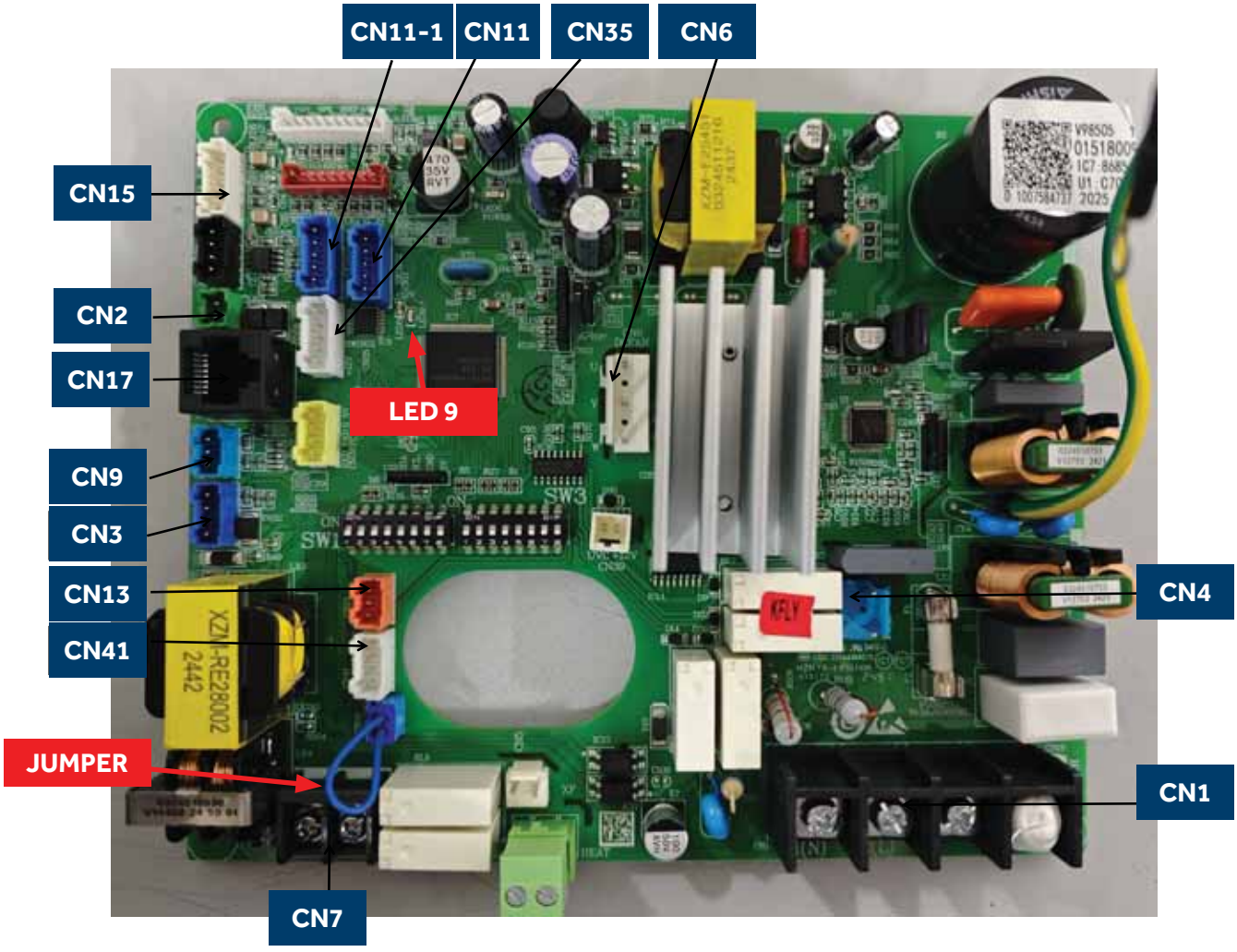
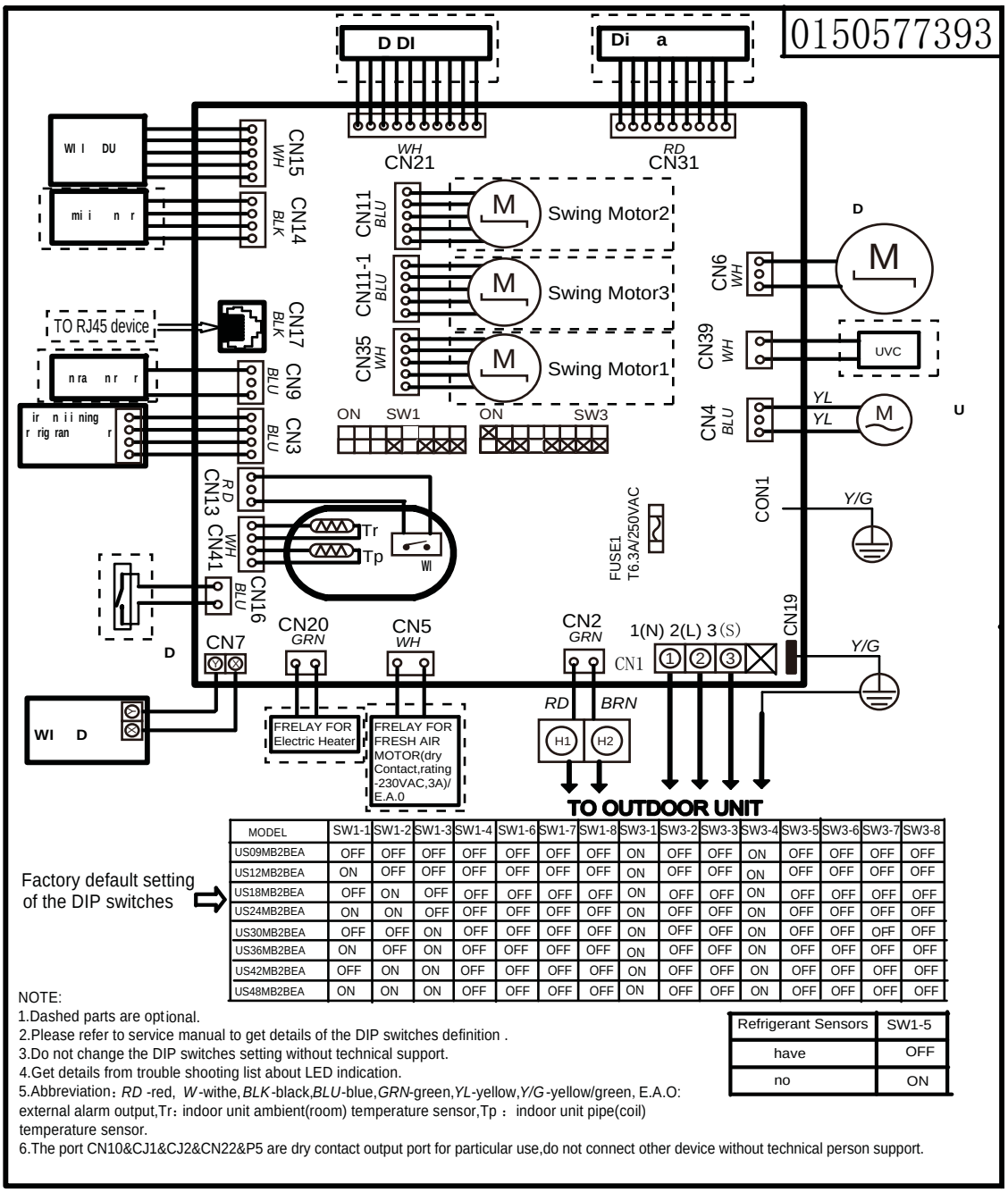
US24MB2BEA / US30MB2BEA / US36MB2BEA



CN1	Power Supply	CN7	Wired Controller	CN17	RJ45 Communication
CN2	OTA	CN9	Remote Communication	CN35	Left and Right Swing
CN3	Refrigerant Sensor	CN11-1	Up-and-Down Swing	CN41	Sensor
CN4	Drain Pump	CN13	Float Switch		
CN6	Fan Motor	CN15	WiFi		

US24MB2BEA / US30MB2BEA / US36MB2BEA



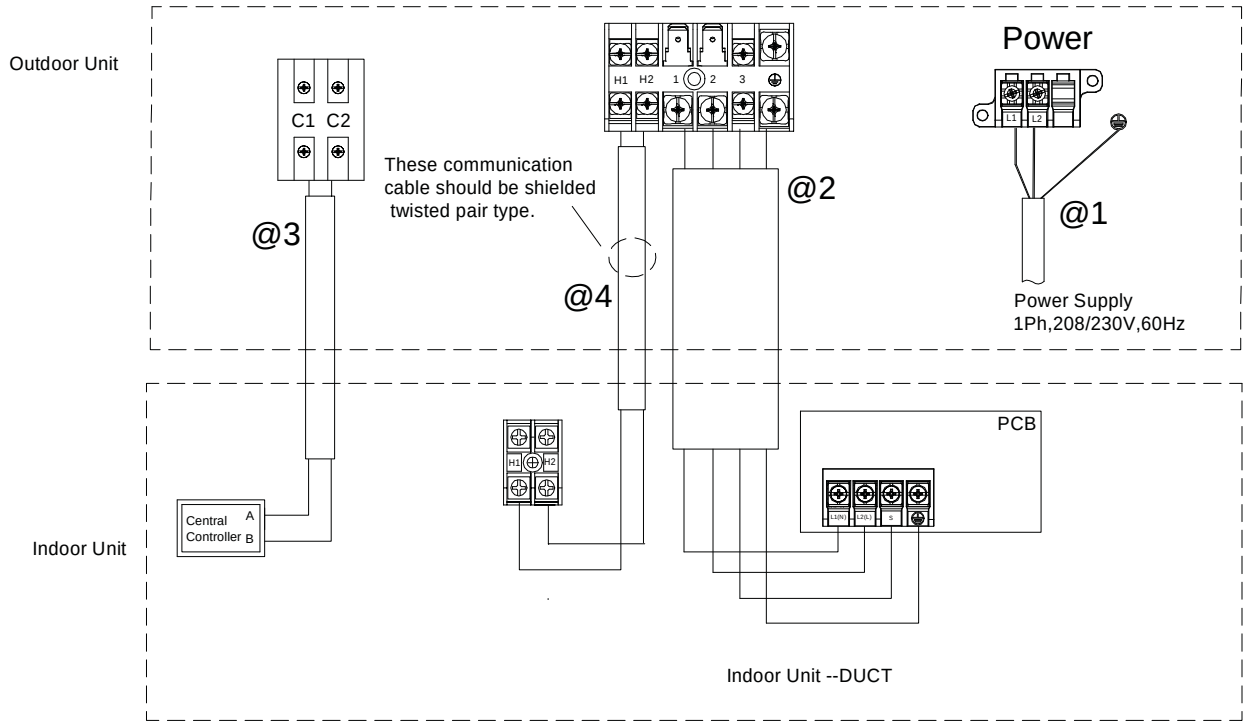
Factory default setting of the DIP switches

MODEL	SW1-1	SW1-2	SW1-3	SW1-4	SW1-6	SW1-7	SW1-8	SW3-1	SW3-2	SW3-3	SW3-4	SW3-5	SW3-6	SW3-7	SW3-8
US09MB2BEA	OFF	OFF	OFF	OFF	OFF	OFF	OFF	ON	OFF	OFF	ON	OFF	OFF	OFF	OFF
US12MB2BEA	ON	OFF	OFF	OFF	OFF	OFF	OFF	ON	OFF	OFF	ON	OFF	OFF	OFF	OFF
US18MB2BEA	OFF	ON	OFF	OFF	OFF	OFF	OFF	ON	OFF	OFF	ON	OFF	OFF	OFF	OFF
US24MB2BEA	ON	ON	OFF	OFF	OFF	OFF	OFF	ON	OFF	OFF	ON	OFF	OFF	OFF	OFF
US30MB2BEA	OFF	OFF	ON	OFF	OFF	OFF	OFF	ON	OFF	OFF	ON	OFF	OFF	OFF	OFF
US36MB2BEA	ON	OFF	ON	OFF	OFF	OFF	OFF	ON	OFF	OFF	ON	OFF	OFF	OFF	OFF
US42MB2BEA	OFF	ON	ON	OFF	OFF	OFF	OFF	ON	OFF	OFF	ON	OFF	OFF	OFF	OFF
US48MB2BEA	ON	ON	ON	OFF	OFF	OFF	OFF	ON	OFF	OFF	ON	OFF	OFF	OFF	OFF

NOTE:
1.Dashed parts are optional.
2.Please refer to service manual to get details of the DIP switches definition .
3.Do not change the DIP switches setting without technical support.
4.Get details from trouble shooting list about LED indication.
5.Abbreviation：*RD* -red, *W*-withe,*BLK*-black,*BLU*-blue,*GRN*-green,*YL*-yellow,*Y/G*-yellow/green, E.A.O: external alarm output,Tr：indoor unit ambient(room) temperature sensor,Tp ： indoor unit pipe(coil) temperature sensor.
6.The port CN10&CJ1&CJ2&CN22&P5 are dry contact output port for particular use,do not connect other device without technical person support.

Refrigerant Sensors	SW1-5
have	OFF
no	ON

US24MB2BEA

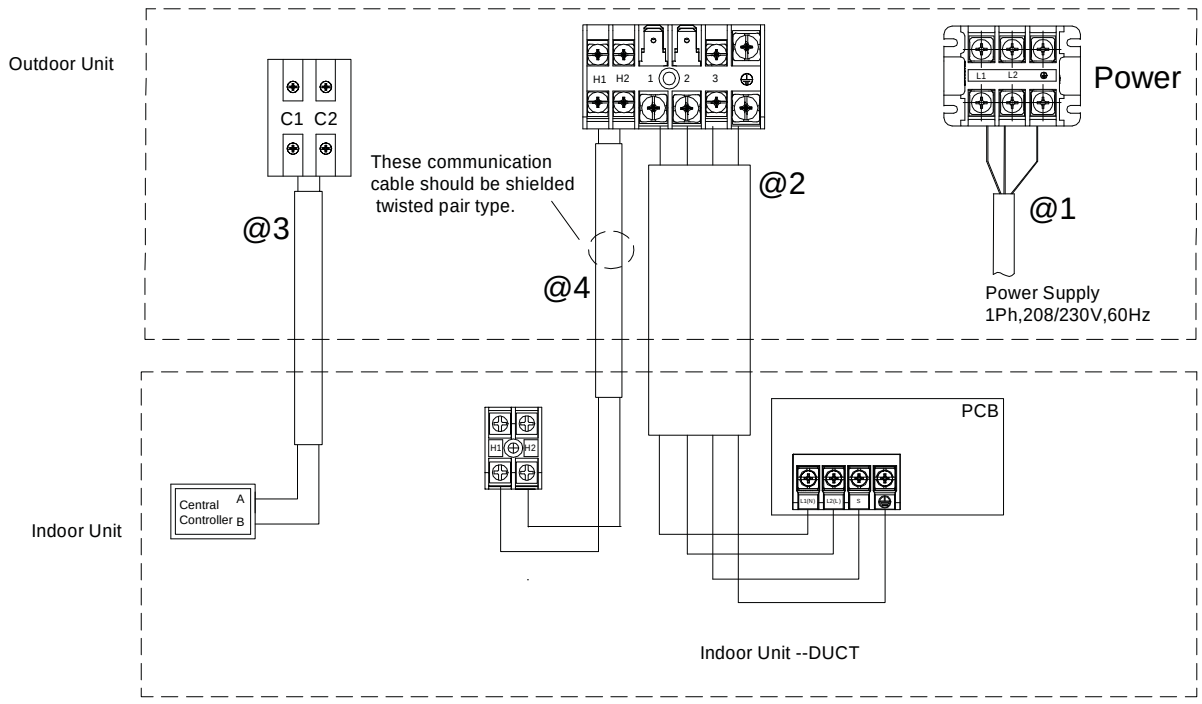


@1 Power supply cable, 3*4mm² for 9k/12k/18k/24k/36k,3*6mm² for 42k/48k
@2 Communication cable for indoor unit and outdoor unit,4*2.5mm²
@3 Communication cable for central controller, wire specification to refer to wired controller manual and real installation length.
@4 The OTA communication cable (H1/H2) should be 2 x 16 AWG shielded.

Caution:

1. The OTA communication cable should be shielded twisted pair type, and need to make the cable's shielded layer connect to earth or the unit shell which connect to earth (indoor side or outdoor side).
2. There should be independent pipeline for communication wire.
3. The distance between OTA communication cable and the power supply cable should be at least 10cm.
4. Ensure specifically that there is an earth leakage breaker (ELB) installed for both the outdoor and indoor unit.
5. If the installation is already fitted with an earth leakage breaker (ELB), ensure that its rated current is large enough to withstand the current of the units (both outdoor and indoor).

US30MB2BEA / US36MB2BEA



DIP SWITCH & JUMPER SETTINGS

DIP SW1

SW1-1	SW1-2	SW1-3	SW1-4	SW1-5	SW1-6	SW1-7	SW1-8	Description
ON	ON	OFF	-	-	-	-	-	24K
OFF	OFF	ON	-	-	-	-	-	30K
ON	OFF	ON	-	-	-	-	-	36K
-	-	-	OFF	-	-	-	-	Room Card Valid
-	-	-	ON	-	-	-	-	Room Card Invalid
-	-	-	-	OFF	-	-	-	Refrigerant Detector Functional
-	-	-	-	ON	-	-	-	The Refrigerant Detector Invalid
-	-	-	-	-	OFF	-	-	Fresh Air
-	-	-	-	-	ON	-	-	Fault Alarm
-	-	-	-	-	-	OFF	-	None - Filter Alarm Reminder + Refrigeration Fan Stops
-	-	-	-	-	-	ON	-	Filter Alarm Reminder + Refrigeration Fan Does Not Stop
-	-	-	-	-	-	-	OFF	Us Models
-	-	-	-	-	-	-	ON	Non-Us Models

DIP SW3

SW3-1	SW3-2	SW3-3	SW3-4	SW3-5	SW3-6	SW3-7	SW3-8	Description
OFF	-	-	-	-	-	-	-	Special Fresh Air Selection For Duct Unit: Valid
ON	-	-	-	-	-	-	-	Special Fresh Air Selection For Duct Unit: Invalid
-	OFF	-	-	-	-	-	-	Cassette Single Swing Wind - Synchronized Swing Of Swing Blades
-	ON	-	-	-	-	-	-	Cassette Unit Four Swing Wind - Four Swing Blades Swing At Different Angles, Misaligned Swing
-	-	OFF	-	-	-	-	-	Electrical Heating: Invalid
-	-	ON	-	-	-	-	-	Electrical Heating: Valid
-	-	-	OFF	-	-	-	-	Model: Ultra-Slim Ducted Unit With 4-Level Static Pressure
-	-	-	ON	-	-	-	-	Model: Medium Static Pressure Duct With 10-Level Static Pressure Adjustment
-	-	-	-	OFF	OFF	OFF	OFF	0# (Wired Control Main) (Default)
-	-	-	-	OFF	OFF	OFF	ON	1# (Line-Controlled Sub Machine)
-	-	-	-	OFF	OFF	ON	OFF	2# (Line-Controlled Sub Machine)
-	-	-	-	OFF	OFF	ON	ON	3# (Line-Controlled Sub Machine)
-	-	-	-	-	-	-	-	--
-	-	-	-	ON	ON	ON	ON	15# (Line-Controlled Sub Machine)

SW3_1 The fan selection function in cooling mode is only applicable to duct and slim duct.
SW3_4 Only applicable to slim duct

Jumper Settings - Model Identification

RJ1	RJ2	RJ3	SW3-2	SW3-3	Description
OFF	OFF	OFF	OFF	OFF	Crane
OFF	OFF	OFF	OFF	ON	Cassette With 1 Oscillating Wind
OFF	OFF	OFF	ON	OFF	Cassette With Four-Way Oscillating Wind
OFF	OFF	OFF	ON	ON	Cassette With Light Panel
OFF	OFF	ON	OFF	OFF	Console
OFF	ON	OFF	OFF	OFF	Small Duct
OFF	ON	OFF	OFF	ON	High-Capacity Duct
-	-	-	-	-	Reserve

Suitable for convertible, 2HP cassette (matched with single swing wind), 2HP cassette (matched with four swing wind), 3HP cassette (equipped with display board). For example, if the convertible has 0 0 0 0, the resistance should be welded RJ1/RJ2/RJ3. Simultaneously dial the second digit of code BM3 to OFF and the third digit to OFF. The same setup method is used for other models.

Resistance Values

	US24MB2BEA	US30MBB2BEA	US36MBB2BEA
Fan Motor Resistance Value	0150402221C-200W, 12.5Ω±10%	0150402221DC-200W(No extended shaft) 12.5Ω±10%	

Model	Ambient temperature sensor	Pipe temperature sensor
	Resistance Value	Resistance Value
US24MB2BEA	R25=10KΩ±3% B25/50=3700K±3%	R25=10KΩ±3% B25/50=3700K±3%
US30MB2BEA		
US36MB2BEA		

Measure the Resistance:

Use a multimeter to measure the resistance between any two phases (U, V, W) of the motor (as shown in the following diagram).

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ERROR CODES

1G24ED2BEA / 1G3036ED2BEA

ERROR CODE	MALFUNCTION DESCRIPTION	DIAGNOSIS AND ANALYSIS	REMARK
1	EEPROM MALFUNCTION	EEPROM CHIP DAMAGED OR DATA WRONG OR RELATED CIRCUIT DAMAGED	RESUMABLE
2	IPM HARDWARE OVERCURRENT	INPUT OVER CURRENT OCCURED BEEN DETECTED BY IPM'S HARDWARE	NON-RESUMABLE
3	THE AC INPUT CURRENT OF THE MODULE OVERFLOWS	THE INVERTER MODULE OF THE PRESS DETECTS THE AC INPUT CURRENT OVERCURRENT	NON-RESUMABLE
4	COMMUNICATION ABNORMAL BETWEEN CONTROL BOARD AND COMPRESSOR DRIVER MODULE	CONTROL BOARD CAN NOT COMMUNICATE WITH COMPRESSOR DRIVER MODULE OVER 4 MINUTES	RESUMABLE
5	THE COMPRESSOR MODULE IS OVERLOADED	HIGH COMPRESSOR CURRENT DETECTED BY THE PRESS FREQUENCY CONVERSION MODULE (OVERLOAD)	RESUMABLE
6	MODULE OVER/UNDER VOLTAGE PROTECTION	THE DC VOLTAGE OR AC VOLTAGE IS TOO HIGH OR TOO LOW IN THE INVERTER MODULE OF THE PRESS	RESUMABLE
7	COMPRESSOR IS BLOCKED OR STOPPED IMMEDIATELY	THE PRESS FREQUENCY CONVERSION MODULE DETECTS THAT THE THREE-PHASE MODULE INPUT POWER SUPPLY IS OUT OF PHASE	RESUMABLE
8	EXHAUST TEMPERATURE TOO HIGH PROTECTION	AFTER THE COMPRESSOR IS STARTED, THE TD SENSOR IS DETECTED TO STOP FOR 3 SECONDS ABOVE 115 ° C (E)	RESUMABLE
9	DC FAN MOTOR FAULT	DC FAN MOTOR DAMAGE OR NOT CONNECTED OR RELATED CIRCUIT BROKEN.	RESUMABLE
10	OUTDOOR DEFROSTING TEMP. SENSOR TE ABNORMAL	SENSOR TEMPERATURE BEEN DETECTED BELOW -55°C OR HIGHER THAN 90°C OR BEEN DETECTED AS SHORT CIRCUIT OR OPEN CIRCUIT .	RESUMABLE
11	OUTDOOR SUCTION TEMP. SENSOR TS ABNORMAL		
12	OUTDOOR A MBIENT TEMP. SENSOR TA ABNORMAL		
13	OUTDOOR EXHAUST TEMP. SENSOR TD ABNORMAL	SENSOR TEMPERATURE BEEN DETECTED BELOW -.30°C OR HIGHER THAN 150°C OR BEEN DETECTED SHORT CIRCUIT OR OPEN CIRCUIT	RESUMABLE
15	COMMUNICATION ABNORMAL BETWEEN INDOOR UNIT AND OUTDOOR UNIT	OUTDOOR UNIT CONTROL BOARD CAN NOT COMMUNICATING WITH INDOOR UNIT CONTROL BOARD OVER 4 MINUTES	RESUMABLE
16	LACK OF REFRIGERANT OR DISCHARGING PIPE BLOCKED	THE COOLING PRESS STARTS TO DETECT THE EXHAUST OVERHEAT TD-TC≥80 ° C (E) FOR MORE THAN 2 MINUTES AFTER STARTING 10 MINUTES	RESUMABLE
17	4-WAY VAVLE CONVERSE ABNORMAL	INDOOR PIPE & INDOOR AMBIENT TEMPERATURE TM-TAI≥-2°C AFTER COMPRESSOR STARTED 10 MINUTES.	RESUMABLE
18	COMPRESSOR MOTOR DESYNCHRONIZING	THE PRESS FREQUENCY CONVERSION MODULE DETECTS THE COMPRESSOR OUT OF STEP	RESUMABLE
19	THE POSITION DETECTION LOOP IS FAULTY	THE CURRENT SAMPLING CIRCUIT OF THE COMPRESSOR FREQUENCY CONVERSIONMODULE IS FAULTY. THE COMPRESSOR FREQUENCY CONVERSION MODULE DETERMINES THE FAULT	RESUMABLE
20	IPM HARDWARE OVERCURRENT	INPUT OVER CURRENT OCCURED BEEN DETECTED BY IPM'S HARDWARE	NON-RESUMABLE
21	INDOOR OVERLOADING SHUTDOWN/HEATING INDOOR COIL TM HIGH TEMPERATURE PROTECTION	INDOOR PIPE TEMPERATURE TM≥63 DEGREES, LASTING 5 SECONDS, THEN STOP; THE INNER COIL TEMPERATURE CAN BE RESUMED IF IT DROPS BELOW 52 DEGREES	RESUMABLE
22	THE INDOOR COIL FREEZES	AFTER THE PRESS IS OPENED FOR 6 MINUTES, WHEN TM < 1°C(E) LASTS FOR 10S OR TS<-20°C(E) IN REFRIGERATION MODE FOR MORE THAN 2 HOURS, STOP THE PRESS, STOP FOR 5 MINUTES (E) AND RESUME OPERATION WHEN THE COILTEMPERATURE RISES TO MORE THAN 9°C(E)	RESUMABLE
23	TEMPERATURE TOO HIGH FOR COMPRESSOR DRIVER MODULE	COMPRESSOR DRIVER MODULE'S PIM TEMPERATURE OVER 90° (E)°C.	RESUMABLE
24	COMPRESSOR SOFTWARE INSTANTANEOUS OVERCURRENT PROTECTION (MODULE)	THE COMPRESSOR FREQUENCY CONVERSION MODULE DETECTS THAT THE COMPRESSOR CURRENT IS TOO HIGH	NON-RESUMABLE
25	COMPRESSOR PHASE CURRENT OVERCURRENT (MASTER CONTROL)	THE OUTDOOR ELECTRONIC CONTROLLER DETECTS THAT THE CURRENT (MODULE COMMUNICATION DATA) AT THE PRESS SIDE IS GREATER THAN THE SPECIFIEDSHUTDOWN VALUE OF THE OUTDOOR UNIT FOR 2 SECONDS	RESUMABLE
26	THE INPUT POWER OF THE MODULE IS OUT OF PHASEOR ABNORMAL	THE PRESS FREQUENCY CONVERSION MODULE DETECTS THAT THETHREE-PHASE MODULE INPUT POWER SUPPLY IS OUT OF PHASE	RESUMABLE
27	THE MODULE INPUT CURRENT SAMPLING IS FAULTY	THE CURRENT SAMPLING CIRCUIT OF THE INVERTER MODULE OF THE PRESS IS FAULTY	RESUMABLE
39	THE SENSOR IN THE MIDDLE OF THE CONDENSER IS ABNORMAL	THE TEMPERATURE DETECTED IS NOT WITHIN THE RANGE OF -55°C TO 90°C	RESUMABLE
42	HIGH PRESSURE SWITCH ABNORMAL	AFTER COMPRESSOR RUNNING FOR 3 MINUTES, SWITCH BEEN DETECTED OPEN CIRCUIT FOR 30SECONDS	NON-RESUMABLE
43	LOW PRESSURE SWITCH ABNORMAL	AFTER COMPRESSOR RUNNING FOR 3 MINUTES, SWITCH BEEN D ETECTED UNCON- NECTED FOR 60SECONDS OR UNCONNECTED FOR 30SECONDS AT STANDBY	NON-RESUMABLE
44	COOLING OUTDOOR COIL TEMPERATURE OVERHEAT PROTECTION	THE MAXIMUM TEMPERATURE VALUE OF TC AND TE IS OVER 65°C.	NON-RESUMABLE
45	SYSTEM LOW PRESSURE PROTECTION	THE MINIMUM TEMPERATURE VALUE OF INDOOR PIPE TM AND OUTDOOR TS IS LOWER THAN-45°C AT COOLING MODE OR MINIMUM TEMPERATURE VALUE OF OUTDOOR TC AND OUTDOOR TE IS LOWER THAN-45°C AT HEATING MODE	NON-RESUMABLE
46	THE MODULE TEMPERATURE SENSOR IS ABNORMAL	THE MODULE TEMPERATURE TRANSMITTED BY THE MODULE IS NOT BETWEEN -25 AND 150 °C FOR 60 SECONDS	RESUMABLE
51	HIGH PRESSURE SENSOR PD MALFUNCTION	CONTINUOUS DETECTION OF AD VALUE BELOW 11 (OPEN CIRCUIT) OR ABOVE 1012 (SHORT CIRCUIT) FOR 30 SECONDS	/
52	LOW PRESSURE SENSOR PS MALFUNCTION	CONTINUOUS DETECTION OF AD VALUE BELOW 11 (OPEN CIRCUIT) OR ABOVE 1012 (SHORT CIRCUIT) FOR 30 SECONDSWHEN TAO ≥ 40°C, THE SHORT-CIRCUIT FAULT IS NOT CONFIRMED	/
53	MODULE STARTUP FAILED	COMPRESSOR FREQUENCY CONVERSION MODULE DETECTS COMPRESSOR OUT OF STEP. THE COMPRESSOR FREQUENCY CONVERSION MODULE MAKES ITS OWN JUDGMENT AND SENDS THE MODULE FAULT CODE [H'50 '- START FAILURE] TOTHE OUTDOOR ELECTRONIC CONTROLLER THROUGH THE COMMUNICATION PORT	RESUMABLE

US24LB2BEA / US30LB2BEA / US36LB2BEA / US24MB2BEA / US30MB2BEA / US36MB2BEA

LED2 FLASH TIMES		PANEL DISPLAY	WIRED CONTROLLER DISPLAY	DESCRIPTION	POSSIBLE CAUSES
TENS PLACE	ONES PLACE				
0	1	E1	1	INDOOR UNIT AMBIENT TEMPERATURE SENSOR MALFUNCTION	SENSOR DISCONNECTED, BROKEN, AT WRONG POSITION, OR SHORT CIRCUIT.
0	2	E2	2	INDOOR UNIT PIPING TEMPERATURE SENSOR MALFUNCTION	SENSOR DISCONNECTED, BROKEN, AT WRONG POSITION, OR SHORT CIRCUIT.
0	4	E4	4	INDOOR PCB EEPROM WRONG	EEPROM CHIP DISCONNECTED, BROKEN, WRONG PROGRAMMED, OR PCB BROKEN.
0	7	E7	7	ABNORMAL COMMUNICATION BETWEEN INDOOR AND OUTDOOR UNITS	WRONG CONNECTION, WIRES DISCONNECTED, WRONG ADDRESS SETTING OF INDOOR UNIT, FAULTY POWER SUPPLY, OR FAULTY PCB
0	8	E8	07 FLASHING ON THE UPPER RIGHT CORNER	ABNORMAL COMMUNICATION BETWEEN WIRED CONTROLLER AND INDOOR UNIT	WRONG CONNECTION, WIRED CONTROLLER BROKEN, OR PCB FAULTY.
0	12	E12	0C	DRAIN SYSTEM MALFUNCTION	PUMP MOTOR DISCONNECTED OR AT WRONG POSITION,FLOAT SWITCH DISCONNECTED, WRONG POSITION, OR SHORT CIRCUIT BRIDGE DISCONNECTED
0	13	E13	0D	ZERO CROSS SIGNAL WRONG	ZERO CROSS SIGNAL DETECTED WRONG.
0	14	E14	0E	INDOOR UNIT DC FAN MOTOR ABNORMAL	DC FAN MOTOR DISCONNECTED, FAN BROKEN, OR CIRCUIT BROKEN
M(≥2)	N(≥0)	F1-F45	OUTDOOR ERROR CODE +20 CORRESPOND HEX CODE	OUTDOOR UNIT ERROR	SEE CORRESPOND OUTDOOR UNIT ERROR TROUBLESHOOTING. REMARK: F1 MEANS OUTDOOR ERROR CODE 1, F2 MEANS OUTDOOR ERROR CODE 2, AND SO ON.
18	6	bA	BA	THE REFRIGERANT DETECTOR IS NOT INSTALLED	NO REFRIGERANT DETECTOR IS INSTALLED
17	0	AA	AA	REFRIGERANT LEAKAGE	FAULT “AA” CANNOT BE CLEARED. ONLY THE LEAKAGE CONCENTRATION DECREASES AND THE FAULT IS TURNED TO “AB”. SEE THE TECHNICAL MANUAL FOR ELIMINATION
17	2	Ac	AC	THE COMMUNICATION OF THE REFRIGERANT SENSOR IS FAULTY	WHEN THE AIR CONDITIONER IS RUNNING, THE CABLE HARNESS OF THE REFRIGERANT SENSOR FALLS OFF.
17	3	Ad	AD	THE REFRIGERANT SENSOR SELF CHECK IS FAULTY	THE REFRIGERANT SENSOR IS FAULTY.
17	4	AE	AE	REFRIGERANT SENSOR LIFE THRESHOLD	REFRIGERANT SENSOR LIFE THRESHOLD REMINDER
17	5	AF	AF	THE REFRIGERANT SENSOR EXPIRES	REFRIGERANT SENSOR LIFE THRESHOLD, NEED TO BE REPLACED

Note:
1. *For more details about the outdoor unit failure, please refer to the outdoor unit troubleshooting list.*
2. *SW1-5 OFF: Start the refrigerant sensor function. SW1-5 ON: Disable the refrigerant sensor function.*

GS24WP2BEA / GS30WB2BEA / GS36WB2BEA

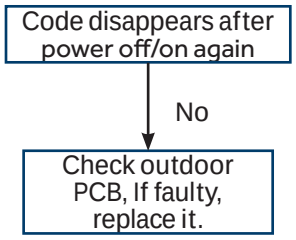
OUTDOOR LED	FAULT DESCRIPTION	INDOOR DISPLAY
/	ROOM TEMPERATURE SENSOR FAILURE	E1
/	INDOOR COIL TEMPERATURE SENSOR FAILURE	E2
/	INDOOR EEPROM ERROR	E4
15	COMMUNICATION FAILURE BETWEEN THE INDOOR & OUTDOOR UNIT	E7
/	INDOOR FAN MOTOR FAILURE	E14
21	IDU ANTI-FROSTING PROTECTION (COOLING MODE ONLY)	/
21	INDOOR UNIT OVER TEMPERATURE (HEATING MODE ONLY)	/
28	LACK OF REFRIGERANT OR DISCHARGING	/
/	REFRIGERANT LEAKAGE FAULT >10% LFL	AA
/	REFRIGERANT LEAKAGE FAULT <8% LFL	Ab
/	LEAK SENSOR COMMUNICATION FAULT	Ac
/	LEAKAGE SENSOR SELF-CHECK FAULT SELF-CHECK FAULT	Ad
/	SENSOR REACHING END OF LIFE WARNING	AE
/	LEAKAGE SENSOR END OF LIFE	AF
/	DIP SWITCH ENABLED. NO SENSOR DETECTED	bA

[1]
Outdoor EEPROM malfunction

EEPROM communication error; EEPROM data check error (model ID, checksum, etc.); EEPROM data logic error (wider data range, wrong order, etc.)

Possible Causes:

- *EEPROM is bad*
- *Loose EEPROM wiring*

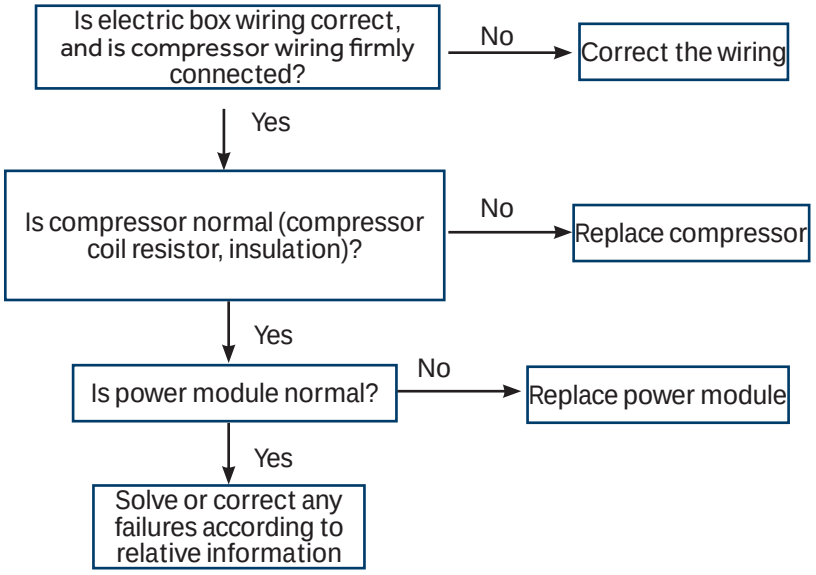


[2]
Compressor Drive Module's IPM overcurrent or short circuit

Input over current detected by PIM's hardware.

Possible Causes:

- *The IPM is bad*
- *Loose compressor wire*
- *The compressor is bad*

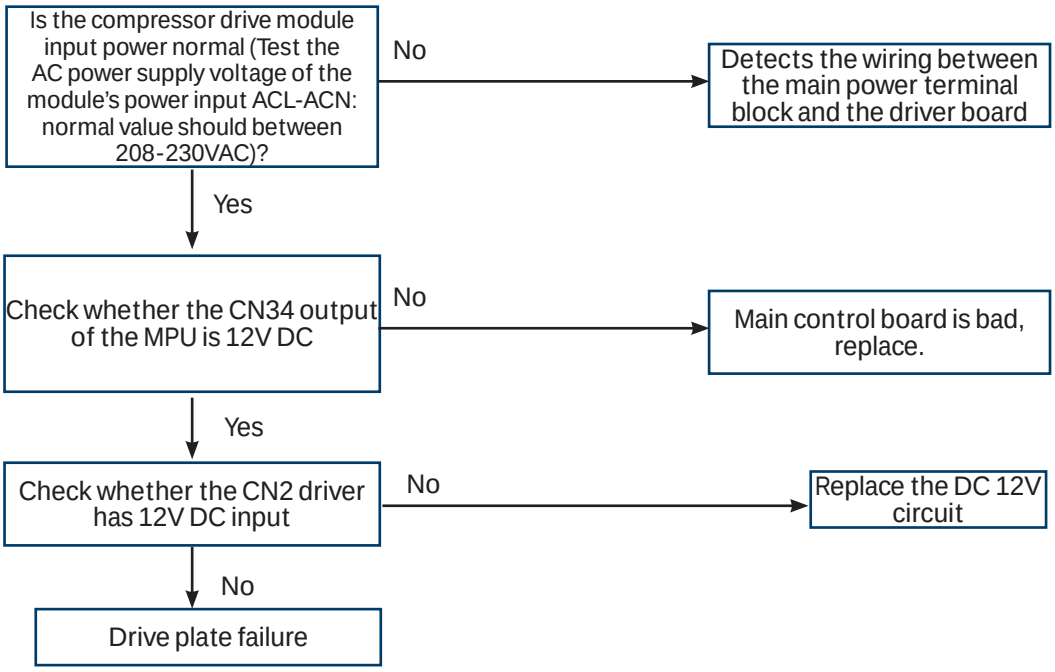


[4]
Communication abnormal between PCB and IPM

Control board can not communicate with the compressor driver module for over 4 minutes

Possible Causes:

- *The communication wire is bad*
- *The PCB is bad*
- *The power module is bad*



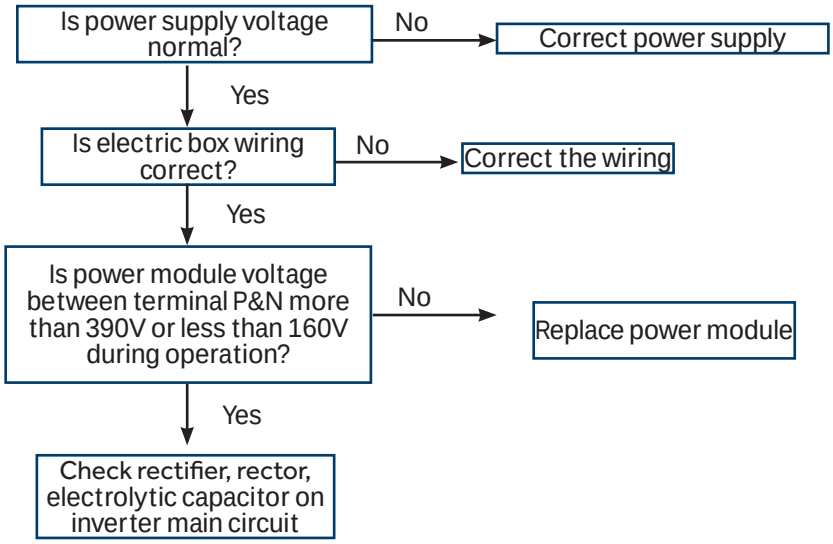
[6]

Compressor Drive Module low or high voltage

Driver module AC power supply voltage over 280VAC, or driver module DC-BUS voltage over 390VDC.

Possible Causes:

- *The power supply is abnormal*
- *Incorrect wiring*
- *Power module is bad*



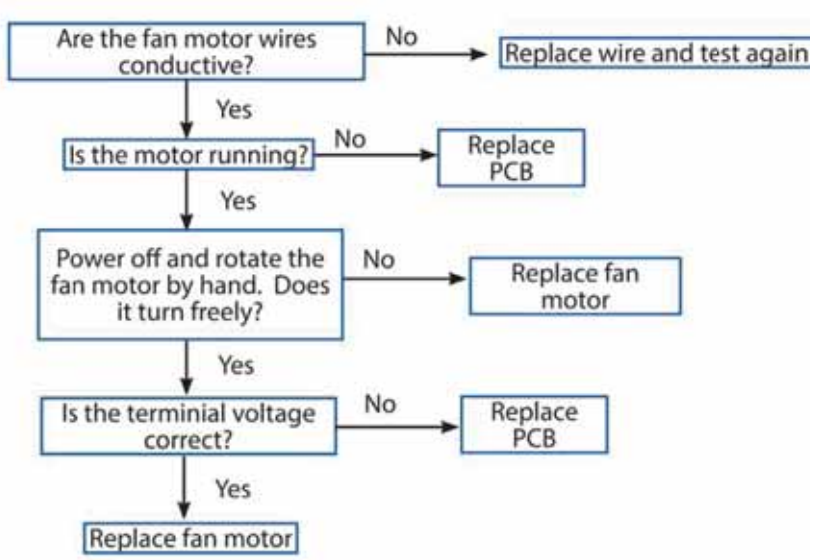
[8]

Overheat protection for discharge temperature

Compressor discharge temperature over 115°C. Error clears within 3 minutes if temperature lowers below 115°C.

Possible Causes:

- *The sensor is bad or fixed bad*
- *The system is clogged*
- *The system lack of refrigerant*
- *The valve opening is wrong*



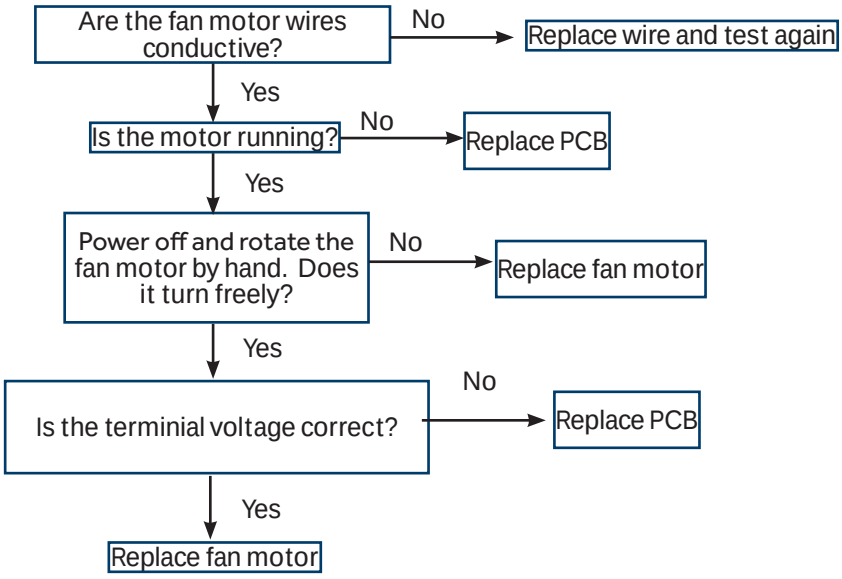
[9]

DC fan motor fault

DC fan motor damaged, not connected, or related circuit broken. Error status confirms and locks if occurs 3 times within 30 minutes.

Possible Causes:

- *Loose motor wiring*
- *The motor is bad*
- *The PCB is bad*



[10]
Outdoor defrosting temp. sensor Te abnormal

[11]
Suction temp.sensor Ts abnormal

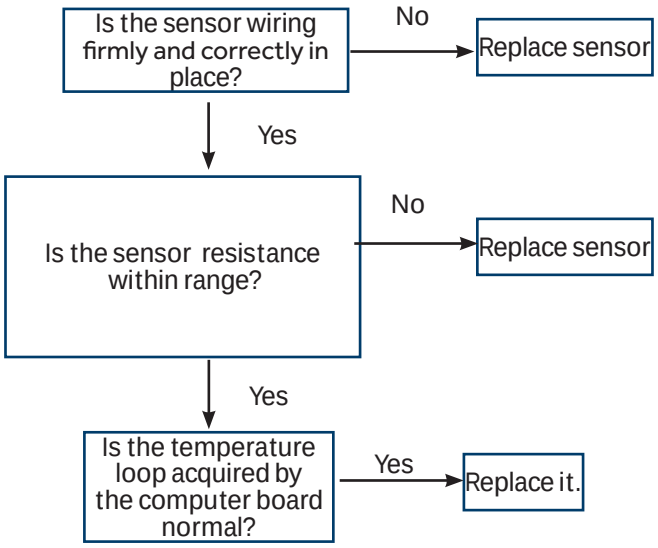
[12]
Outdoor ambient temp. sensor Ta abnormal

[13]
Discharging temp. sensor Td abnormal

Sensor temperature has been detected below or higher than expected, or has been detected as a shorted or open circuit (for expected temperature, refer to part failure code)

Possible Causes:

- *Bad sensor connection*
- *The sensor is bad*
- *Sensor resistance drift*
- *The temperature acquired by PCB is not accurate*

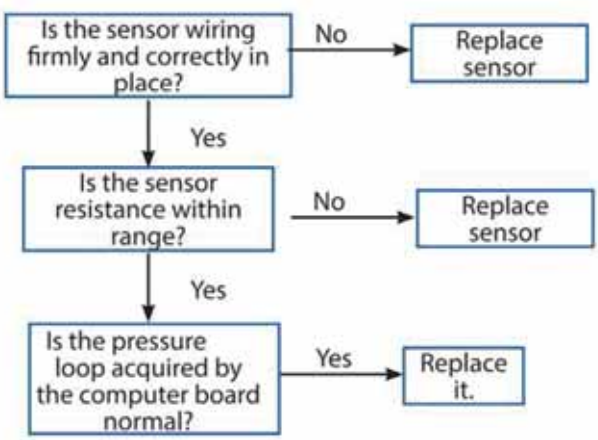


[15]
High pressure sensor malfunction

Has been detected as a shorted or open circuit

Possible Causes:

- *Bad sensor connection*
- *The sensor is bad*
- *Sensor resistance drift*
- *The pressure acquired by PCB is not accurate*



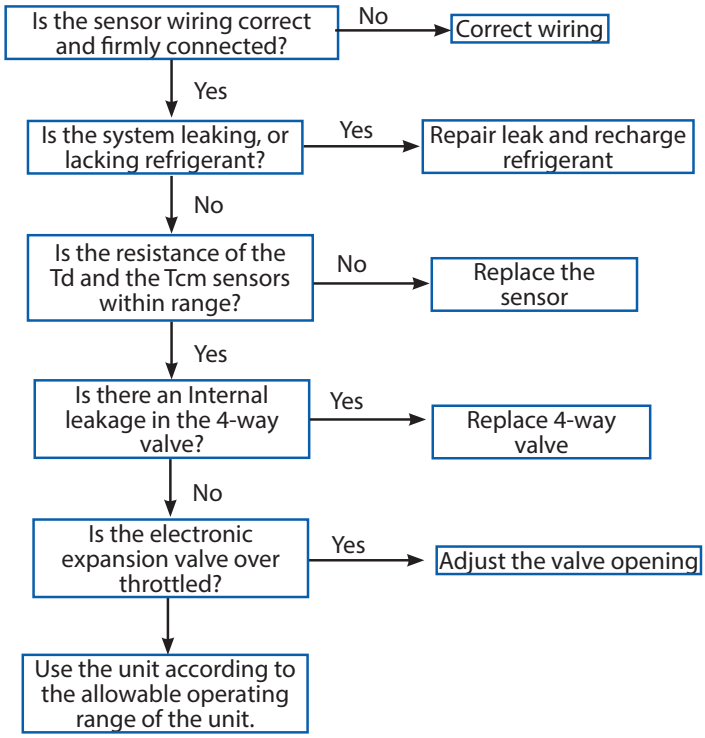
[16]

Lack of refrigerant or discharging pipe blocked

Discharge & suction temperature Td-Ts≥80°C 10 minutes after compressor start. Error status locks if it occurs 3 times in 1 hour.

Possible Causes:

- *Wrong sensor connection*
- *Lack of refrigerant*
- *The senor is bad*
- *The 4-way valve is bad*
- *The electronic expansion valve is bad*
- *Out of the operating range*



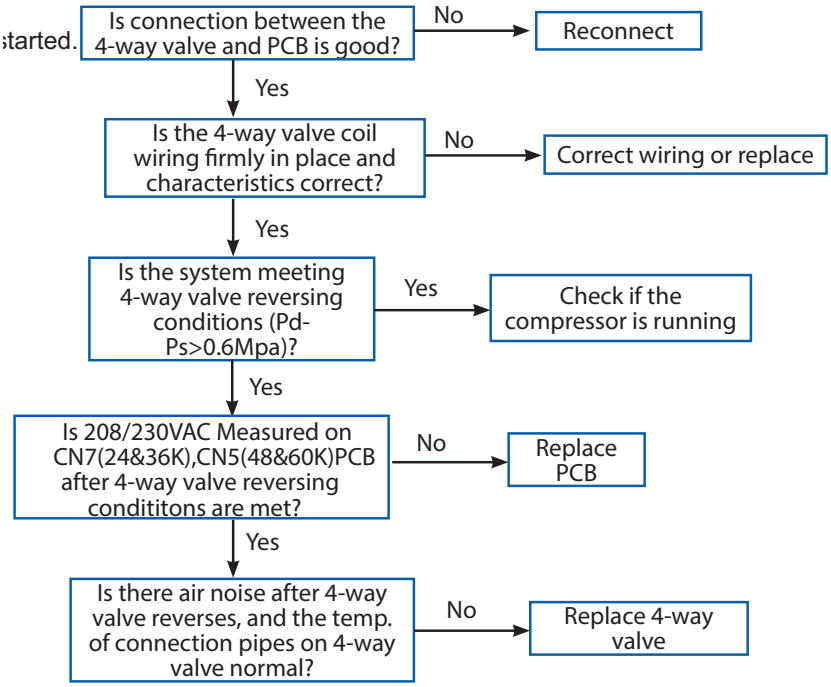
[17]

4-way valve reversing failure

Indoor pipe & indoor ambient temperature Tm-Tai≥5°C 10 minutes after compressor started. Error status locks if it occurs 3 times in 1 hour.

Possible Causes:

- *The 4-way valve is bad*
- *The PCB is bad*
- *The 4-way valve coil connection is bad*
- *The system pressure difference is too small.*

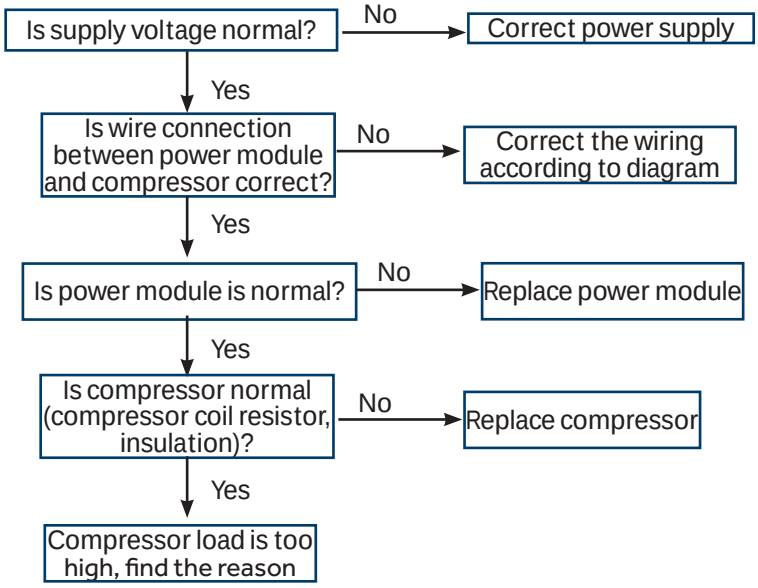


[18]
Compressor motor desynchronizing

Motor desynchronizing occurred. Caused by overload, load sharply fluctuating, abnormal compressor current sensor circuit, or one of the inverter gate drive signals is missing.

Possible Causes:

- *The power supply is abnormal*
- *Incorrect compressor wiring*
- *The power module is bad*
- *The compressor is bad*
- *The system is overload*

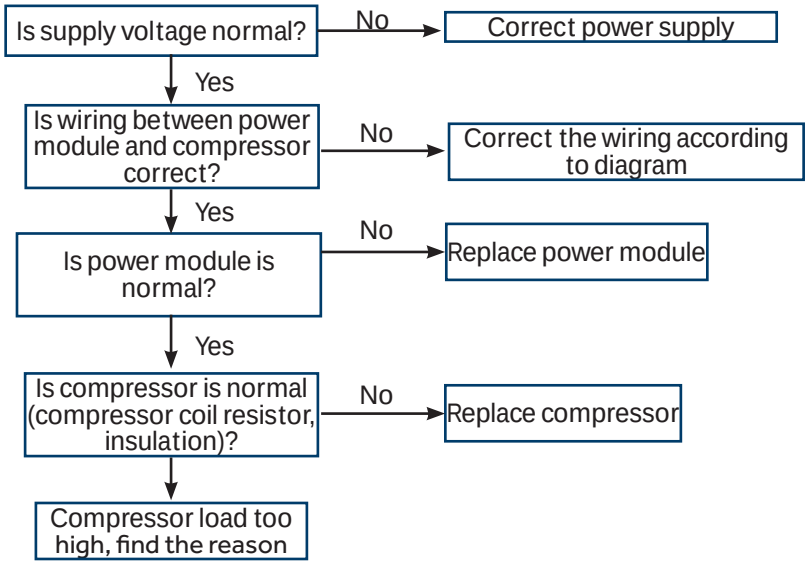


[24]
Compressor startup failure

Compressor start failure has been detected by driver module.

Possible Causes:

- *The power supply is abnormal*
- *Incorrect compressor wiring*
- *The power module is bad*
- *The compressor is bad*
- *System overload*

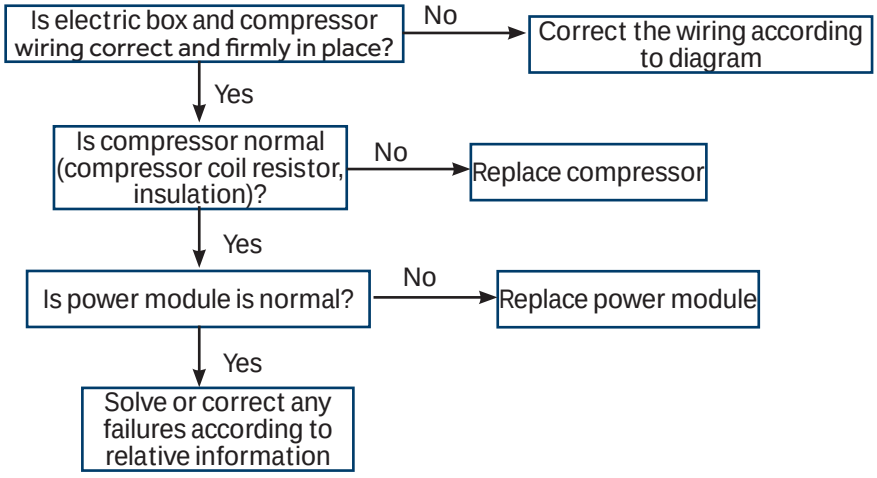


[25]
Input overcurrent of the drive module

Compressor drive module input current higher than 30A (42K&48K), or 15A (24k),or18A (36K)

Possible Causes:

- *Incorrect compressor wiring*
- *The power module is bad*
- *The compressor is bad*



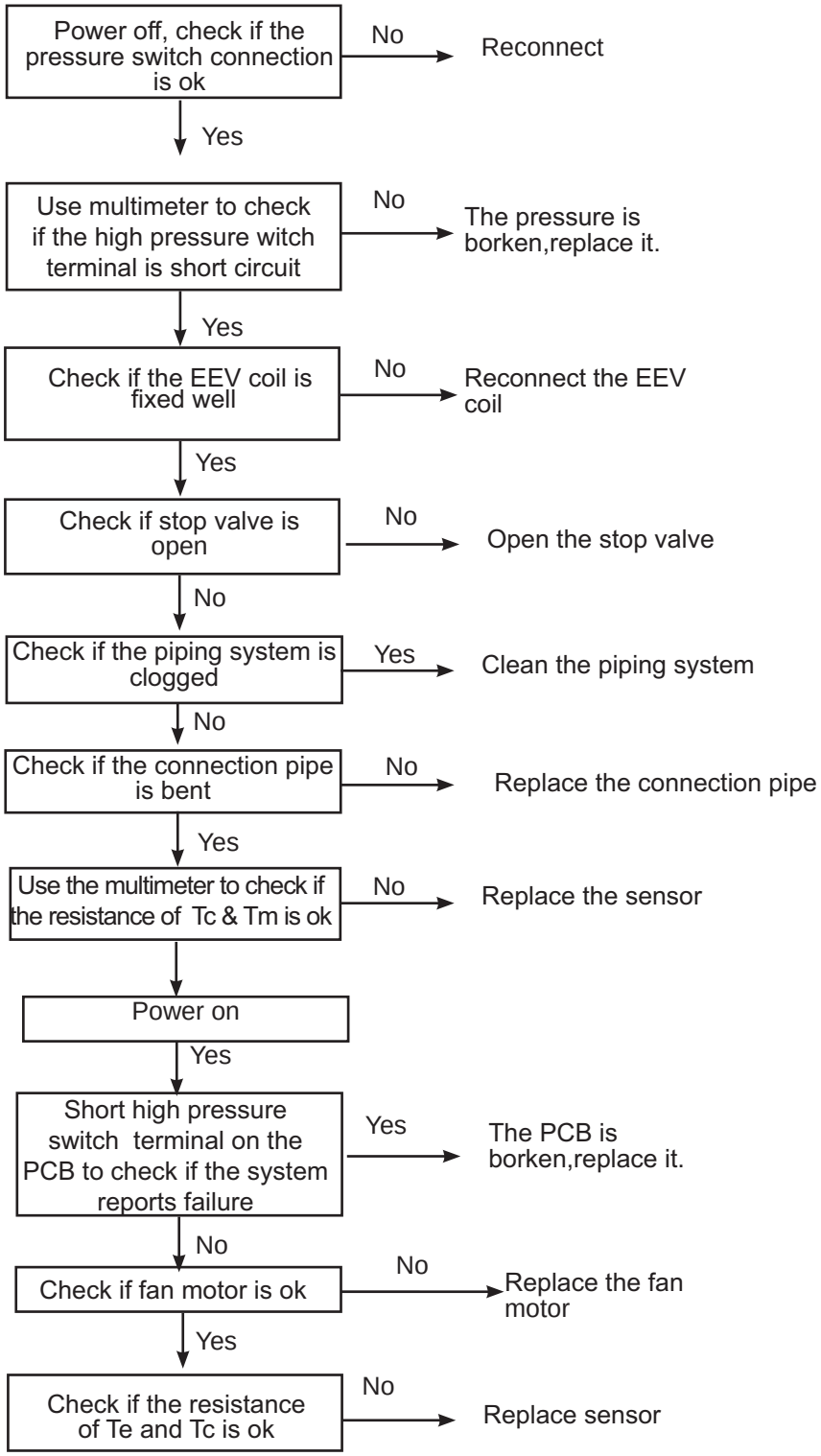
[42]

Open high pressure switch

High pressure switch: Switch circuit has been detected open for 30 seconds (after 3 minute of compressor run time).
Opening pressure: 4.3Mpa
Closing pressure: 3.6Mpa

Possible Causes:

- *Incorrect pressure switch wiring*
- *Abnormal system pressure*
- *System is clogged*
- *Incorrect refrigerant charge*
- *Bad valve*
- *Pressure switch is bad*
- *PCB is bad*



ENGLISH

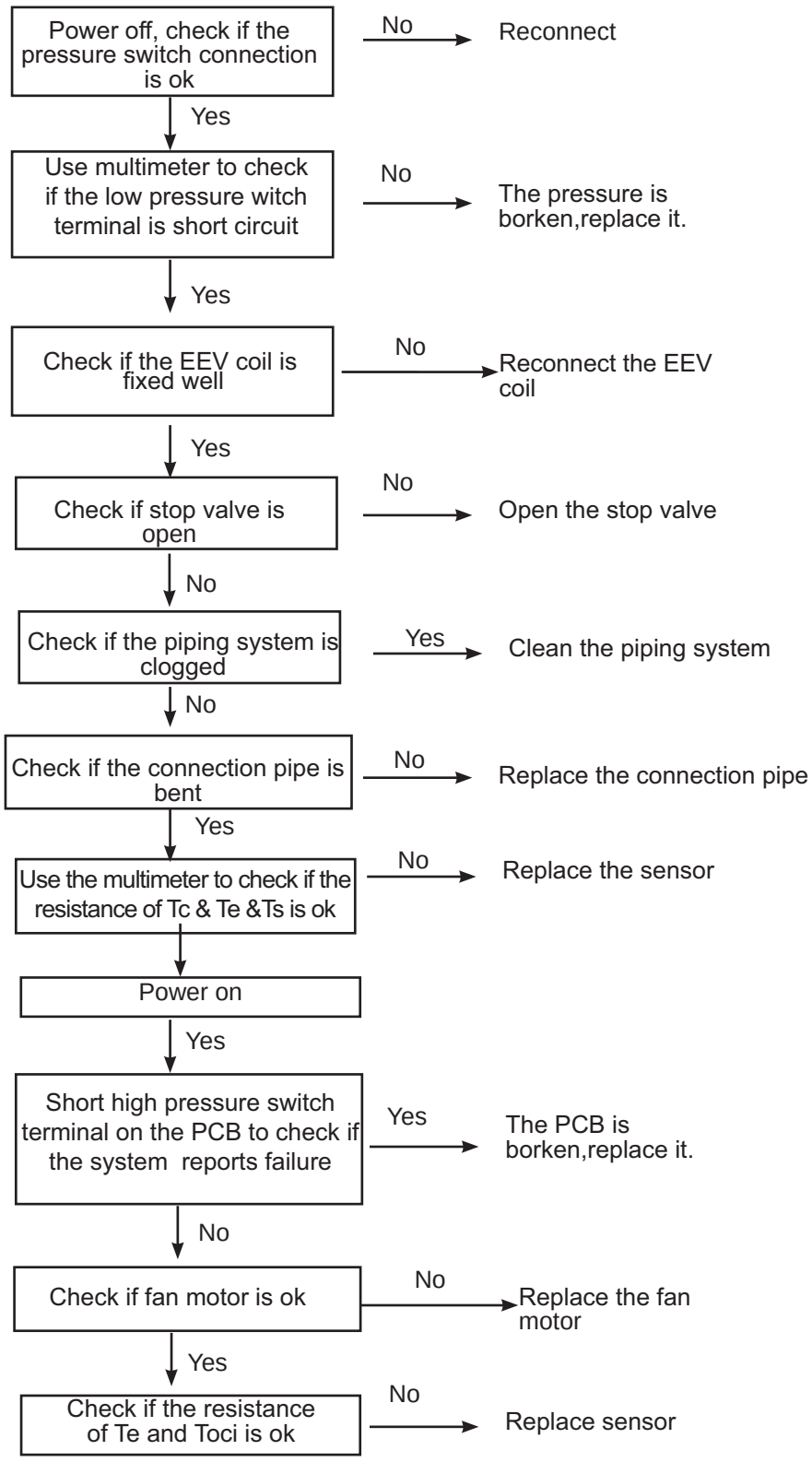
[43]

Open low pressure switch

Low pressure switch: Switch has been detected open for 60 seconds (after 3 minute of compressor run time) or open for 30 seconds during standby.
Opening pressure: 0.03Mpa
Closing pressure: 0.1Mpa

Possible Causes:

- *Incorrect pressure switch wiring*
- *Abnormal system pressure*
- *System is clogged*
- *Incorrect refrigerant charge*
- *Bad valve*
- *Pressure switch is bad*
- *PCB is bad*



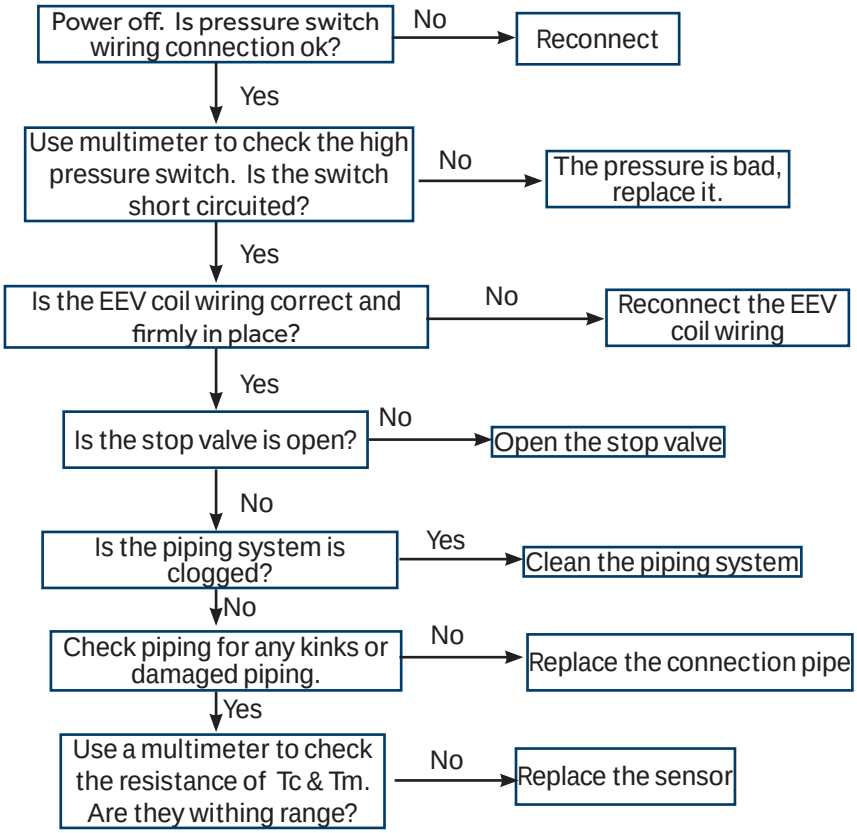
[44]

High pressure detected in system

Outdoor TC sensor temperature >65°C(149F) during cooling.

Possible Causes:

- *High pressure sensor detection value is incorrect*
- *Refrigerant overcharge*
- *Blocked liquid line piping*
- *The outdoor unit cannot be turned on normally due to failure to open outdoor heat exchanger electronic expansion valve when heating.*
- *The operation environment is beyond the allowed range.*



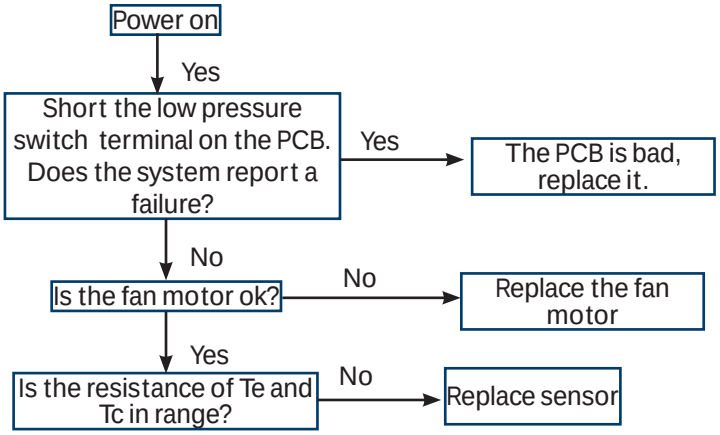
[45]

Low pressure detected in system

The minimum temperature value of indoor pipe Tm and outdoor Ts is lower than -45 °C during cooling mode, or minimum temperature value of outdoor Tc and outdoor Te is lower than -45 °C.

Possible Causes:

- *Low pressure sensor detection value is incorrect*
- *Low refrigerant charge*
- *System air leakage*
- *Blocked low pressure or liquid line piping*
- *The outdoor unit cannot be turned on normally due to failure to open outdoor heat exchanger electronic expansion valve when heating.*
- *The operation environment is beyond the allowed range.*



E1/LED1: No Flash

Room Temperature Sensor Failure

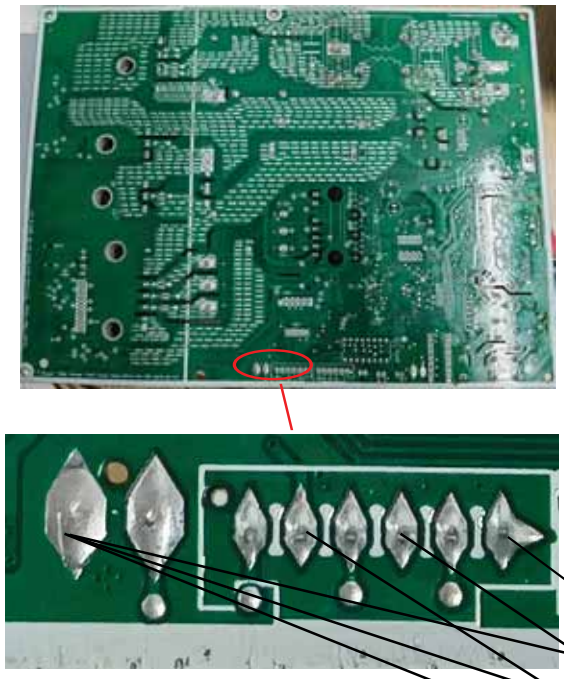
E2/LED1: No Flash

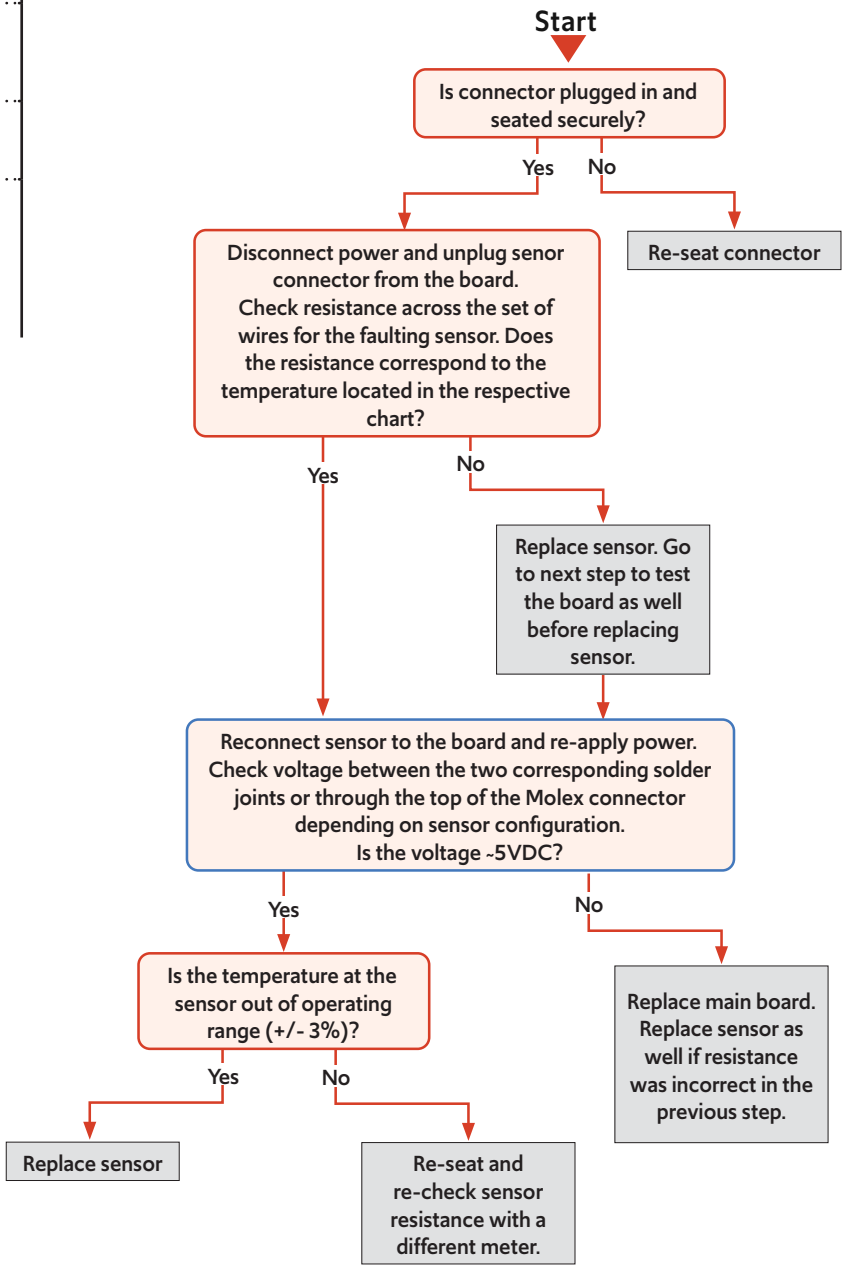
Indoor Coil Temperature Sensor Failure

Thermistor input is more than 4.92V or less than 0.08V during compressor operation.

Possible Causes:

- *Faulty connector connection*
- *Faulty thermistor*
- *Faulty PCB*





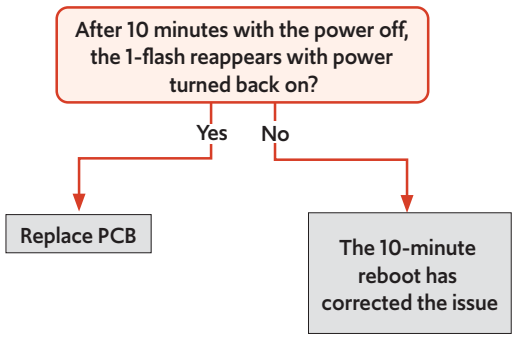
E4
Indoor EEPROM Error

F12/ LED1: 1 Flash
Outdoor EEPROM Error

EEPROM data error or the EEPROM is damaged

Possible Causes:

- *Faulty EEPROM data*
- *Faulty EEPROM*
- *Faulty PCB*

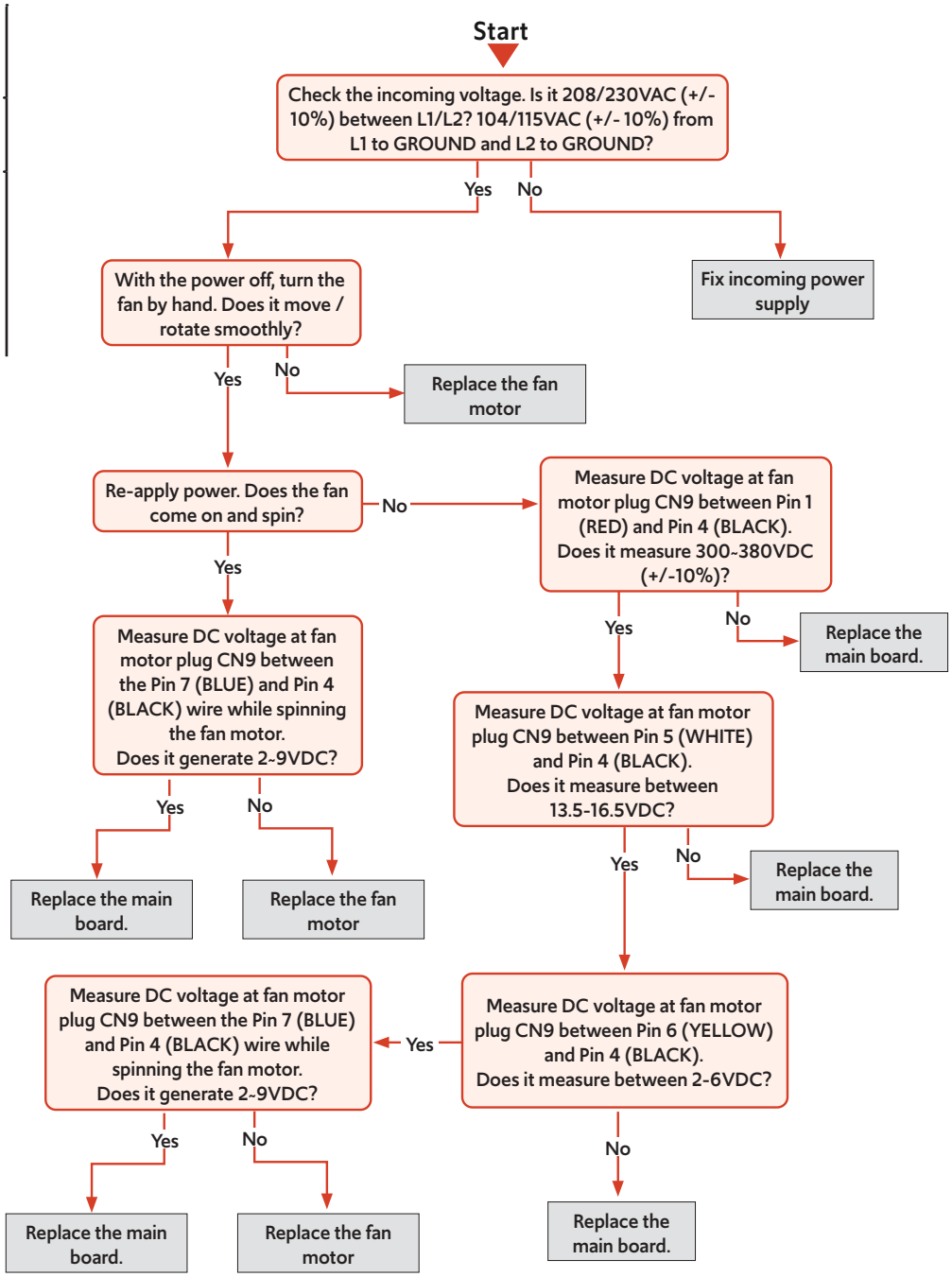


E14
Indoor Fan Motor Failure

No rotation feedback signal detected for 2 minutes

Possible Causes:

- *Faulty fan motor*
- *Fan motor overheat protection*
- *Detection error due to faulty indoor unit PCB*



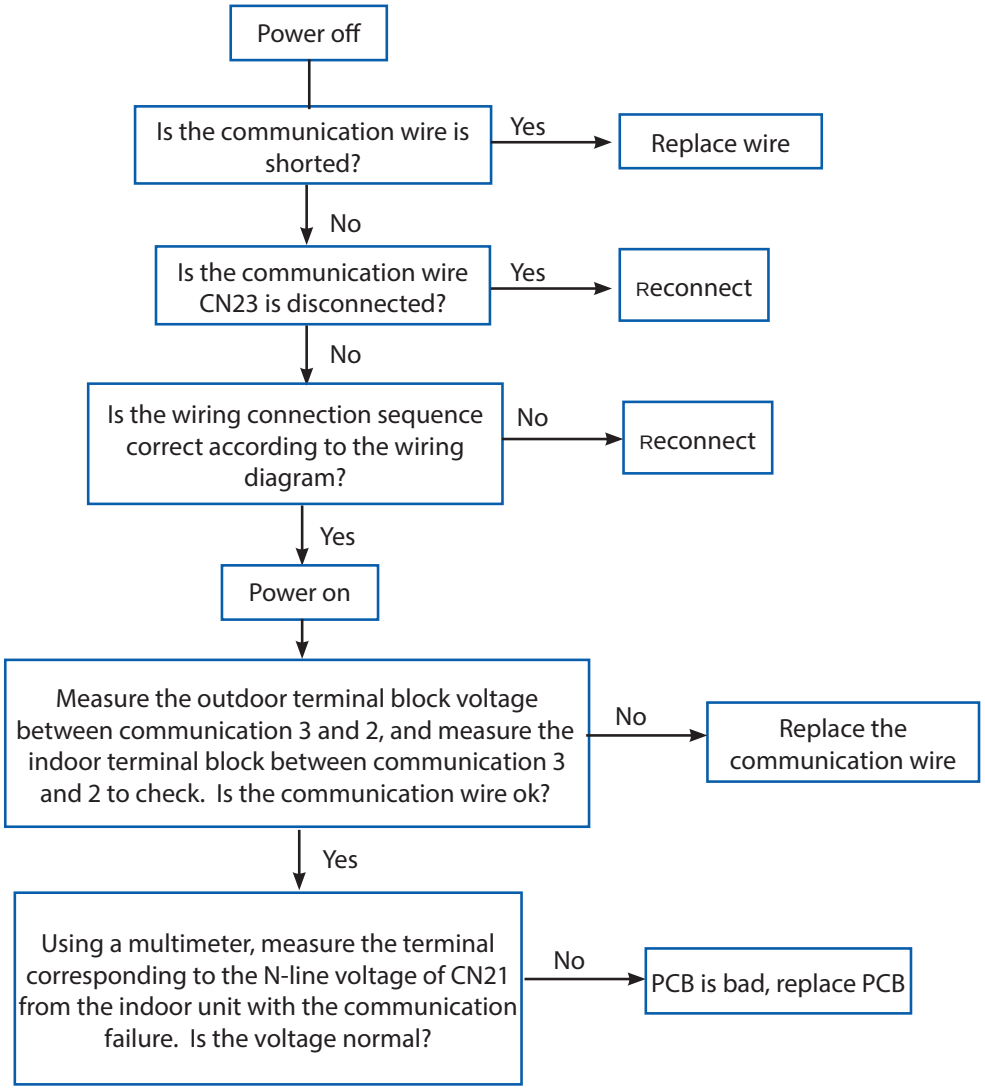
E7/LED1: 15 Flash

ID and OD Loss of Communication

Outdoor PCB communication failure
• Indoor PCB communication failure

Possible Causes:

- *Communication wiring disconnected*
- *Faulty indoor PCB*
- *Faulty outdoor PCB*
- *Faulty Outdoor Fan (may cause communication signal interference)*



outdoor terminal

indoor terminal

LED1: 21 Flash

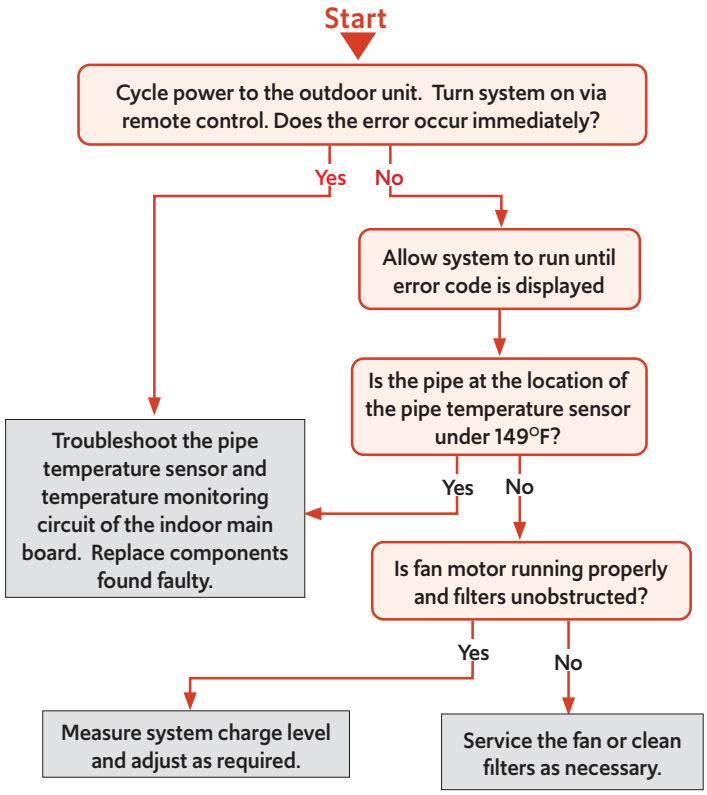
Indoor Unit Over Temperature (Heating Mode Only)

Activated when the temperature being sensed by the heat exchanger pipe sensor rises above 149°F twice in 30 minutes.

Possible Causes:

- *Faulty electronic expansion valve*
- *Dirty heat exchanger*
- *Faulty heat-exchange sensor*
- *Refrigerant undercharge*

Note: this is a resetting fault that will not lockout operation.



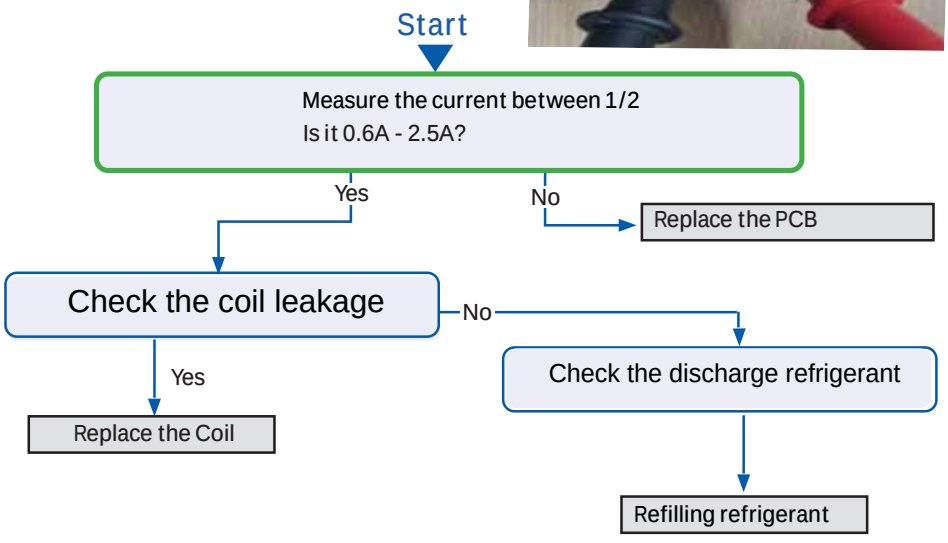
LED1: 28 Flash

Lack of Refrigerant or Discharging

Compressor operation frequency more than 46Hz,the current between 0.6A and 2.5A

Possible Causes:

- *Coil leakage*
- *Discharge refrigerant*

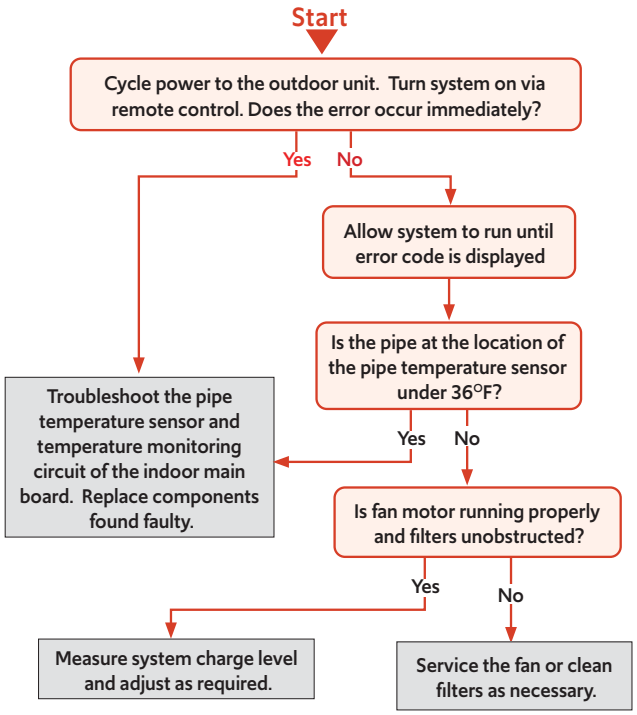


E22/LED1: 21 Flash

IDU Anti-Frosting Protection

Possible Causes:

- *Coil temperature sensor*
- *IDU air inlet blockage*



F27/LED1: 21 Flash

Compressor Current Sampling Circuit Fault

It is compressor block fault, the compressor will not work when this fault happen. It also can be self recovery when this fault happens.

Possible Causes:

- *Ambient temperature is too low*
- *Compressor damage*

Error Codes (Indoor)

bA

DIP Switch Enabled, No Sensor Detected

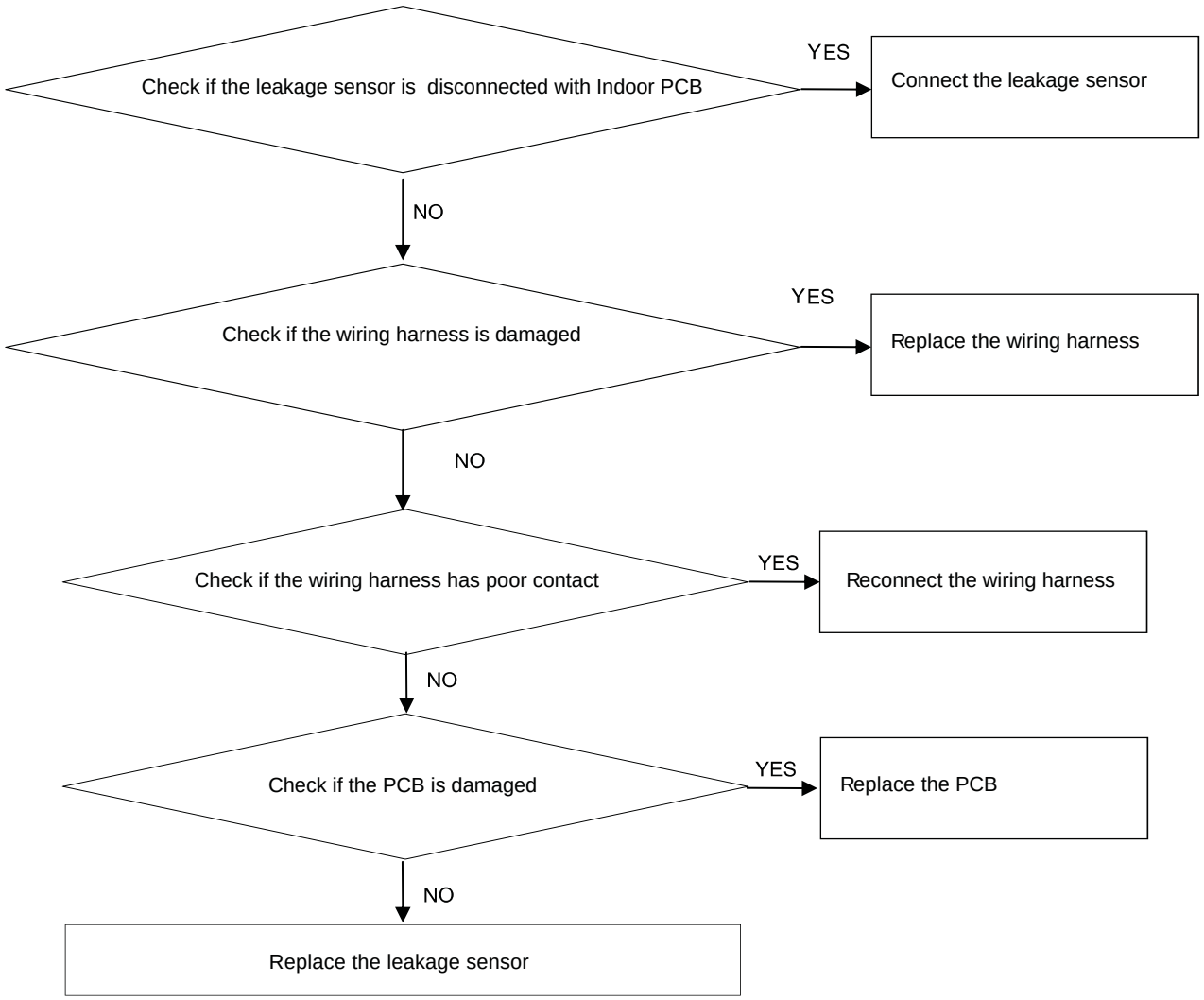
DIP Switch Enabled, No Sensor Detected

Possible Causes:

- *Loose wiring terminals*
- *Damaged wiring harness*
- *The leakage sensor is not connected*
- *PCB damage*

*** Caution**

Be sure to turn off power switch before connect or disconnect connector, or else parts damage may be occurred.



Error Codes (Indoor)

AA and Ab

Refrigerant Leakage Fault

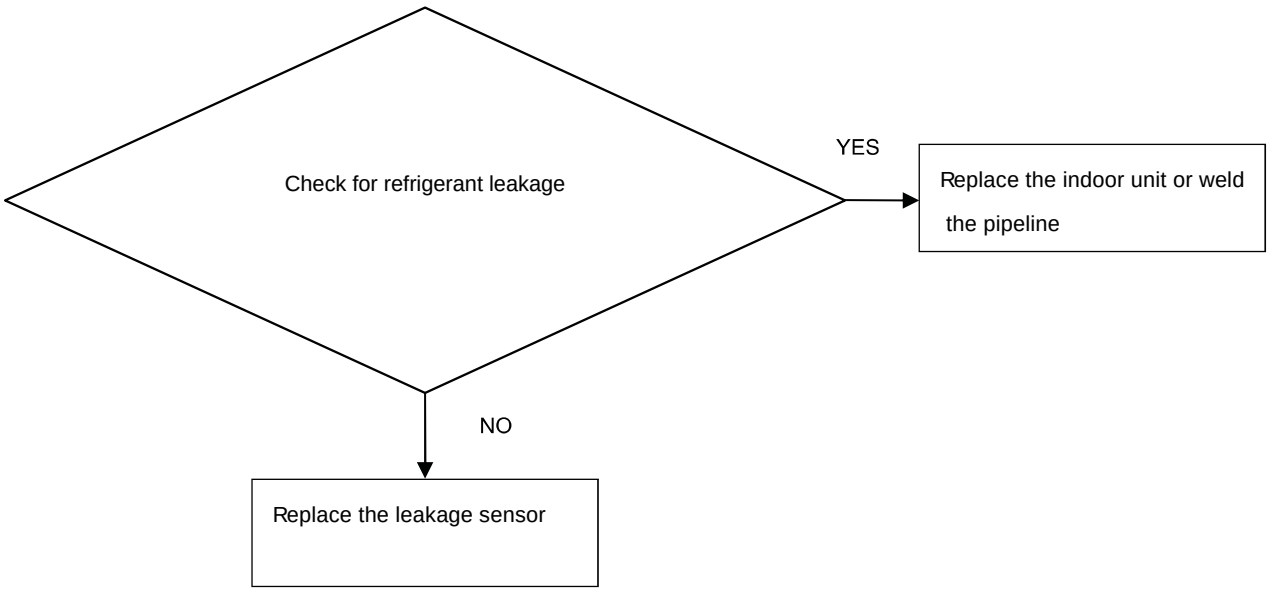
- *AA: Refrigerant concentration over 10% LFL*
- *Ab: AA display after 5 minutes and refrigerant concentration of less than 8% LFL detected*

Possible Causes:

- *Pipe cracking*
- *The union nut is not secured*

*** Caution**

Be sure to turn off power switch before connect or disconnect connector, or else parts damage may be occurred.



Error Codes (Indoor)

Ac

Leakage Sensor Communication Fault

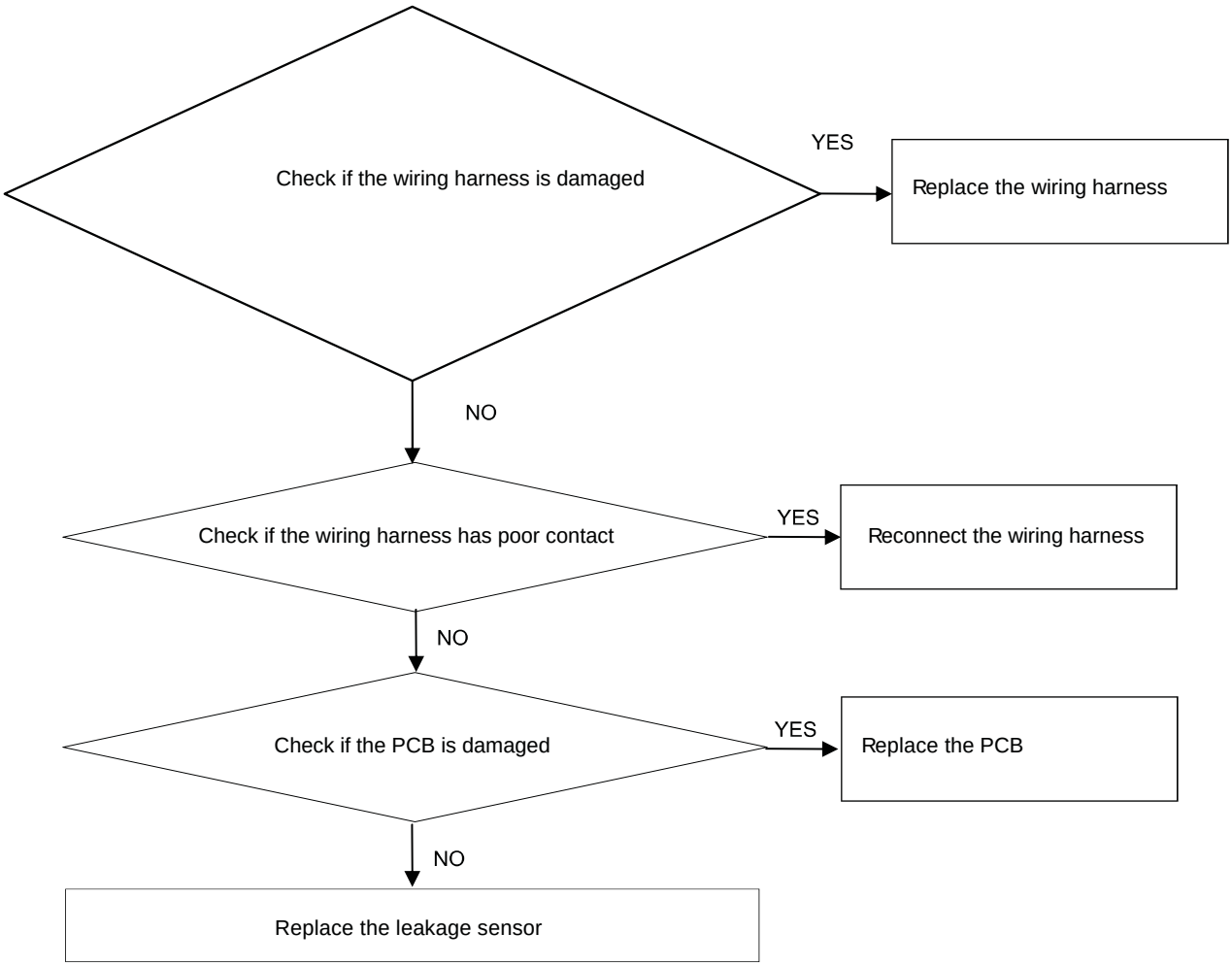
The communication between the leakage sensor and the PCB is faulty

Possible Causes:

- *Loose wiring terminals*
- *Damaged wiring harness*
- *PCB damage*

*** Caution**

Be sure to turn off power switch before connect or disconnect connector, or else parts damage may be occurred.



Error Codes (Indoor)

Ad

Leakage Sensor Self-Check Fault

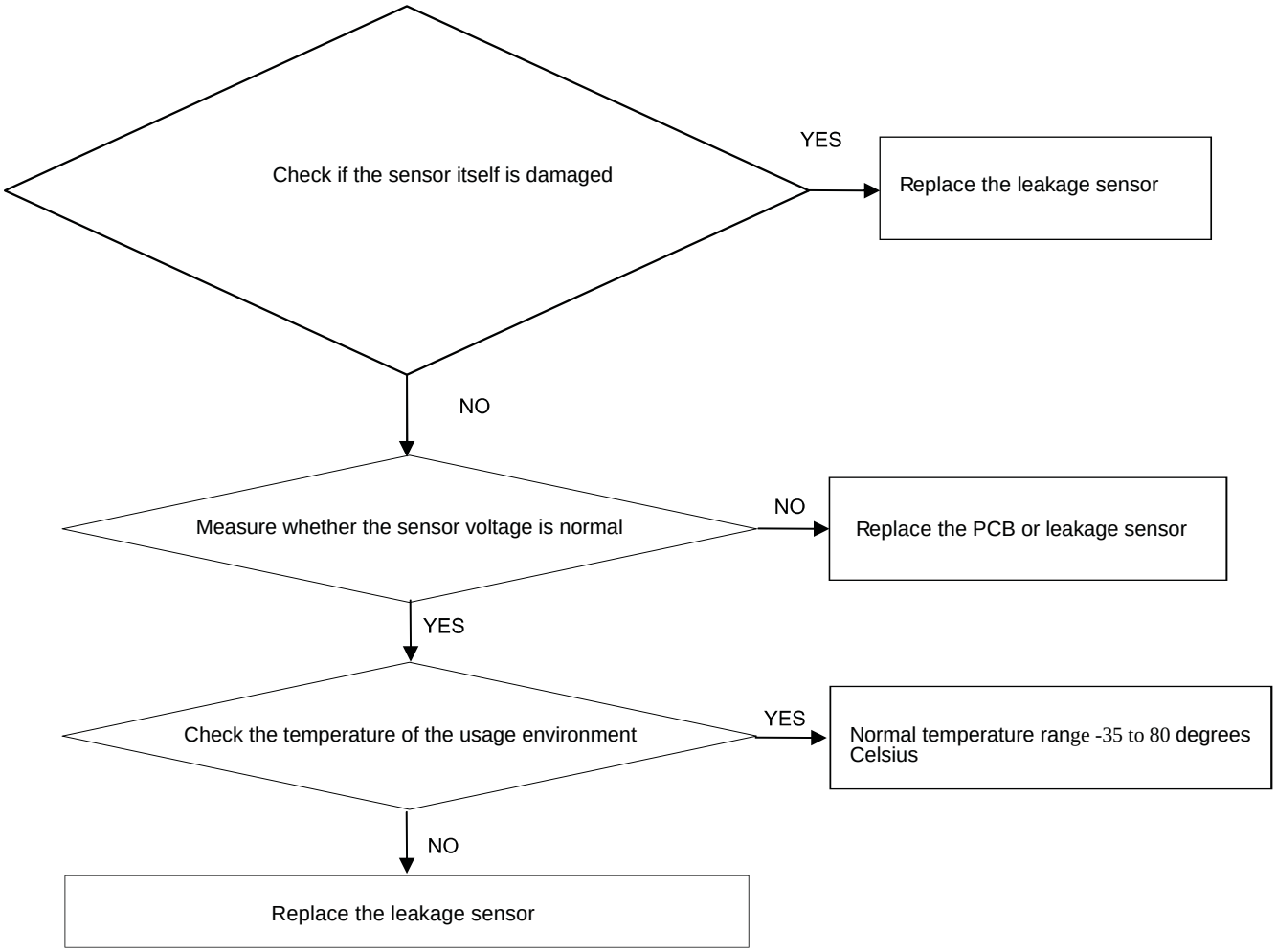
Leakage sensor self-test failed

Possible Causes:

- *Power supply overvoltage and undervoltage (5VDC)*
- *The temperature value detected by the leakage sensor exceeds the limit value*
- *Internal sensor error*

*** Caution**

Be sure to turn off power switch before connect or disconnect connector, or else parts damage may be occurred.



Error Codes (Indoor)

AE

Leakage Sensor Reaching-End-of-Life Warning

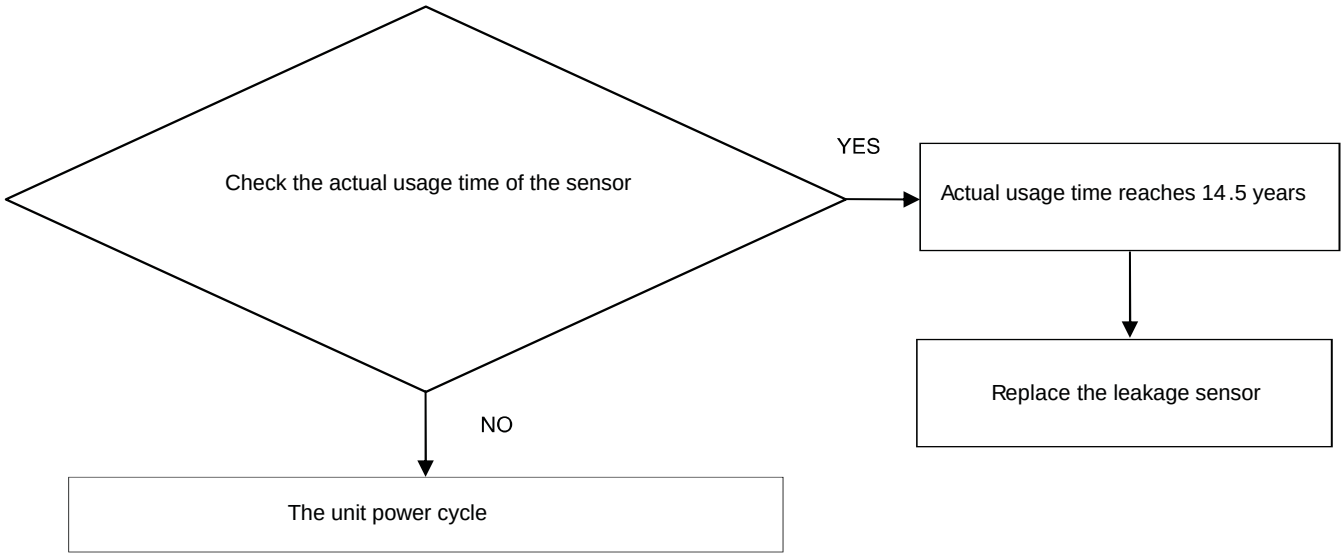
The sensor is 6 months away from the end of its life

Possible Causes:

- *The sensor approaching the end of life*
- *End of life counting error of sensor*

*** Caution**

Be sure to turn off power switch before connect or disconnect connector, or else parts damage may be occurred.



Error Codes (Indoor)

AF

Leakage Sensor End- Of- Life

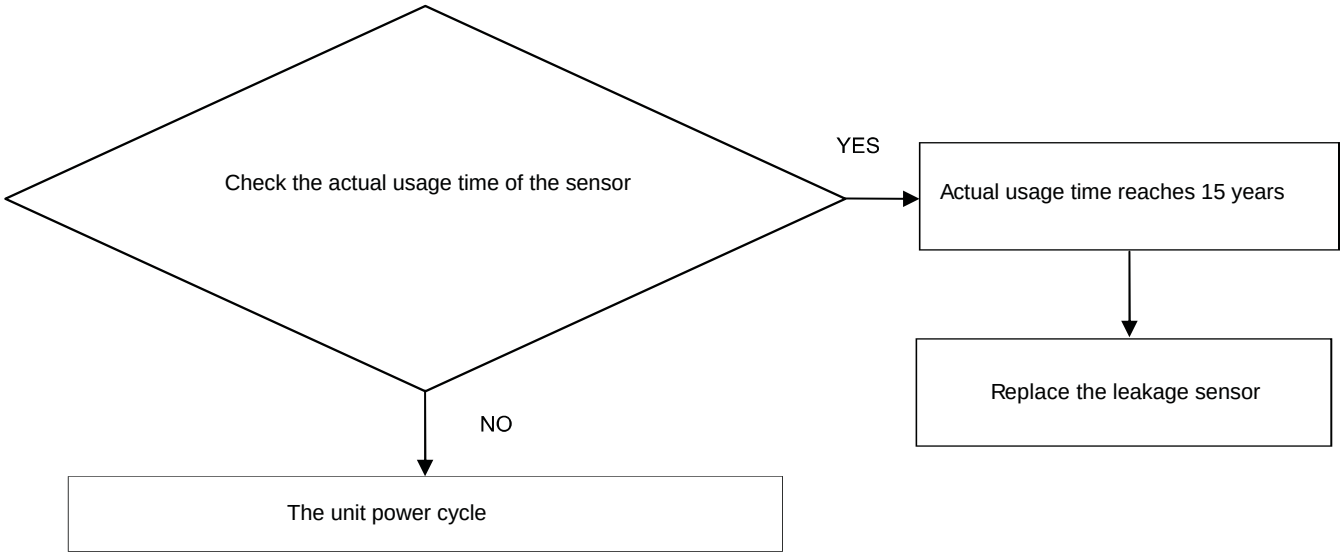
The sensors have reached the end of life

Possible Causes:

- *The sensor approaching the end of life*
- *End of life counting error of sensor*

*** Caution**

Be sure to turn off power switch before connect or disconnect connector, or else parts damage may be occurred.



B25/50=3700K±3% R25=10KΩ±3%							
Temp	Resistance(KΩ)			Temp	Resistance(KΩ)		
(°C)	Rmax	R (t) Normal	Rmin	(°C)	Rmax	R (t) Normal	Rmin
-40	246.890	229.239	211.587	11	18.864	18.135	17.406
-39	233.754	217.183	200.612	12	18.039	17.354	16.669
-38	221.368	205.809	190.250	13	17.254	16.611	15.968
-37	209.686	195.075	180.464	14	16.507	15.903	15.299
-36	198.665	184.942	171.219	15	15.797	15.229	14.661
-35	188.265	175.375	162.485	16	15.120	14.587	14.054
-34	178.449	166.339	154.230	17	14.476	13.975	13.474
-33	169.181	157.803	146.426	18	13.862	13.392	12.922
-32	160.429	149.738	139.046	19	13.277	12.836	12.395
-31	152.162	142.114	132.067	20	12.720	12.306	11.892
-30	144.350	134.907	125.464	21	12.189	11.801	11.413
-29	136.519	127.675	118.831	22	11.683	11.319	10.955
-28	129.381	121.081	112.781	23	11.200	10.858	10.516
-27	122.638	114.849	107.060	24	10.739	10.419	10.099
-26	116.268	108.958	101.648	25	10.300	10.000	9.700
-25	110.249	103.388	96.527	26	9.894	9.600	9.306
-24	104.563	98.123	91.683	27	9.505	9.217	8.929
-23	99.190	93.144	87.098	28	9.134	8.852	8.570
-22	94.111	88.435	82.759	29	8.779	8.503	8.227
-21	89.311	83.982	78.653	30	8.441	8.170	7.899
-20	84.518	79.529	74.540	31	8.116	7.851	7.586
-19	80.484	75.785	71.086	32	7.805	7.546	7.287
-18	76.428	72.015	67.602	33	7.509	7.255	7.001
-17	72.591	68.447	64.303	34	7.225	6.976	6.727
-16	68.963	65.071	61.179	35	6.953	6.710	6.467
-15	65.530	61.874	58.218	36	6.692	6.454	6.216
-14	62.283	58.848	55.413	37	6.443	6.210	5.977
-13	59.210	55.983	52.756	38	6.204	5.976	5.748
-12	56.300	53.269	50.238	39	5.976	5.753	5.530
-11	53.547	50.699	47.851	40	5.756	5.538	5.320
-10	50.940	48.264	45.588	41	5.546	5.333	5.120
-9	48.472	45.957	43.442	42	5.345	5.136	4.927
-8	46.134	43.770	41.406	43	5.151	4.947	4.743
-7	43.918	41.697	39.476	44	4.967	4.767	4.567
-6	41.819	39.731	37.643	45	4.788	4.593	4.398
-5	39.830	37.868	35.906	46	4.618	4.427	4.236
-4	37.944	36.100	34.256	47	4.455	4.268	4.081
-3	36.157	34.423	32.689	48	4.298	4.115	3.932
-2	34.462	32.832	31.202	49	4.147	3.968	3.789
-1	32.854	31.322	29.790	50	4.004	3.829	3.654

SENSOR RESISTANCE TABLES

B25/50=3700K±3% R25=10KΩ±3%							
Temp	Resistance(KΩ)			Temp	Resistance(KΩ)		
(°C)	Rmax	R (t) Normal	Rmin	(°C)	Rmax	R (t) Normal	Rmin
0	31.362	29.920	28.478	51	3.863	3.692	3.521
1	29.881	28.527	27.173	52	3.729	3.562	3.395
2	28.507	27.234	25.961	53	3.601	3.438	3.275
3	27.202	26.006	24.810	54	3.478	3.318	3.158
4	25.965	24.840	23.715	55	3.359	3.203	3.047
5	24.788	23.731	22.674	56	3.246	3.093	2.940
6	23.672	22.678	21.684	57	3.136	2.987	2.838
7	22.610	21.676	20.742	58	3.031	2.885	2.739
8	21.601	20.723	19.845	59	2.930	2.787	2.644
9	20.642	19.817	18.992	60	2.833	2.693	2.553
10	19.730	18.955	18.180	61	2.739	2.602	2.465
62	2.649	2.515	2.381	84	1.321	1.238	1.155
63	2.562	2.431	2.300	85	1.281	1.200	1.119
64	2.478	2.350	2.222	86	1.244	1.165	1.086
65	2.398	2.273	2.148	87	1.209	1.131	1.053
66	2.320	2.198	2.076	88	1.173	1.097	1.021
67	2.246	2.126	2.006	89	1.140	1.065	0.990
68	2.174	2.057	1.940	90	1.107	1.034	0.961
69	2.104	1.990	1.876	91	1.076	1.004	0.932
70	2.038	1.926	1.814	92	1.045	0.975	0.905
71	1.974	1.864	1.754	93	1.016	0.947	0.878
72	1.912	1.805	1.698	94	0.987	0.920	0.853
73	1.853	1.748	1.643	95	0.960	0.894	0.828
74	1.795	1.692	1.589	96	0.934	0.869	0.804
75	1.739	1.639	1.539	97	0.907	0.844	0.781
76	1.686	1.588	1.490	98	0.883	0.821	0.759
77	1.634	1.538	1.442	99	0.859	0.798	0.737
78	1.585	1.491	1.397	100	0.836	0.776	0.716
79	1.537	1.445	1.353	101	0.814	0.755	0.696
80	1.490	1.400	1.310	102	0.791	0.734	0.677
81	1.445	1.357	1.269	103	0.771	0.715	0.659
82	1.402	1.316	1.230	104	0.750	0.695	0.640
83	1.361	1.276	1.191	105	0.731	0.677	0.623

B25/80=4450K±3% R80=50KΩ±3%							
Temp	Resistance(KΩ)			Temp	Resistance(KΩ)		
(°C)	Rmax	R (t) Normal	Rmin	(°C)	Rmax	R (t) Normal	Rmin
-40	23982.342	21280.977	18579.613	11	1126.419	1041.293	956.167
-39	22397.462	19890.917	17384.372	12	1067.463	987.477	907.491
-38	20925.744	18599.155	16272.567	13	1011.977	936.799	861.621
-37	19558.506	17398.211	15237.916	14	959.732	889.052	818.372
-36	18287.777	16281.212	14274.647	15	910.510	844.042	777.574
-35	17106.237	15241.843	13377.450	16	864.114	801.590	739.066
-34	16007.159	14274.298	12541.437	17	820.361	761.533	702.705
-33	14984.359	13373.234	11762.109	18	779.081	723.717	668.353
-32	14032.148	12533.735	11035.322	19	740.117	688.001	635.885
-31	13145.291	11751.273	10357.255	20	703.323	654.254	605.185
-30	12318.968	11021.678	9724.388	21	668.565	622.355	576.145
-29	11551.311	10343.407	9135.504	22	635.715	592.189	548.663
-28	10835.229	9710.234	8585.239	23	604.657	563.651	522.645
-27	10167.003	9118.935	8070.867	24	575.282	536.644	498.006
-26	9543.200	8566.532	7589.865	25	547.490	511.076	474.662
-25	8960.652	8050.276	7139.901	26	521.186	486.862	452.538
-24	8416.430	7567.624	6718.818	27	496.281	463.922	431.563
-23	7907.828	7116.224	6324.620	28	472.693	442.182	411.671
-22	7432.345	6693.901	5955.457	29	450.344	421.572	392.800
-21	6987.666	6298.642	5609.618	30	429.165	402.028	374.891
-20	6571.650	5928.583	5285.516	31	409.087	383.489	357.891
-19	6187.164	5586.374	4985.585	32	390.047	365.898	341.749
-18	5826.712	5265.313	4703.915	33	371.986	349.201	326.416
-17	5488.692	4964.004	4439.315	34	354.850	333.349	311.848
-16	5171.616	4681.148	4190.680	35	338.586	318.295	298.004
-15	4874.100	4415.539	3956.978	36	323.147	303.995	284.843
-14	4594.858	4166.054	3737.249	37	308.485	290.407	272.329
-13	4332.694	3931.647	3530.600	38	294.559	277.493	260.427
-12	4086.494	3711.346	3336.198	39	281.328	265.216	249.104
-11	3855.222	3504.244	3153.266	40	268.753	253.541	238.329
-10	3637.915	3309.498	2981.082	41	256.801	242.437	228.073
-9	3433.673	3126.321	2818.969	42	245.438	231.873	218.308
-8	3241.661	2953.980	2666.299	43	234.630	221.820	209.010
-7	3061.098	2791.790	2522.482	44	224.350	212.252	200.154
-6	2891.257	2639.114	2386.971	45	214.569	203.142	191.715
-5	2731.460	2495.357	2259.253	46	205.260	194.467	183.674
-4	2581.076	2359.962	2138.848	47	196.399	186.204	176.009
-3	2439.514	2232.412	2025.310	48	187.963	178.333	168.703
-2	2306.222	2112.221	1918.220	49	179.929	170.832	161.735
-1	2180.688	1998.938	1817.187	50	172.275	163.682	155.089
0	2094.972	1921.993	1749.014	51	164.984	156.866	148.748
1	1975.099	1813.265	1651.431	52	158.036	150.367	142.698
2	1863.127	1711.646	1560.165	53	151.412	144.168	136.924
3	1758.449	1616.593	1474.737	54	145.099	138.255	131.411
4	1660.513	1527.611	1394.709	55	139.078	132.613	126.148
5	1568.817	1444.250	1319.683	56	133.336	127.229	121.122
6	1482.897	1366.096	1249.295	57	127.858	122.089	116.320
7	1402.336	1292.773	1183.210	58	122.630	117.181	111.732

SENSOR RESISTANCE TABLES

B25/80=4450K±3% R80=50KΩ±3%							
Temp	Resistance(KΩ)			Temp	Resistance(KΩ)		
(°C)	Rmax	R (t) Normal	Rmin	(°C)	Rmax	R (t) Normal	Rmin
8	1326.746	1223.935	1121.124	59	117.641	112.494	107.347
9	1255.774	1159.265	1062.756	60	112.879	108.018	103.157
10	1189.098	1098.474	1007.850	61	108.332	103.741	99.150
62	103.989	99.654	95.319	107	20.667	19.720	18.773
63	99.841	95.748	91.655	108	20.020	19.091	18.162
64	95.879	92.014	88.149	109	19.397	18.485	17.573
65	92.091	88.443	84.795	110	18.795	17.900	17.005
66	88.472	85.028	81.584	111	18.215	17.337	16.459
67	85.011	81.761	78.511	112	17.655	16.793	15.931
68	81.703	78.636	75.569	113	17.114	16.268	15.422
69	78.538	75.645	72.752	114	16.593	15.763	14.933
70	75.510	72.781	70.052	115	16.090	15.275	14.460
71	72.614	70.040	67.466	116	15.603	14.804	14.005
72	69.842	67.415	64.988	117	15.133	14.349	13.565
73	67.189	64.901	62.613	118	14.681	13.911	13.141
74	64.649	62.493	60.337	119	14.243	13.488	12.733
75	62.216	60.185	58.154	120	13.821	13.080	12.339
76	59.886	57.973	56.060	121	13.412	12.685	11.958
77	57.653	55.852	54.051	122	13.019	12.305	11.591
78	55.515	53.820	52.125	123	12.638	11.938	11.238
79	53.465	51.870	50.275	124	12.271	11.584	10.897
80	51.500	50.000	48.500	125	11.917	11.242	10.567
81	49.684	48.206	46.728	126	11.573	10.911	10.249
82	47.940	46.484	45.028	127	11.243	10.593	9.943
83	46.267	44.832	43.397	128	10.923	10.285	9.647
84	44.659	43.246	41.833	129	10.614	9.988	9.362
85	43.114	41.723	40.332	130	10.315	9.701	9.087
86	41.629	40.260	38.891	131	10.028	9.425	8.822
87	40.203	38.856	37.509	132	9.750	9.158	8.566
88	38.831	37.506	36.181	133	9.481	8.900	8.319
89	37.513	36.209	34.905	134	9.222	8.651	8.080
90	36.244	34.962	33.680	135	8.972	8.411	7.850
91	35.025	33.764	32.503	136	8.731	8.180	7.629
92	33.851	32.612	31.373	137	8.498	7.957	7.416
93	32.722	31.504	30.286	138	8.273	7.741	7.209
94	31.636	30.439	29.242	139	8.055	7.533	7.011
95	30.590	29.413	28.236	140	7.846	7.333	6.820
96	29.583	28.427	27.271	141	7.628	7.125	6.621
97	28.614	27.478	26.342	142	7.417	6.923	6.429
98	27.680	26.564	25.448	143	7.213	6.728	6.243
99	26.781	25.685	24.589	144	7.014	6.538	6.062
100	25.914	24.838	23.762	145	6.822	6.355	5.888
101	25.080	24.023	22.966	146	6.636	6.178	5.719
102	24.275	23.237	22.199	147	6.455	6.006	5.556
103	23.500	22.481	21.462	148	6.280	5.839	5.398
104	22.753	21.752	20.751	149	6.111	5.678	5.244
105	22.031	21.049	20.067	150	5.946	5.521	5.096
106	21.336	20.372	19.408				

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GE APPLIANCES
a Haier company

AIR&WATER
SOLUTIONS

Ductless Technical Support

Phone: 866.814.3633
Email: HVACSupport@GEAppliances.com
Online: GEAppliancesAirAndWater.com

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