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E101/C101 ERROR CODE
INDOOR UNIT COMMUNICATION ERROR

100227
3/2026

Revision Date: 03/04/2026

Subject: E101/C101 Error Code

Models: MWLD, MWPD, MWHD, MMPD, MMLD Single Zone, MMPD, MMLD Multi-Zone, VRF, WATER

Title: Indoor Unit Communication Error

TROUBLESHOOTING STEPS

1. Verify incoming line voltage on L1 & 2N (208vac/230vac, ±10%).
2. Verify Communication Wires are landed on F1 & F2, polarity sensitive.
3. Check Outdoor display or LEDs (Red, Green, Yellow) to verify any errors.
If outdoor PCBs are not lighting up, troubleshoot Outdoor unit before continuing.
4. Communication wires must be 16/2 stranded, shielded. Straight run from Condensing Unit to Indoor Unit, no breaks or splices.
5. Communication on F1 & F2 must not be broken by any condensate pumps.
6. Remove power to the system for a minimum of 15 minutes.
7. Disconnect each end of F1 & F2 wires, keep separated, Ohm out between F1 & F2 wires, also to shield.
 - If you have resistance, replace wires.
 - If you don't have resistance, wire nut one end and ohm out wires again.
 - If you don't have resistance, replace wires.
8. With Communication wires (F1 & F2) removed. Reapply power to system.
9. With true RMS meter, test for DC voltage on F1 & F2 at Indoor and Outdoor. Must be between 0.1 - 0.9vdc.
If out of range, replace corresponding PCB.
10. Remove power to the system for a minimum of 15 minutes.
11. Run temporary wire between Indoor and Outdoor Unit.
12. Resupply power to system.



Figure 1. 16/2 Stranded/Shielded

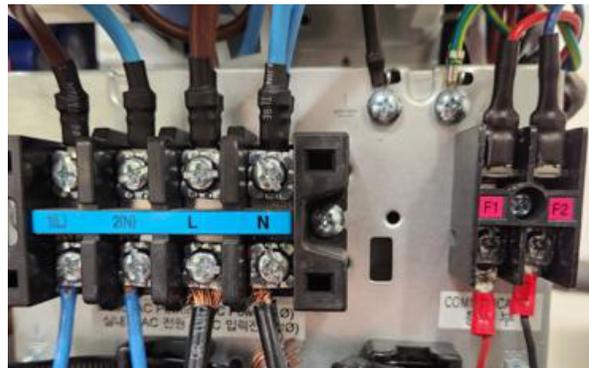


Figure 2. Condensing Unit Terminals



Figure 3. Indoor Unit Terminals

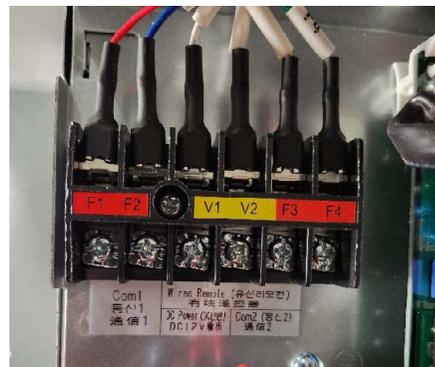


Figure 4. Indoor Ducted & Cassette Terminals

E101/C101 ERROR CODE
INDOOR UNIT COMMUNICATION ERROR

Revision Date: 03/04/2026

Subject: E101/C101 Error Code

Models: MWLD, MWPD, MWHD, MMPD, MMLD Single Zone, MMPD, MMLD Multi-Zone, VRF, WATER

Title: Indoor Unit Communication Error

TROUBLESHOOTING STEPS

1. Check Outdoor display to verify any errors.
If outdoor PCB's are not lighting up, troubleshoot Outdoor unit before continuing.
2. Verify correct voltage is supplied to the condensing unit.
3. Check fuses on EMI PCB.
4. Verify 208vac/230vac, ±10% is present at CN70 molex plug on HUB PCB.
5. Verify incoming line voltage on L1 & 2N (208vac/230vac, ±10%).
6. Verify Communication Wires are landed on F1 & F2, polarity sensitive.
7. Communication wires must be 16/2 stranded, shielded.
8. Straight run from Condensing Unit to Indoor Unit, no breaks or splices.
9. Communication on F1 & F2 must not be broken by any condensate pumps.
10. Remove power to the system for a minimum of 15 minutes.
11. Disconnect each end of F1 & F2 wires, keep separated, Ohm out between F1 & F2 wires, also to shield.
 - If you have resistance, replace wires. If you don't have resistance, wire nut one end and ohm out wires again.
 - If you don't have resistance, replace wires.
12. With Communication wires (F1 & F2) removed, reapply power to system.
13. Use the true RMS meter, test for DC voltage on F1 & F2 at Indoor and Outdoor.
The reading must be between 0.1 - 0.9vdc. If out of range, replace corresponding PCB.
14. Remove power to the system for a minimum of 15 minutes.
15. Run temporary wire between Indoor and Outdoor Unit.
16. Resupply power to system.

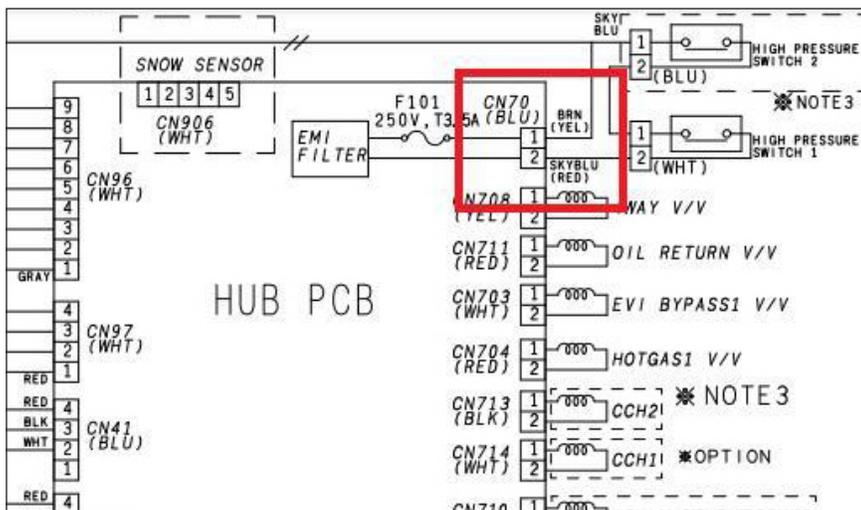


Figure 5. HUB PCB

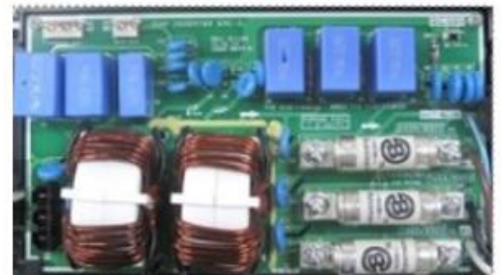


Figure 6. EMI PCB

E102/C102 ERROR CODE

100227

3/2026

COMMUNICATION ERROR BETWEEN INDOOR & OUTDOOR UNIT

Revision Date: 2/26/2025

Subject: E102/C102 Error Code

Models: MWLD, MWPD, MWHD, MMPD, MMLD Single Zone, MMPD, MMLD Multi-Zone

Title: Communication Error Between Indoor & Outdoor Unit

TROUBLESHOOTING STEPS

1. Verify incoming line voltage on L1 & 2N (208vac/230vac, ±10%).
2. Verify Communication Wires are landed on F1 & F2, polarity sensitive.
3. Check Outdoor display or LED's (Red, Green, Yellow) to verify any errors.
If outdoor PCB's are not lighting up, troubleshoot Outdoor unit before continuing.
4. Communication wires must be 16/2 stranded, shielded. Straight run from Condensing Unit to Indoor Unit, no breaks or splices.
5. Communication on F1 & F2 must not be broken by any condensate pumps.
6. Remove power to the system for a minimum of 15 minutes.
7. Disconnect each end of F1 & F2 wires, keep separated, Ohm out between F1 & F2 wires, also to shield.
 - If you have resistance, replace wires.
 - If you don't have resistance, wire nut one end and ohm out wires again.
 - If you don't have resistance, replace wires.
8. With Communication wires (F1 & F2) removed, reapply power to system.
9. Use the true RMS meter to test for DC voltage on F1 & F2 at Indoor and Outdoor.
The reading must be between 0.1 - 0.9vdc. If out of range, replace corresponding PCB.
10. Remove power to the system for a minimum of 15 minutes.
11. Run temporary wire between Indoor and Outdoor Unit. Resupply power to system.



Figure 7. 16/2 Stranded/Shielded

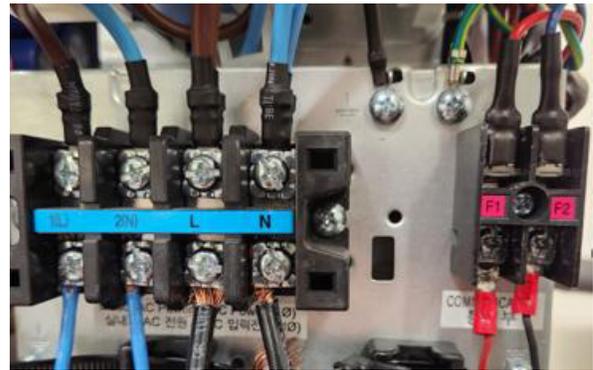


Figure 8. Condensing Unit Terminals



Figure 9. Indoor Unit Terminals



Figure 10. Indoor Ducted & Cassette Terminals

E108/C108 ERROR CODE
DUPLICATE DEVICE ADDRESS ERROR

100227
3/2026

Revision Date: 2/26/2025

Subject: E108/C108 Error Code

Models: MWLD, MWPD, MWHD, MMPD, MMLD Single Zone, MMPD, MMLD Multi-Zone, VRF, WATER

Title: Duplicate Device Address Error

TROUBLESHOOTING STEPS

1. Ensure there are no connecting wires between multiple indoor units before completing the next step.
 - > The commissioning process must be completed before the system is able to run in normal operation.
 - MMPD, MMLD MULTI-ZONE condensing models:
 - a. Press the K1 button once to start the auto addressing process. After system has run and stopped itself, "K1oK" appears on the display.
 - b. Press the K1 button once more to finalize auto addressing.
 - MMPD, MMLD Single Zone condensing models:
 - a. Press the K2 button 7 times to display KE on the left display. After system has run and stopped itself, display will read "PASS".
 - b. Press the K1 button once to return the system to normal operation.
 - MWLD, MWPD, MWHD condensing models:
 - a. Use the wireless remote at the indoor unit to complete "Smart Install Mode".
 - b. Press the Set, Mode, and Power button simultaneously for 4 seconds. The indoor unit will start counting from 0-99. Once complete the system will return to normal operation.
2. If connecting the system to any Building Management Central Controls, ensure all condensing units have a unique address (Channel Address).
 - > [Addressing MWLD, MWPD, MWHD outdoor unit](#)

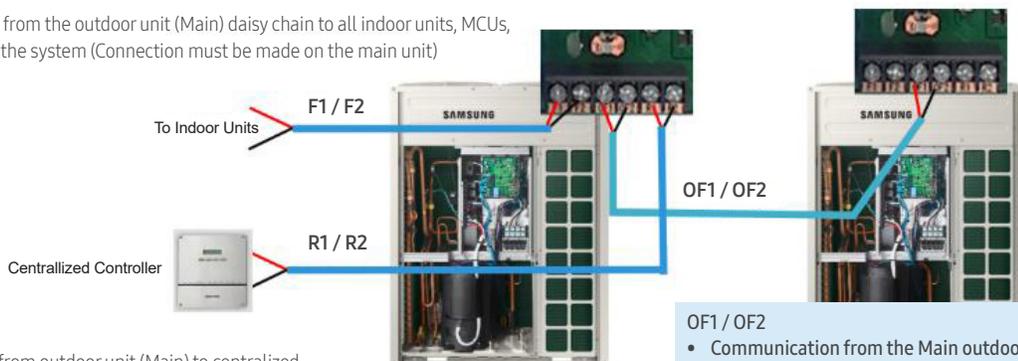
VRF Commercial, WATER

TROUBLESHOOTING STEPS

1. System communication wiring must be as follows:
 - F1 and F2 must be a true daisy chain from Main condensing unit to all connected indoor units.
 - OF1 and OF2 are only used for connecting a Main and Sub outdoor unit. OF1 and OF2 are the only communication wires to be connected to the Sub outdoor unit.
 - R1 and R2 must be connected to Main condensing unit only if connecting to any Central Controls. Verify all condensing units have a unique address (Channel Address).

F1 / F2

- Communication from the outdoor unit (Main) daisy chain to all indoor units, MCUs, and EEV Kits on the system (Connection must be made on the main unit)



R1 / R2

- Communication from outdoor unit (Main) to centralized controls: DMS2.5 Gateways, Touch Controller, etc.

E108/C108 ERROR CODE
DUPLICATE DEVICE ADDRESS ERROR

100227
3/2026

Revision Date: 2/26/2025

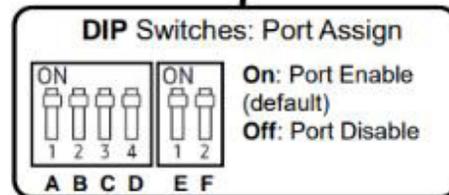
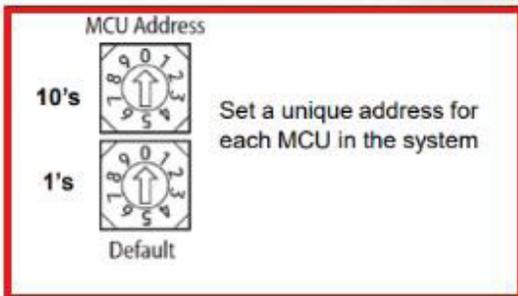
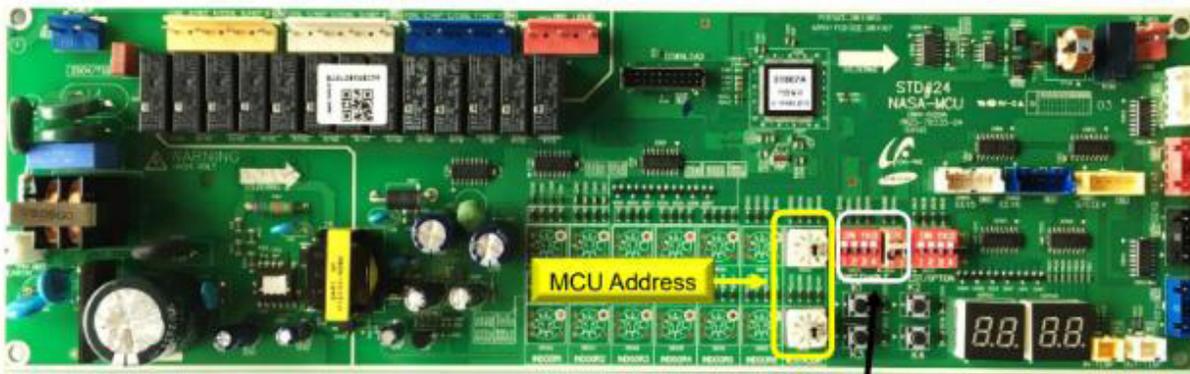
Subject: E108/C108 Error Code

Models: MCU

Title: Duplicate Device Address Error

- Indoor unit and MCU quantity must only be set on Main outdoor unit.
- All MCU units must have individual and unique addresses, prior to supplying power to MCU.

MCU's must be addressed for the system components to communicate



Assign ports to be enabled on each MCU in the system

E121/C121 ERROR CODE
INDOOR ROOM THERMISTOR ERROR

100227
3/2026

Revision Date: 2/5/2025

Subject: E121/C121 Error Code

Models: MWLD, MWPD, MWHD, MMPD, MMLD Single Zone, MMPD, MMLD Multi-Zone, VRF

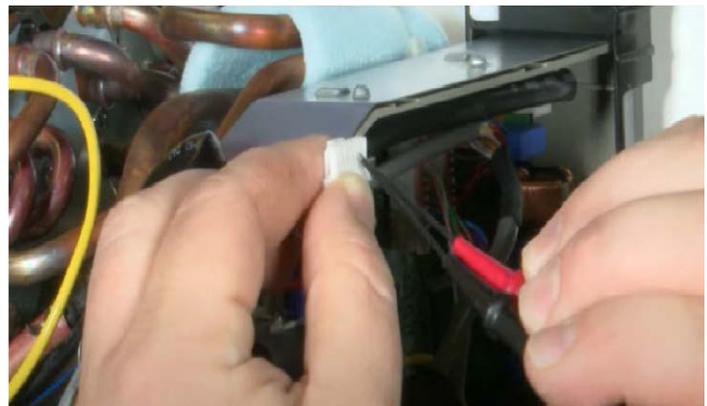
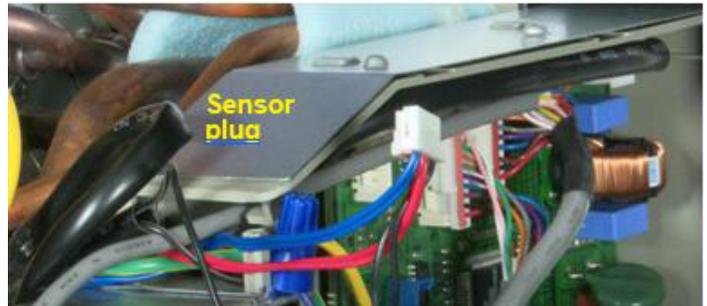
Title: Indoor Room Thermistor Error

TROUBLESHOOTING STEPS

NOTE: The indoor unit room (return air) temperature sensor is open/short.

1. Power the unit off for 15-20 minutes before continuing to the next step.
2. Locate Room (return air) Sensor on the Indoor PCB.
3. Ohm the sensor and compare it to the resistance chart below.
 - If the sensor is out of range, replace the sensor.
 - If the sensor tests within range, replace the PCB on which the sensor is connected.

T (C°)	T (F°)	Rmin (k Ω)	Rcent (k Ω)	Rmax (k Ω)
-1	30	27.33	28.47	29.63
0	32	26.18	27.27	28.37
2	36	24.06	25.03	26.02
3	37	23.07	24.00	24.93
5	41	21.23	22.06	22.90
7	45	19.55	20.30	21.06
9	48	18.03	18.70	19.38
10	50	17.31	17.95	18.60
11	52	16.63	17.24	17.86
14	57	14.77	15.29	15.81
15	59	14.20	14.69	15.19
17	63	13.13	13.58	14.03
19	66	12.16	12.57	12.97
21	70	11.27	11.64	12.00
22	72	10.85	11.20	11.55
25	77	9.700	10.00	10.30
26	79	9.341	9.633	9.926
27	81	8.997	9.282	9.568
30	86	8.049	8.313	8.578
31	88	7.758	8.016	8.275
33	91	7.213	7.458	7.704
34	93	6.957	7.196	7.436
37	99	6.249	6.470	6.694
38	100	6.032	6.247	6.465



E123/C123 ERROR CODE

100227

INDOOR EVAPORATOR OUTLET SENSOR ERROR

3/2026

Revision Date: 2/3/2025

Subject: E123/C123 Error Code

Models: MWLD, MWPD, MWHD, MMPD, MMLD Single Zone, MMPD, MMLD Multi-Zone & VRF

Title: Indoor Evaporator Outlet Sensor Error

TROUBLESHOOTING STEPS

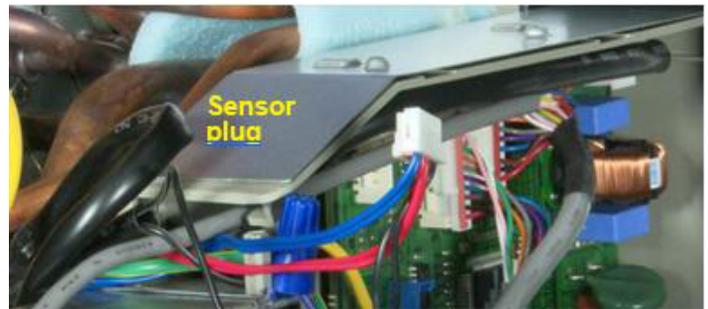
NOTE: The indoor unit (EVA_out) evaporator outlet temperature sensor is open/short.

1. Power the unit off for 15-20 minutes before continuing to the next step.
2. Locate the sensor plug on the indoor PCB.

NOTE: Location will vary on different models, use wiring schematic for proper location.

3. Ohm EVA_OUT sensor wires and compare to the resistance chart below.
 - If the sensor is out of range, replace the sensor harness.
 - If the sensor tests within range, replace the PCB on which the sensor is connected.

T (C°)	T (F°)	Rmin (k Ω)	Rcent (k Ω)	Rmax (k Ω)
-1	30	27.33	28.47	29.63
0	32	26.18	27.27	28.37
2	36	24.06	25.03	26.02
3	37	23.07	24.00	24.93
5	41	21.23	22.06	22.90
7	45	19.55	20.30	21.06
9	48	18.03	18.70	19.38
10	50	17.31	17.95	18.60
11	52	16.63	17.24	17.86
14	57	14.77	15.29	15.81
15	59	14.20	14.69	15.19
17	63	13.13	13.58	14.03
19	66	12.16	12.57	12.97
21	70	11.27	11.64	12.00
22	72	10.85	11.20	11.55
25	77	9.700	10.00	10.30
26	79	9.341	9.633	9.926
27	81	8.997	9.282	9.568
30	86	8.049	8.313	8.578
31	88	7.758	8.016	8.275
33	91	7.213	7.458	7.704
34	93	6.957	7.196	7.436
37	99	6.249	6.470	6.694
38	100	6.032	6.247	6.465



E124/C124 ERROR CODE
INDOOR DISCHARGE AIR SENSOR ERROR

100227
3/2026

Revision Date: 2/3/2025

Subject: E124/C124 Error Code

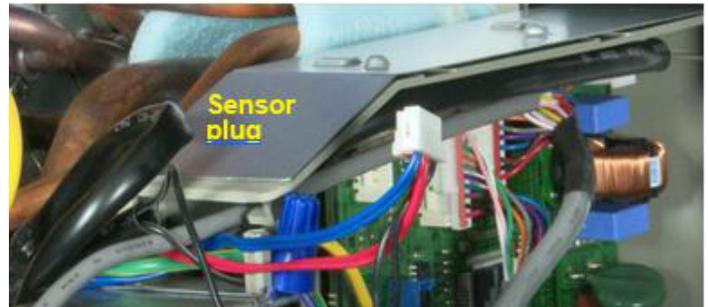
Models: All Indoor Unit Models

Title: Indoor Discharge Air Sensor Error

TROUBLESHOOTING STEPS

1. Power the unit off for 15-20 minutes before continuing to the next step.
2. Locate the sensor plug on the indoor PCB. Location will vary on different models, use wiring schematic for proper location.
3. Ohm Discharge sensor wires and compare to the resistance chart below.
 - If the sensor is out of range, replace the sensor harness.
 - If the sensor tests within range, replace the PCB on which the sensor is connected.

T (C°)	T (F°)	Rmin (k Ω)	Rcent (k Ω)	Rmax (k Ω)
-1	30	27.33	28.47	29.63
0	32	26.18	27.27	28.37
2	36	24.06	25.03	26.02
3	37	23.07	24.00	24.93
5	41	21.23	22.06	22.90
7	45	19.55	20.30	21.06
9	48	18.03	18.70	19.38
10	50	17.31	17.95	18.60
11	52	16.63	17.24	17.86
14	57	14.77	15.29	15.81
15	59	14.20	14.69	15.19
17	63	13.13	13.58	14.03
19	66	12.16	12.57	12.97
21	70	11.27	11.64	12.00
22	72	10.85	11.20	11.55
25	77	9.700	10.00	10.30
26	79	9.341	9.633	9.926
27	81	8.997	9.282	9.568
30	86	8.049	8.313	8.578
31	88	7.758	8.016	8.275
33	91	7.213	7.458	7.704
34	93	6.957	7.196	7.436
37	99	6.249	6.470	6.694
38	100	6.032	6.247	6.465



E125/C125 ERROR CODE
INDOOR EVAPORATOR MID SENSOR ERROR

100227
 3/2026

Revision Date: 2/3/2025

Subject: E125/C125 Error Code

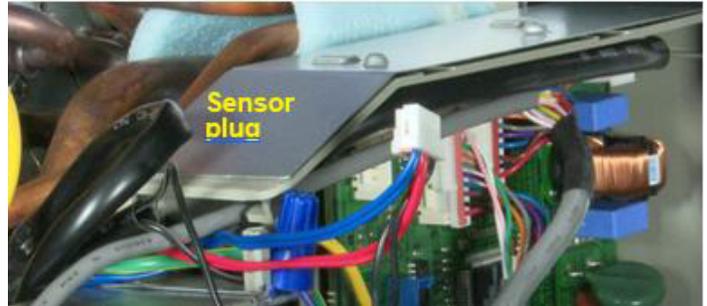
Models: All Indoor Unit Models

Title: Indoor Evaporator Mid Sensor Error

TROUBLESHOOTING STEPS

1. Power the unit off for 15-20 minutes before continuing to the next step.
2. Locate the sensor plug on the indoor PCB. Location will vary on different models, use wiring schematic for proper location.
3. Ohm Eva_Mid2 sensor wires and compare to the resistance chart below.
 - If the sensor is out of range, replace the sensor harness.
 - If the sensor tests within range, replace the PCB on which the sensor is connected.

T (C°)	T (F°)	Rmin (k Ω)	Rcent (k Ω)	Rmax (k Ω)
-1	30	27.33	28.47	29.63
0	32	26.18	27.27	28.37
2	36	24.06	25.03	26.02
3	37	23.07	24.00	24.93
5	41	21.23	22.06	22.90
7	45	19.55	20.30	21.06
9	48	18.03	18.70	19.38
10	50	17.31	17.95	18.60
11	52	16.63	17.24	17.86
14	57	14.77	15.29	15.81
15	59	14.20	14.69	15.19
17	63	13.13	13.58	14.03
19	66	12.16	12.57	12.97
21	70	11.27	11.64	12.00
22	72	10.85	11.20	11.55
25	77	9.700	10.00	10.30
26	79	9.341	9.633	9.926
27	81	8.997	9.282	9.568
30	86	8.049	8.313	8.578
31	88	7.758	8.016	8.275
33	91	7.213	7.458	7.704
34	93	6.957	7.196	7.436
37	99	6.249	6.470	6.694
38	100	6.032	6.247	6.465



E128/C128 ERROR CODE

100227

3/2026

INDOOR EVAPORATOR INLET SENSOR SEPARATED FROM PIPE

Revision Date: 2/3/2025

Subject: E128/C128 Error Code

Models: All Indoor Unit Models

Title: Indoor Evaporator Inlet Sensor Separated From Pipe

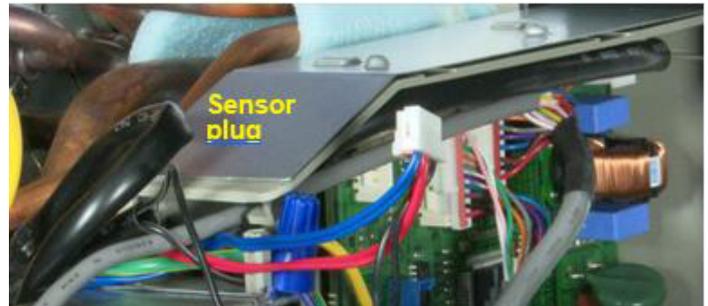
TROUBLESHOOTING STEPS

1. Power the unit off for 15-20 minutes before continuing to the next step.
2. Locate the sensor plug on the indoor PCB.

NOTE: Location will vary on different models, use wiring schematic for proper location.

3. Ohm Eva_IN sensor wires and compare to the resistance chart below.
 - If the sensor is out of range, replace the sensor harness.
 - If the sensor tests within range, replace the PCB on which the sensor is connected.

T (C°)	T (F°)	Rmin (k Ω)	Rcent (k Ω)	Rmax (k Ω)
-1	30	27.33	28.47	29.63
0	32	26.18	27.27	28.37
2	36	24.06	25.03	26.02
3	37	23.07	24.00	24.93
5	41	21.23	22.06	22.90
7	45	19.55	20.30	21.06
9	48	18.03	18.70	19.38
10	50	17.31	17.95	18.60
11	52	16.63	17.24	17.86
14	57	14.77	15.29	15.81
15	59	14.20	14.69	15.19
17	63	13.13	13.58	14.03
19	66	12.16	12.57	12.97
21	70	11.27	11.64	12.00
22	72	10.85	11.20	11.55
25	77	9.700	10.00	10.30
26	79	9.341	9.633	9.926
27	81	8.997	9.282	9.568
30	86	8.049	8.313	8.578
31	88	7.758	8.016	8.275
33	91	7.213	7.458	7.704
34	93	6.957	7.196	7.436
37	99	6.249	6.470	6.694
38	100	6.032	6.247	6.465



E129/C129 ERROR CODE

INDOOR EVAPORATOR OUTLET SENSOR SEPARATED FROM PIPE

Revision Date: 2/3/2025

Subject: E129/C129 Error Code

Models: All Indoor Unit Models

Title: Indoor Evaporator Outlet Sensor Separated From Pipe

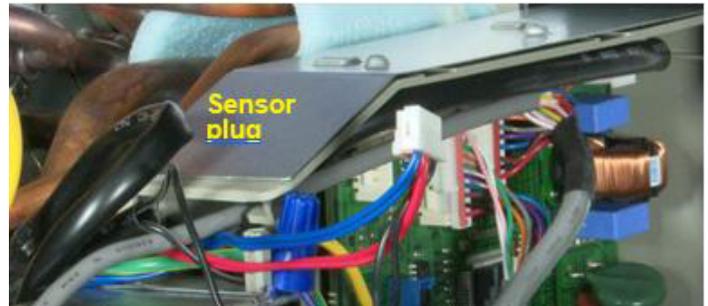
TROUBLESHOOTING STEPS

1. Power the unit off for 15-20 minutes before continuing to the next step.
2. Locate the sensor plug on the indoor PCB.

NOTE: Location will vary on different models, use wiring schematic for proper location.

3. Ohm Eva_OUT sensor wires and compare to the resistance chart below.
 - If the sensor is out of range, replace the sensor harness.
 - If the sensor tests within range, replace the PCB on which the sensor is connected.

T (C°)	T (F°)	Rmin (k Ω)	Rcent (k Ω)	Rmax (k Ω)
-1	30	27.33	28.47	29.63
0	32	26.18	27.27	28.37
2	36	24.06	25.03	26.02
3	37	23.07	24.00	24.93
5	41	21.23	22.06	22.90
7	45	19.55	20.30	21.06
9	48	18.03	18.70	19.38
10	50	17.31	17.95	18.60
11	52	16.63	17.24	17.86
14	57	14.77	15.29	15.81
15	59	14.20	14.69	15.19
17	63	13.13	13.58	14.03
19	66	12.16	12.57	12.97
21	70	11.27	11.64	12.00
22	72	10.85	11.20	11.55
25	77	9.700	10.00	10.30
26	79	9.341	9.633	9.926
27	81	8.997	9.282	9.568
30	86	8.049	8.313	8.578
31	88	7.758	8.016	8.275
33	91	7.213	7.458	7.704
34	93	6.957	7.196	7.436
37	99	6.249	6.470	6.694
38	100	6.032	6.247	6.465



E130/C130 ERROR CODE

INDOOR EVAPORATOR INLET & OUTLET SENSOR SEPARATED FROM PIPE

Revision Date: 2/3/2025

Subject: E130/C130 Error Code

Models: All Indoor Unit Models

Title: Indoor Evaporator Inlet & Outlet Sensor Separated From Pipe

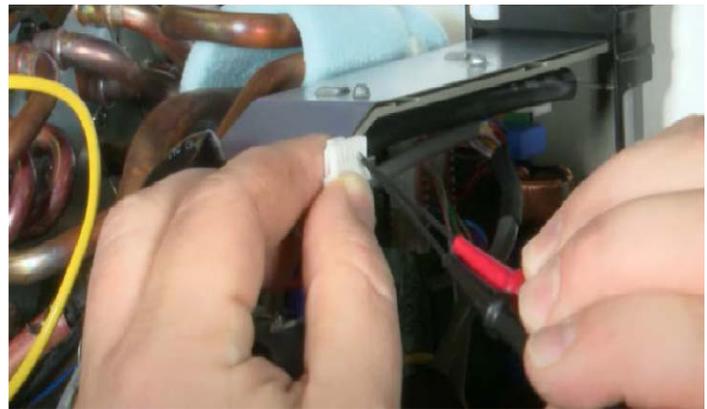
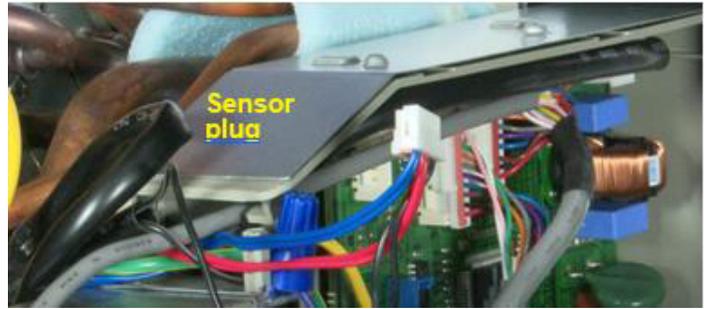
TROUBLESHOOTING STEPS

1. Power the unit off for 15-20 minutes before continuing to the next step.
2. Locate the sensor plug on the indoor PCB.

NOTE: The location will vary on different models, use wiring schematic for proper location.

3. Ohm Eva_IN, Eva_OUT sensor wires and compare to the resistance chart below.
 - If the sensor is out of range, replace the sensor harness.
 - If the sensor tests within range, replace the PCB on which the sensor is connected.

T (C°)	T (F°)	Rmin (k Ω)	Rcent (k Ω)	Rmax (k Ω)
-1	30	27.33	28.47	29.63
0	32	26.18	27.27	28.37
2	36	24.06	25.03	26.02
3	37	23.07	24.00	24.93
5	41	21.23	22.06	22.90
7	45	19.55	20.30	21.06
9	48	18.03	18.70	19.38
10	50	17.31	17.95	18.60
11	52	16.63	17.24	17.86
14	57	14.77	15.29	15.81
15	59	14.20	14.69	15.19
17	63	13.13	13.58	14.03
19	66	12.16	12.57	12.97
21	70	11.27	11.64	12.00
22	72	10.85	11.20	11.55
25	77	9.700	10.00	10.30
26	79	9.341	9.633	9.926
27	81	8.997	9.282	9.568
30	86	8.049	8.313	8.578
31	88	7.758	8.016	8.275
33	91	7.213	7.458	7.704
34	93	6.957	7.196	7.436
37	99	6.249	6.470	6.694
38	100	6.032	6.247	6.465



E144/C144 ERROR CODE

INDOOR UNIT EVAPORATOR INLET 2 TEMPERATURE SENSOR ERROR

Revision Date: 3/17/2025

Subject: E144/C144 Error Code

Models: VRF, MWLD, MWPD, MWHD, MMPD, MMLD Single Zone, MMPD, MMLD Multi-Zone

Title: Indoor Unit Evaporator Inlet 2 Temperature Sensor Error

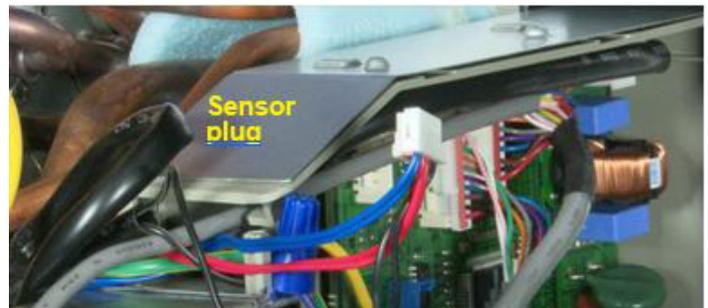
TROUBLESHOOTING STEPS

1. Power the unit off for 15-20 minutes before continuing to the next step.
2. Locate the sensor plug on the indoor PCB.

NOTE: The location will vary on different models, use wiring schematic for proper location.

3. Ohm Eva2_IN sensor wires and compare to the resistance chart below.
 - If the sensor is out of range, replace the sensor harness.
 - If the sensor tests within range, replace the PCB on which the sensor is connected.

T (C°)	T (F°)	Rmin (k Ω)	Rcent (k Ω)	Rmax (k Ω)
-1	30	27.33	28.47	29.63
0	32	26.18	27.27	28.37
2	36	24.06	25.03	26.02
3	37	23.07	24.00	24.93
5	41	21.23	22.06	22.90
7	45	19.55	20.30	21.06
9	48	18.03	18.70	19.38
10	50	17.31	17.95	18.60
11	52	16.63	17.24	17.86
14	57	14.77	15.29	15.81
15	59	14.20	14.69	15.19
17	63	13.13	13.58	14.03
19	66	12.16	12.57	12.97
21	70	11.27	11.64	12.00
22	72	10.85	11.20	11.55
25	77	9.700	10.00	10.30
26	79	9.341	9.633	9.926
27	81	8.997	9.282	9.568
30	86	8.049	8.313	8.578
31	88	7.758	8.016	8.275
33	91	7.213	7.458	7.704
34	93	6.957	7.196	7.436
37	99	6.249	6.470	6.694
38	100	6.032	6.247	6.465



E145/C145 ERROR CODE

INDOOR UNIT EVAPORATOR OUTLET 2 TEMPERATURE SENSOR ERROR

Revision Date: 3/17/2025

Subject: E145/C145 Error Code

Models: VRF, MWLD, MWPD, MWHD, MMPD, MMLD Single Zone, MMPD, MMLD Multi-Zone

Title: Indoor Unit Evaporator Outlet 2 Temperature Sensor Error

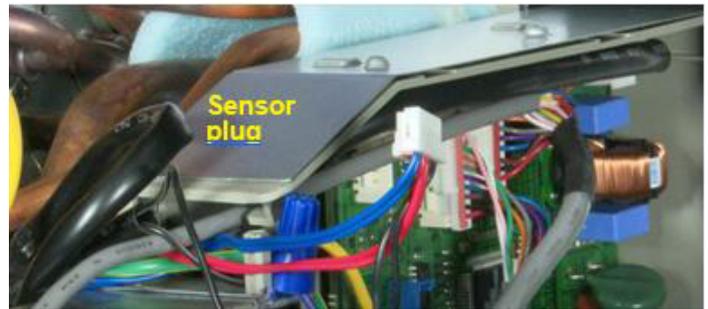
TROUBLESHOOTING STEPS

1. Power the unit off for 15-20 minutes before continuing to the next step.
2. Locate the sensor plug on the indoor PCB.

NOTE: The location will vary on different models, use wiring schematic for proper location.

3. Ohm Eva2_OUT sensor wires and compare to the resistance chart below.
 - If the sensor is out of range, replace the sensor harness.
 - If the sensor tests within range, replace the PCB on which the sensor is connected.

T (C°)	T (F°)	Rmin (k Ω)	Rcent (k Ω)	Rmax (k Ω)
-1	30	27.33	28.47	29.63
0	32	26.18	27.27	28.37
2	36	24.06	25.03	26.02
3	37	23.07	24.00	24.93
5	41	21.23	22.06	22.90
7	45	19.55	20.30	21.06
9	48	18.03	18.70	19.38
10	50	17.31	17.95	18.60
11	52	16.63	17.24	17.86
14	57	14.77	15.29	15.81
15	59	14.20	14.69	15.19
17	63	13.13	13.58	14.03
19	66	12.16	12.57	12.97
21	70	11.27	11.64	12.00
22	72	10.85	11.20	11.55
25	77	9.700	10.00	10.30
26	79	9.341	9.633	9.926
27	81	8.997	9.282	9.568
30	86	8.049	8.313	8.578
31	88	7.758	8.016	8.275
33	91	7.213	7.458	7.704
34	93	6.957	7.196	7.436
37	99	6.249	6.470	6.694
38	100	6.032	6.247	6.465



E147/C147 ERROR CODE

100227

3/2026

INDOOR UNIT EVAPORATOR INLET 2 TEMPERATURE SENSOR SEPARATED FROM PIPE

Revision Date: 3/17/2025

Subject: E147/C147 Error Code

Models: VRF, MWLD, MWPD, MWHD, MMPD, MMLD Single Zone, MMPD, MMLD Multi-Zone

Title: Indoor Unit Evaporator Inlet 2 Temperature Sensor Separated From Pipe

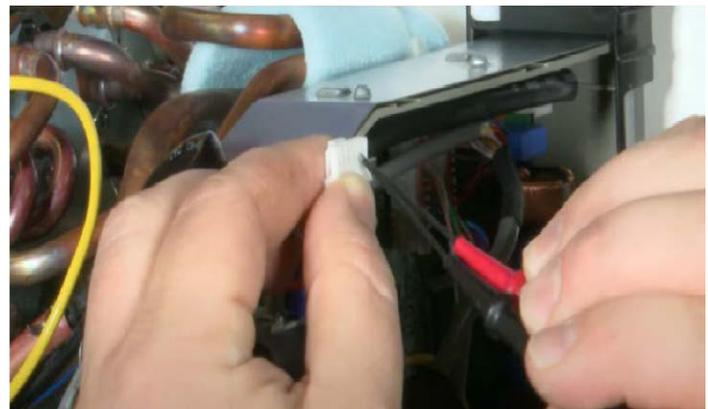
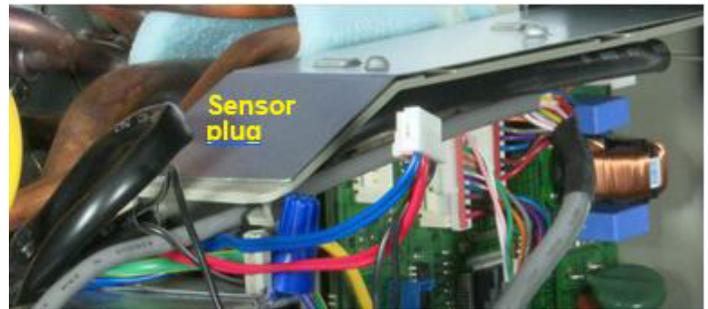
TROUBLESHOOTING STEPS

1. Power the unit off for 15-20 minutes before continuing to the next step.
2. Locate the sensor plug on the indoor PCB.

NOTE: The location will vary on different models, use wiring schematic for proper location.

3. Ohm Eva2_IN sensor wires and compare to the resistance chart below.
 - If the sensor is out of range, replace the sensor harness.
 - If the sensor tests within range, replace the PCB on which the sensor is connected.

T (C°)	T (F°)	Rmin (k Ω)	Rcent (k Ω)	Rmax (k Ω)
-1	30	27.33	28.47	29.63
0	32	26.18	27.27	28.37
2	36	24.06	25.03	26.02
3	37	23.07	24.00	24.93
5	41	21.23	22.06	22.90
7	45	19.55	20.30	21.06
9	48	18.03	18.70	19.38
10	50	17.31	17.95	18.60
11	52	16.63	17.24	17.86
14	57	14.77	15.29	15.81
15	59	14.20	14.69	15.19
17	63	13.13	13.58	14.03
19	66	12.16	12.57	12.97
21	70	11.27	11.64	12.00
22	72	10.85	11.20	11.55
25	77	9.700	10.00	10.30
26	79	9.341	9.633	9.926
27	81	8.997	9.282	9.568
30	86	8.049	8.313	8.578
31	88	7.758	8.016	8.275
33	91	7.213	7.458	7.704
34	93	6.957	7.196	7.436
37	99	6.249	6.470	6.694
38	100	6.032	6.247	6.465



E148/C148 ERROR CODE

INDOOR EVAPORATOR OUTLET 2 TEMPERATURE SENSOR SEPARATED FROM PIPE

Revision Date: 3/17/2025

Subject: E148/C148 Error Code

Models: VRF, MWLD, MWPD, MWHD, MMPD, MMLD Single Zone, MMPD, MMLD Multi-Zone

Title: Indoor Evaporator Outlet 2 Temperature Sensor Separated from Pipe

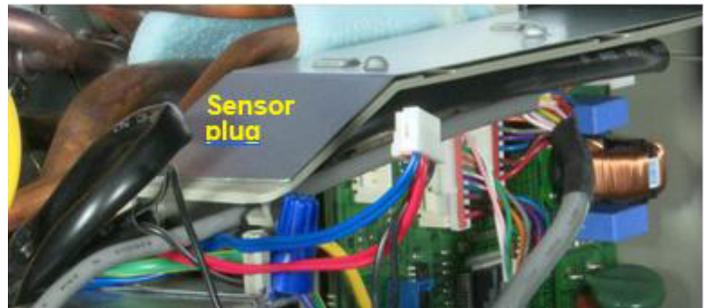
TROUBLESHOOTING STEPS

1. Power the unit off for 15-20 minutes before continuing to the next step.
2. Locate the sensor plug on the indoor PCB.

NOTE: The location will vary on different models, use wiring schematic for proper location.

3. Ohm EVA2_OUT sensor wires and compare to the resistance chart below.
 - If the sensor is out of range, replace the sensor harness.
 - If the sensor tests within range, replace the PCB on which the sensor is connected.

T (C°)	T (F°)	Rmin (k Ω)	Rcent (k Ω)	Rmax (k Ω)
-1	30	27.33	28.47	29.63
0	32	26.18	27.27	28.37
2	36	24.06	25.03	26.02
3	37	23.07	24.00	24.93
5	41	21.23	22.06	22.90
7	45	19.55	20.30	21.06
9	48	18.03	18.70	19.38
10	50	17.31	17.95	18.60
11	52	16.63	17.24	17.86
14	57	14.77	15.29	15.81
15	59	14.20	14.69	15.19
17	63	13.13	13.58	14.03
19	66	12.16	12.57	12.97
21	70	11.27	11.64	12.00
22	72	10.85	11.20	11.55
25	77	9.700	10.00	10.30
26	79	9.341	9.633	9.926
27	81	8.997	9.282	9.568
30	86	8.049	8.313	8.578
31	88	7.758	8.016	8.275
33	91	7.213	7.458	7.704
34	93	6.957	7.196	7.436
37	99	6.249	6.470	6.694
38	100	6.032	6.247	6.465



E153 ERROR CODE

INDOOR UNIT CONDENSATE PUMP/FLOAT SWITCH ERROR

100227

3/2026

Revision Date:1/28/2025

Subject: E153 Error Code

Models: INDOOR MODELS WITH FACTORY FLOAT SWITCH INSTALLED

Title: Indoor Unit Condensate Pump/Float Switch Error

TROUBLESHOOTING STEPS

1. Locate and inspect the float switch electrical connector to ensure it is properly plugged into the PCB.
2. Inspect the float switch.
3. Determine whether the drain pan is full of water, which causes the float to be in the up position.
4. Continue troubleshooting drain pump and inspect condensate lines.
5. Power the unit off, disconnect float switch and test for continuity.
 - If the float switch is reading open (OL) when the float is in the down position, replace the float switch.
 - If the float switch has continuity when the float is in the down position, conduct troubleshooting of PCB.



Inspect float switch and water level



Unplug sensor connection



Test for continuity at the sensor port

E154/C154 ERROR CODE
INDOOR UNIT FAN MOTOR ERROR

100227
3/2026

Revision Date: 2/19/2025

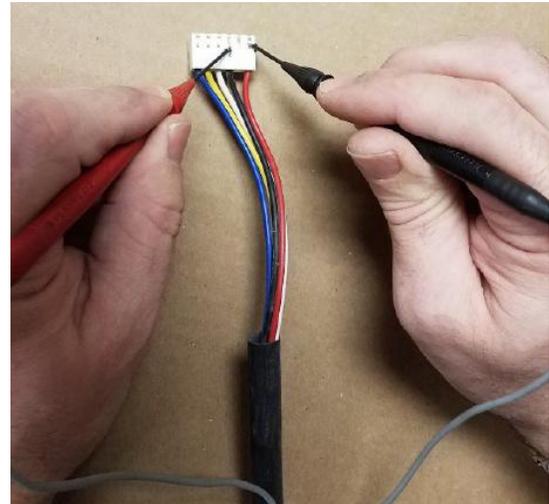
Subject: E154/C154 Error Code

Models: MWLD, MWPD, MWHD, MMPD, MMLD Single Zone, MMPD, MMLD Multi-Zone

Title: Indoor Unit Fan Motor Error

TROUBLESHOOTING STEPS:

1. Check the Incoming Voltage (208/230Vac ± 10%).
2. Locate fan connection on Indoor PCB.
3. Leave fan motor plug connected to PCB.
4. Verify voltage is sent from PCB to fan motor on Red & Black wires (Pins 1 & 3). Utilize chart below for power supply voltage range.
If correct voltage is not supplied, continue troubleshooting of PCB.
5. Power the unit off for 15-20 minutes before continuing to step 6.
6. Disconnect fan motor plug and ohm out fan motor.
7. Use a multimeter that is capable of reading Mega and Kilo OHM. Use combinations below for resistance.



Wire	Pin #	Remark
Red - Black	1 - 3	Motor power supply voltage (290 ~ 340 VDC)
White - Black	4 - 3	Motor control voltage (15 VDC)
Yellow - Black	5 - 3	Rotation command voltage (0 ~ 5 VDC)
Blue - Black	6 - 3	Rotation pulse input (fluctuating 0 ~ 3.2 VDC)*

*Some models may vary approximate range 0~5 VDC.



- Measure BLDC motor resistance
- No. 1 (red, Vm) & No. 3 (Black, GND)
- No. 4 (wht, Vcc) & No. 3 (Black, GND)
- No. 5 (yellow, Vsp) & No. 3 (Black, GND)
- No. 6 (blue, FG) & No. 3 (Black, GND)

- Defect: Less than 500 Ω or short

! IMPORTANT

Before reconnecting wire harnesses or DC link voltage, leave the unit powered off for 15 to 20 minutes.

E171/C171 ERROR CODE

EVAPORATOR MID TEMPERATURE SENSOR ERROR

Revision Date: 2/7/2025

Subject: E171/C171 Error Code

Models: MMPD, MMLD Single Zone, MMPD, MMLD Multi-Zone

Title: Evaporator Mid Temperature Sensor Error

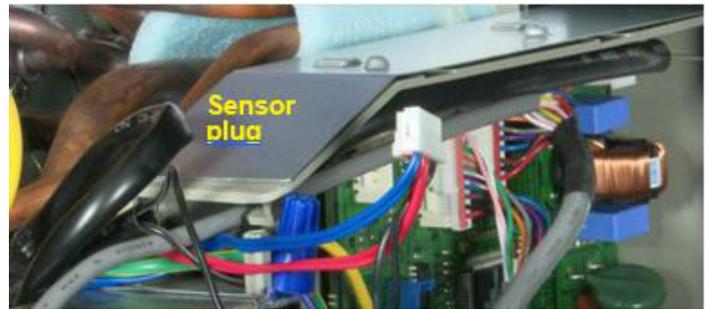
TROUBLESHOOTING STEPS

1. Power the unit off for 15-20 minutes before continuing to the next step.
2. Locate the sensor plug on the indoor PCB.

NOTE: The location will vary on different models; use wiring schematic for proper location.

3. Ohm Eva_mid sensor wires and compare to the resistance chart below.
 - If the sensor is out of range, replace the sensor harness.
 - If the sensor tests within range, replace the PCB on which the sensor is connected.

T (C°)	T (F°)	Rmin (k Ω)	Rcent (k Ω)	Rmax (k Ω)
-1	30	27.33	28.47	29.63
0	32	26.18	27.27	28.37
2	36	24.06	25.03	26.02
3	37	23.07	24.00	24.93
5	41	21.23	22.06	22.90
7	45	19.55	20.30	21.06
9	48	18.03	18.70	19.38
10	50	17.31	17.95	18.60
11	52	16.63	17.24	17.86
14	57	14.77	15.29	15.81
15	59	14.20	14.69	15.19
17	63	13.13	13.58	14.03
19	66	12.16	12.57	12.97
21	70	11.27	11.64	12.00
22	72	10.85	11.20	11.55
25	77	9.700	10.00	10.30
26	79	9.341	9.633	9.926
27	81	8.997	9.282	9.568
30	86	8.049	8.313	8.578
31	88	7.758	8.016	8.275
33	91	7.213	7.458	7.704
34	93	6.957	7.196	7.436
37	99	6.249	6.470	6.694
38	100	6.032	6.247	6.465



E172/C172 ERROR CODE

AHU INLET TEMPERATURE SENSOR SEPARATED FROM PIPE

Revision Date: 2/7/2025

Subject: E172/C172 Error Code

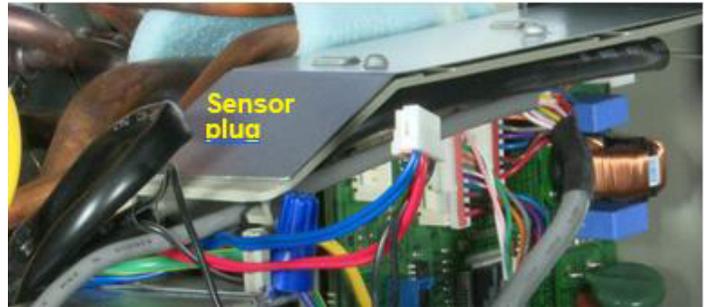
Models: MMPD, MMLD Single Zone, VRF Commercial

Title: AHU Inlet Temperature Sensor Separated From Pipe

TROUBLESHOOTING STEPS

1. Power the unit off for 15-20 minutes before continuing to the next step.
2. Locate AHU Eva_in sensor on the Indoor PCB.
3. Ohm the sensor and compare it to the resistance chart below.
 - If the sensor is out of range, replace the sensor.
 - If the sensor tests within range, replace the PCB on which the sensor is connected.

T (C°)	T (F°)	Rmin (k Ω)	Rcent (k Ω)	Rmax (k Ω)
-1	30	27.33	28.47	29.63
0	32	26.18	27.27	28.37
2	36	24.06	25.03	26.02
3	37	23.07	24.00	24.93
5	41	21.23	22.06	22.90
7	45	19.55	20.30	21.06
9	48	18.03	18.70	19.38
10	50	17.31	17.95	18.60
11	52	16.63	17.24	17.86
14	57	14.77	15.29	15.81
15	59	14.20	14.69	15.19
17	63	13.13	13.58	14.03
19	66	12.16	12.57	12.97
21	70	11.27	11.64	12.00
22	72	10.85	11.20	11.55
25	77	9.700	10.00	10.30
26	79	9.341	9.633	9.926
27	81	8.997	9.282	9.568
30	86	8.049	8.313	8.578
31	88	7.758	8.016	8.275
33	91	7.213	7.458	7.704
34	93	6.957	7.196	7.436
37	99	6.249	6.470	6.694
38	100	6.032	6.247	6.465



E173/C173 ERROR CODE

AHU OUTLET TEMPERATURE SENSOR SEPARATED FROM PIPE

Revision Date: 2/7/2025

Subject: E173/C173 Error Code

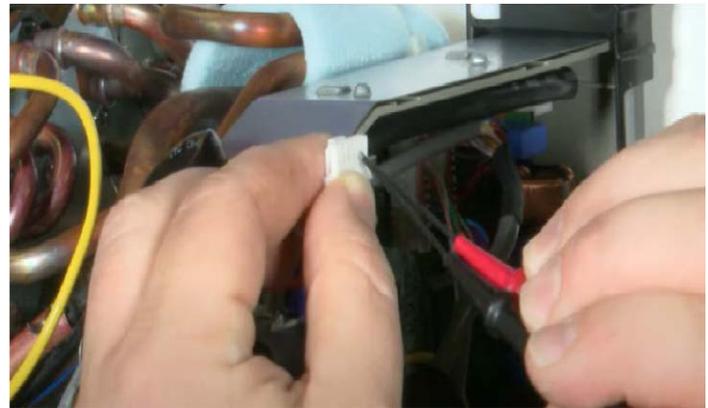
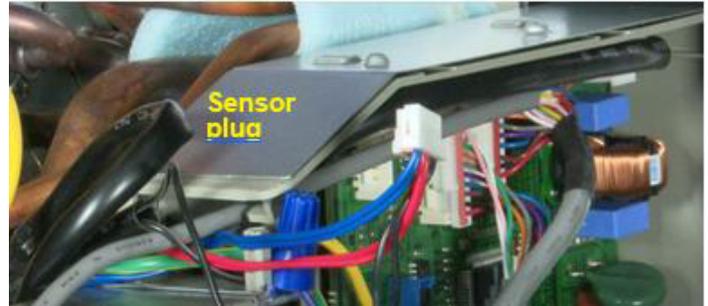
Models: MMPD, MMLD Single Zone, VRF

Title: AHU Outlet Temperature Sensor Separated From Pipe

TROUBLESHOOTING STEPS

1. Power the unit off for 15-20 minutes before continuing to the next step.
2. Locate AHU Eva_outsensor on the Indoor PCB.
3. Ohm the sensor and compare it to the resistance chart below.
 - If the sensor is out of range, replace the sensor.
 - If the sensor tests within range, replace the PCB on which the sensor is connected.

T (C°)	T (F°)	Rmin (k Ω)	Rcent (k Ω)	Rmax (k Ω)
-1	30	27.33	28.47	29.63
0	32	26.18	27.27	28.37
2	36	24.06	25.03	26.02
3	37	23.07	24.00	24.93
5	41	21.23	22.06	22.90
7	45	19.55	20.30	21.06
9	48	18.03	18.70	19.38
10	50	17.31	17.95	18.60
11	52	16.63	17.24	17.86
14	57	14.77	15.29	15.81
15	59	14.20	14.69	15.19
17	63	13.13	13.58	14.03
19	66	12.16	12.57	12.97
21	70	11.27	11.64	12.00
22	72	10.85	11.20	11.55
25	77	9.700	10.00	10.30
26	79	9.341	9.633	9.926
27	81	8.997	9.282	9.568
30	86	8.049	8.313	8.578
31	88	7.758	8.016	8.275
33	91	7.213	7.458	7.704
34	93	6.957	7.196	7.436
37	99	6.249	6.470	6.694
38	100	6.032	6.247	6.465





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MINI-SPLITS ERROR CODES

E190 ERROR CODE

PIPE CHECK ERROR

100227

3/2026

Revision Date: 3/30/2026

Subject: E190 Error Code

Models: MMLD, MMPD

Title: Pipe Check Error

TROUBLESHOOTING STEPS

- When checking pipe, there is no change temperature in evaporator in (EVA IN) or change temp EVA of other indoor unit

E199 ERROR CODE

MMPD, MMLD MULTI-ZONE PIPE CHECK NOT COMPLETED

100227

3/2026

Revision Date: 2/28/2025

Subject: E199 Error Code

Models: MMPD, MMLD Multi-Zone

Title: MMPD, MMLD MULTI-ZONE Pipe Check Not Completed

TROUBLESHOOTING STEPS

Display 1	Display 2	Number of Indoor Units
Ad	01	2 Indoor Units
Ad	02	3 Indoor Units
Ad	03	4 Indoor Units
Ad	04	5 Indoor Units



1. Power up the outdoor unit, the number of indoor units will follow the "Ad" displayed on displays 1 and 2. The seven segment displays will change to the "E199" on displays 1 and 2.
2. Push the K1 button once and the system will then start in cooling or heating mode depending on the ambient temperature.
3. After approximately 10 to 30 minutes, the system stops running, completing the test and addressing procedure with "K I oK" appearing on the display.
4. Press the K1 button once more, and "K I oK" disappears and the system is ready to operate normally.



E201/C201 ERROR CODE

100227

3/2026

COMMUNICATION ERROR BETWEEN INDOOR AND OUTDOOR UNITS

Revision Date: 3/5/2025

Subject: E201/C201 Error Code

Models: MWLD, MWPD, MWHD, MMPD, MMLD Single Zone, MMPD, MMLD MULTI-ZONE, VRF, WATER

Title: Communication Error Between Indoor and Outdoor Units

TROUBLESHOOTING STEPS FOR MWLD, MWPD, MWHD AND MMPD, MMLD SINGLE ZONE:

1. Verify incoming line voltage on L1 & 2N (208vac/230vac, $\pm 10\%$).
 2. Verify Communication Wires are landed on F1 & F2, polarity sensitive.
 3. Check Outdoor display or LEDs (Red, Green, Yellow) to verify any errors.
If outdoor PCB's are not lighting up, troubleshoot Outdoor unit before continuing.
 4. Communication wires must be 16/2 stranded, shielded.
 5. Straight run from Condensing Unit to Indoor Unit, no breaks or splices.
- NOTE:** Communication on F1 & F2 must not be broken by any condensate pumps.
6. Power the unit off for a minimum of 15 minutes.
 7. Disconnect each end of F1 & F2 wires, keep separated, Ohm out between F1 & F2 wires, also to shield.
 - If you have resistance, replace wires.
 - If you don't have resistance, wire nut one end and ohm out wires again.
 - If you don't have resistance, replace wires.
 8. Remove Communication wires (F1 & F2); reapply power to system.
 9. Test the DC voltage on F1 & F2 at indoor and outdoor.

NOTE: Must be between 0.1 - 0.9vdc. If out of range, replace corresponding PCB.

10. Power the unit off for a minimum of 15 minutes.
11. Run temporary wire between Indoor and Outdoor Unit. Resupply power to system.

NOTE: For MMPD, MMLD MULTI-ZONE outdoor models continue with steps below after completing a pipe check.

12. Remove all but ONE set of indoor F1 & F2 communication wires from condenser terminal block.
13. Restore power to condenser and verify display does not go into error (E201).
If an E201 does not occur, remove power from condenser. Disconnect F1 & F2 wires and replace with the next set of indoor communication wires.
14. Repeat steps 15 until all indoor communication wires have been tested individually.
 - If ONE pair of indoor communication wires produces an E201, troubleshoot indoor PCB.
 - If all indoor communication wires produce an E201, replace outdoor Main PCB.

E201/C201 ERROR CODE

COMMUNICATION ERROR BETWEEN INDOOR AND OUTDOOR UNITS

100227

3/2026



Figure 11. 16/2 Stranded/Shielded



Figure 12. Condensing Unit Terminals



Figure 13. Indoor Unit Terminals

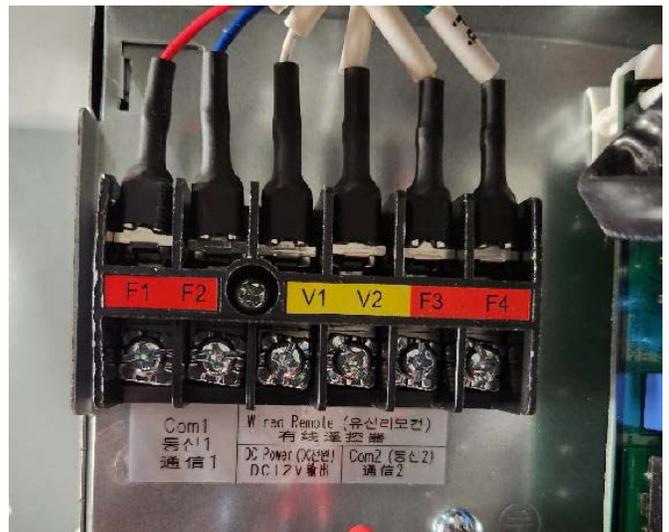


Figure 14. Indoor Ducted and Cassette Terminals

E201/C201 ERROR CODE

100227

COMMUNICATION ERROR BETWEEN INDOOR AND OUTDOOR UNITS

3/2026

Subject: E201/C201 Error Code

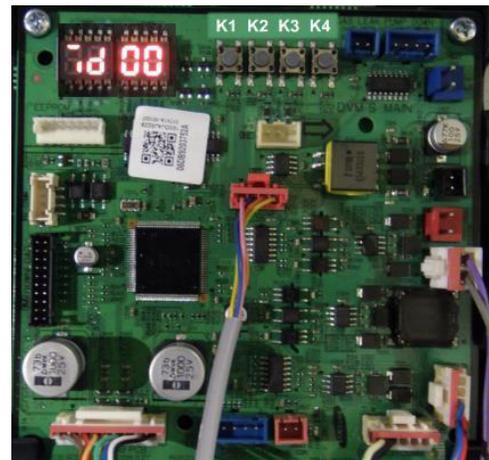
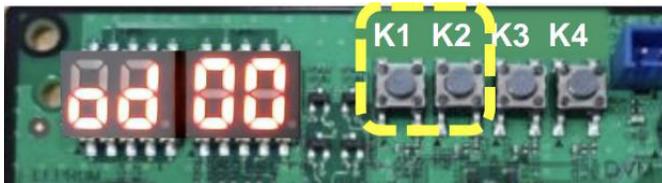
Models: VRF, WATER

Title: Communication Error Between Indoor and Outdoor Units

TROUBLESHOOTING STEPS:

1. Check Indoor unit quantity setting is correct on the Main outdoor condenser.
 - a. Press and hold K1 & K2 button for 3 seconds.
 - b. Press K1 button once to change display to Id** (** indicates the current indoor quantity condenser is set for).
 - c. Press and hold K4 for 2 seconds to auto detect Indoor unit quantity.
If quantity auto detected is different than original quantity shown.
 - d. Press and hold K2 to save setting.
If Snet is available, connect to verify indoor unit addresses that are communicating.
If Snet is unavailable, check error status on indoor unit wired controllers, display, or LEDs on facia panels.
Any controller, display, or LEDs that don't light up or have a communication error. Proceed to next steps.
2. Verify incoming line voltage on L1 & 2N (208vac/230vac, ±10%).
3. Verify Communication Wires are landed on F1 & F2, polarity sensitive.
Communication wires must be 16/2 stranded, shielded.
Communication wires must be a true daisy chain from Condensing Unit through all Indoor Units, no breaks or splices.
Communication on F1 & F2 must not be broken by any condensate pumps.
4. Remove power to the system for a minimum of 15 minutes.
5. Disconnect Communication wires (F1 & F2) from indoor unit with communication error.
6. Reapply power to system.
7. Test for DC voltage on F1 & F2 terminals at Indoor unit with a true RMS meter.

NOTE: Must be between 0.1 - 0.9vdc. If voltage is out of range, replace corresponding PCB.



E202/C202 ERROR CODE

100227

3/2026

COMMUNICATION ERROR BETWEEN INDOOR AND OUTDOOR UNITS

Revision Date: 3/5/2025

Subject: E202/C202 Error Code

Models: MWLD, MWPD, MWHD, MMPD, MMLD Single Zone, MMPD, MMLD MULTI-ZONE, VRF , WATER

Title: Communication Error Between Indoor and Outdoor Units

Troubleshooting Steps for MWLD, MWPD, MWHD, MMPD, MMLD Single Zone:

1. Verify incoming line voltage on L1 & 2N (208vac/230vac, $\pm 10\%$).
2. Verify Communication Wires are landed on F1 & F2, polarity sensitive.
3. Check Outdoor display or LEDs (Red, Green, Yellow) to verify any errors.
If outdoor PCBs are not lighting up, troubleshoot Outdoor unit before continuing.

NOTE: Communication wires must be 16/2 stranded, shielded.

4. Straight run from Condensing Unit to Indoor Unit, no breaks or splices. Communication on F1 & F2 must not be broken by any condensate pumps.
5. Remove power to the system for a minimum of 15 minutes.
6. Disconnect each end of F1 & F2 wires, keep separated, Ohm out between F1 & F2 wires, also to shield.
 - If you have resistance, replace wires.
 - If you don't have resistance, wire nut one end and ohm out wires again.
 - If you don't have resistance, replace wires.
7. Remove the Communication wires (F1 & F2) removed, reapply power to system.
8. Test for DC voltage on F1 & F2 at Indoor and Outdoor with a true RMS meter.
Must be between 0.1 - 0.9vdc. If out of range, replace corresponding PCB.
9. Remove power to the system for a minimum of 15 minutes.
10. Run temporary wire between Indoor and Outdoor Unit; resupply power to system.
11. For MMPD, MMLD MULTI-ZONE outdoor models continue with steps below: after completing a pipe check.
12. Remove all but ONE set of indoor F1 & F2 communication wires from condenser terminal block.
13. Restore power to condenser and verify display does not go into error (E202).
If an E202 does not occur, remove power from condenser. Disconnect F1 & F2 wires and replace with the next set of indoor communication wires.
14. Repeat steps 15 until all indoor communication wires have been tested individually.
 - If ONE pair of indoor communication wires produces an E202, troubleshoot indoor PCB.
 - If all indoor communication wires produce an E202, replace outdoor Main PCB.

E202/C202 ERROR CODE

COMMUNICATION ERROR BETWEEN INDOOR AND OUTDOOR UNITS

100227

3/2026



Figure 15. 16/2 Stranded/Shielded



Figure 16. Condensing Unit Terminals



Figure 17. Indoor Unit Terminals

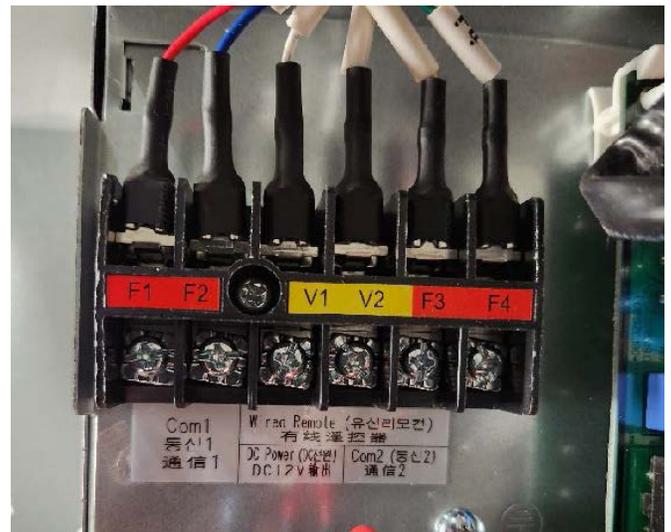


Figure 18. Indoor Ducted and Cassette Terminals

E202/C202 ERROR CODE

100227

COMMUNICATION ERROR BETWEEN INDOOR AND OUTDOOR UNITS

3/2026

Subject: E202/C202 Error Code

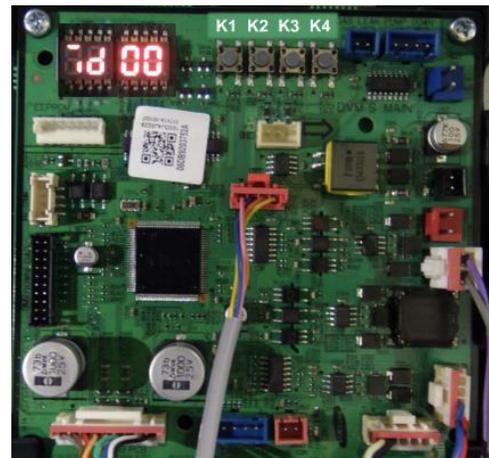
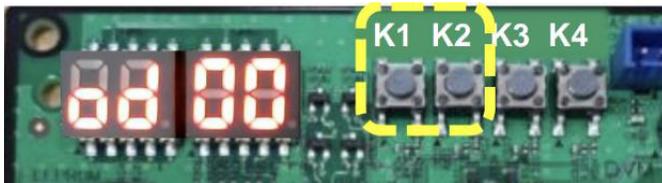
Models: VRF, WATER

Title: Communication Error Between Indoor and Outdoor Units

TROUBLESHOOTING STEPS:

1. Check Indoor unit quantity setting is correct on the Main outdoor condenser.
 - a. Press and hold K1 & K2 button for 3 seconds.
 - b. Press K1 button once to change display to Id** (** indicates the current indoor quantity condenser is set for)
 - c. Press and hold K4 for 2 seconds to auto detect Indoor unit quantity. If quantity auto detected is different than original quantity shown.
 - d. Press and hold K2 to save setting.
If Snet is available, connect to verify indoor unit addresses that are communicating.
If Snet is unavailable, check error status on indoor unit wired controllers, display, or LEDs on facia panels.
Any controller, display, or LEDs that don't light up or have a communication error. Proceed to next steps.
2. Verify incoming line voltage on L1 & 2N (208vac/230vac, ±10%).
3. Verify Communication Wires are landed on F1 & F2, polarity sensitive.
 - Communication wires must be 16/2 stranded, shielded.
 - Communication wires must be a true daisy chain from Condensing Unit through all Indoor Units, no breaks or splices.
 - Communication on F1 & F2 must not be broken by any condensate pumps.
4. Remove power to the system for a minimum of 15 minutes.
5. Disconnect Communication wires (F1 & F2) from indoor unit with communication error.
6. Reapply power to system.
7. Test for DC voltage on F1 & F2 terminals at Indoor unit with a true RMS meter.

NOTE: Must be between 0.1 - 0.9vdc. If voltage is out of range, replace corresponding PCB.



E203/C203 ERROR CODE

100227

3/2026

COMMUNICATION ERROR BETWEEN MAIN AND SUB OUTDOOR UNITS

Revision Date: 3/14/2025

Subject: E203/C203 Error Code

Models: MWLD, MWPD, MWHD, MMPD, MMLD Single Zone, MMPD, MMLD MULTI-ZONE, VRF, WATER

Title: Communication Error Between Main and Sub Outdoor Units

TROUBLESHOOTING STEPS: CONDENSER WITH 1 FAN

1. Power the unit off for a minimum of 15 minutes.
2. Disconnect fan motor connection plug on outdoor PCB.
 - If E203 does not return, replace fan motor.
 - If error returns, power unit off and disconnect wire harness between Inverter and Main PCB.
3. Check for continuity on wire harness between inverter and main PCB.
 - If continuity is not present replace harness.
 - If continuity is present, replace PCB Inverter and Main.

TROUBLESHOOTING STEPS: CONDENSER WITH 2 FANS

1. Power the unit off for a minimum of 15 minutes.
2. Disconnect both fan motor connection plugs on outdoor PCB.
If E203 does not return, power unit back off and plug one fan motor back into Inverter PCB.
3. Restore power. If E203 does not return, repeat step 3 with 2nd fan motor.
 - If error returns with fan motor 1 connected, replace fan motor 1.
 - If error returns with fan motor 2 connected, replace fan motor 2.
 - If error returns with both fans connected, power unit off. Disconnect wire harness between Inverter and Main PCB.
4. Check for continuity on wire harness between inverter and main PCB.
 - If continuity is not present replace harness.
 - If continuity is present, replace PCB Inverter and Main.

E203/C203 ERROR CODE

COMMUNICATION ERROR BETWEEN MAIN AND SUB OUTDOOR UNITS

100227

3/2026

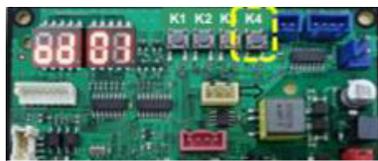
Subject: E203/C203 Error Code

Models: VRF, WATER

Title: Communication Error Between Main and Sub Outdoor Units

TROUBLESHOOTING STEPS:

1. Follow instructions using image below to ensure condenser(s) are set properly.
 - If application uses a single condenser, ensure condenser is set as main (od00).
 - If application uses multiple condensers, set Main as od00, Sub 1 as od01, Sub 2 as od02.
2. Verify main condenser is not in a communication error.
If so, correct communication error before proceeding to next steps.
3. Ensure the only interconnecting wires between main and sub condensing units are OF1 and OF2. Polarity sensitive. No breaks, splices, or junction boxes.
4. Power the unit off for a minimum of 15 minutes then disconnect OF1 and OF2 wires. With each end separated test for continuity.
 - If you have continuity replace wires. Wire nut one end and conduct continuity check again.
 - If open or no continuity is present replace wire.
5. With OF1 and OF2 disconnected. With true RMS meter, test for DC voltage on OF1 and OF2. The reading must be between 0.1 - 0.9vdc. If out of range, replace corresponding PCB.

Sequence	Display	Details
3		The PCB display will indicate "od nd" stating that the unit has not been set as a main or sub unit.
4		Press and hold K1 & K2 simultaneously to enter the setting mode. "od" = Outdoor Unit "od 00" = One outdoor unit (Main when more than 1 ODU)
5		Press and release the K4 button to set main or sub for each outdoor unit. "od 00" = Main "od 01" = Sub unit "od 02" = Sub2 unit Confirm setting: Press and hold the K2 button, settings are saved. This procedure is performed on each outdoor unit.

E210 ERROR CODE
MCU COMMUNICATION ERROR

100227
3/2026

Revision Date: 1/17/2025

Subject: E210 Error Code

Models: VRF HEAT RECOVERY

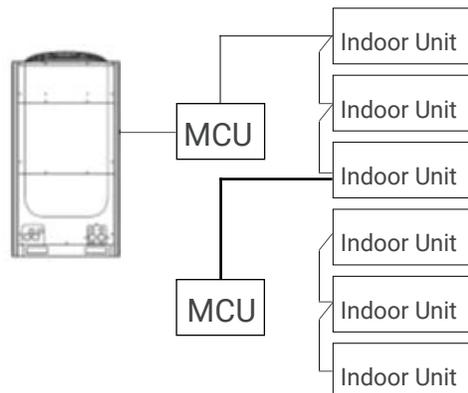
Title: MCU Communication Error: There is no communication between the Outdoor Unit and MCUs for 2 minutes.

TROUBLESHOOTING STEPS:

1. Verify all MCU and HR changers have 208/230 Volts.
2. Make sure communication wire is 16/2 stranded shielded wire
3. Verify communication wiring is a true daisy chain from condenser and land on MCU or HR changer 1st as shown in the image below.
4. Verify there are no breaks, junction boxes or splices in comm wire.
5. Ohm communication wire checking for open line or shorts between conductors, shielding or ground.
6. Enter installer setup by pressing and holding the K1 and K2 buttons on main PCB on the outdoor unit.
7. Press K1 repeatedly (K1 3X for VRF) until display shows NC on the lefthand screen as shown in image below.
8. Press and hold "K4" to auto detect MCU units
9. Verify it displays the correct number of MCUs?
 - If yes, press and hold K2 to save.
 - If not, run temp wire from condenser direct to MCU and try steps 5-7 again.
 - If outdoor unit still does not display correct number of MCUs, replace Main PCB on MCU that is displaying E210 error code.



MCU Display Setting



E214 ERROR CODE

OUTDOOR UNIT PCB SETTING DOES NOT MATCH MCU QUANTITY

100227

3/2026

Revision Date: 1/17/2025

Subject: E214 Error Code

Models: VRF HEAT RECOVERY

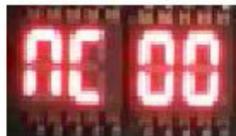
Title: Specified Quantity MCU On Outdoor Unit PCB Does Not Match Installed MCU Quantity

TROUBLESHOOTING STEPS:

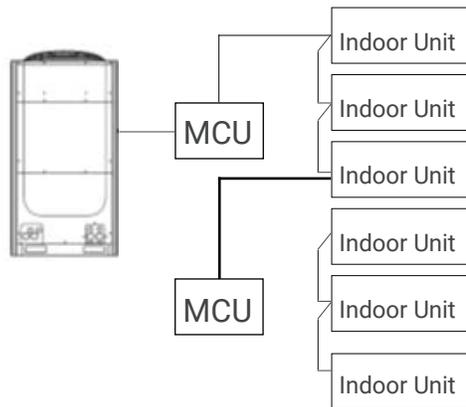
1. Verify all MCU and HR changers have 208/230Volts
2. Make sure communication wire is 16/2 stranded shielded wire
3. Verify communication wiring is a true daisy chain from condenser and land on MCU or HR changer 1st as shown in the image below. Verify there are no breaks, junction boxes or splices in comm wire.
4. Ohm communication wire checking for open line or shorts between conductors, shielding, or ground.
5. At outdoor unit, enter installer setup by pressing and holding the K1 and K2 buttons on main PCB.
6. Press K1 repeatedly (K1 3X for VRF) until display shows NC on the lefthand screen as shown in image below.
7. Press and hold "K4" to auto detect MCU units.
8. Verify it displays the correct number of MCUs.
 - If yes, press and hold K2 to save.
 - If not, run temp wire from condenser direct to MCU and try steps 5-7 again.
 - If outdoor unit still does not display correct number of MCUs, replace Main PCB on MCU that is displaying E210 error code.



Communication Wire



MCU Display Setting



E216 ERROR CODE

MCU PORT ENABLED WITHOUT INDOOR UNIT CONNECTED

100227

3/2026

Revision Date: 2/19/2025

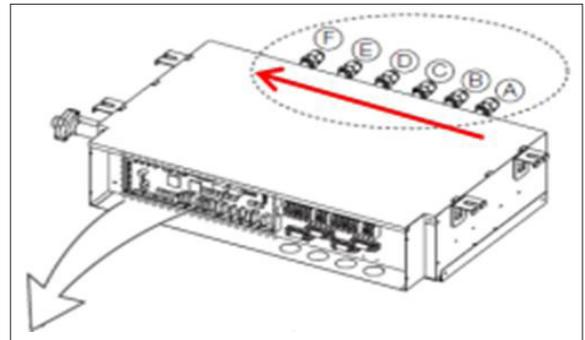
Subject: E216 Error Code

Models: VRF

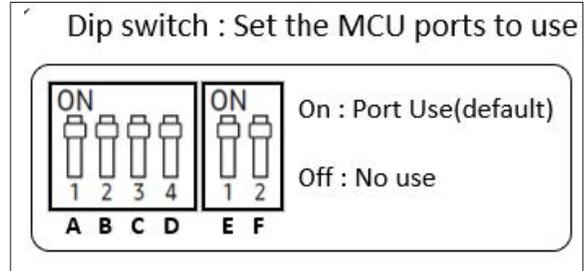
Title: MCU Port Enabled When Indoor Unit Not Connected. Dip Switch ON Status On MCU Even Though Indoor Unit Not Connected

TROUBLESHOOTING STEPS:

1. Check error code at condenser and see what MCU is being displayed after error.
Example: C100 will be MCU address 0, C109 will be MCU address 9
2. Locate MCU address being displayed on condenser.
3. Check piping connections and see how many ports are being used.
4. Verify dip switches are enabled for the ports being used.
If twinning ports, make sure dipswitch for twinning is set. See below.
5. Connect laptop and service tool.
6. Verify MCU port assignment match what dip switches are enabled.
If Snet is not available, look at all controllers connected to the MCU and verify port assignments.



S/W Option Dip Switch No.	ON (Default) (Individual Connection)	OFF (Shared Connection)
1	Each of Ports A and B	Pairing Port A and B
2	Each of Ports C and D	Pairing Port C and D
3	Each of Ports E and F	Pairing Port E and F
4	N/A	N/A



Indoor Unit/Ventilator Option	Address	Main Address	00 to 4F
		RMC Address	00 to FE
Product Option 3)*	-	Refer to the installation manual of the connected indoor unit or ventilator	
Installation Option 1 3)*	-		
Installation Option 2 3)*	-		
MCU Port	MCU Address	00 to 15	
	MCU Port	A to F	

Indoor Unit Installation Data					
Address	Model	RMC	MCU ADDRES	MCU PORT	Loc
0	RAC	00	1	E	
1	RAC	01	1	E	
2	RAC	00	2	B	
3	RAC	03	2	B	
4	RAC	00	2	D	
5	RAC	05	2	D	

To watch a video demonstration of this troubleshooting technique, click the Play Video button below.



E217 ERROR CODE

MCU PORT DISABLED WITH INDOOR UNIT CONNECTED

100227

3/2026

Revision Date: 10/29/2024

Subject: E217 Error Code

Models: VRF S HEAT RECOVERY

Title: MCU Port Disabled When Indoor Unit Is Actually Connected. Dip Switch OFF Status On MCU Even Though Indoor Unit Connected

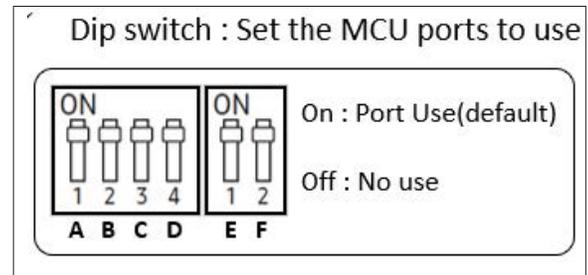
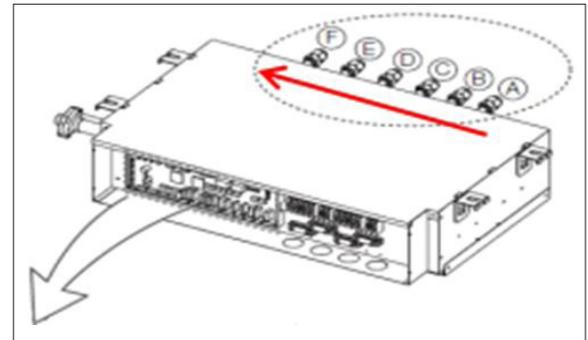
TROUBLESHOOTING STEPS:

1. Check error code at condenser to view which MCU is displayed after the error. Example: C100 will be MCU address 0, C109 will be MCU address 9.
2. Locate MCU address being displayed on condenser.
3. Check piping connections and see how many ports are being used.
4. Verify dip switches are enabled for the ports being used and disabled for ports not being used.
If twinning ports, make sure dip switch for twinning is set. See below.

S/W Option Dip Switch No.	ON (Default) (Individual Connection)	OFF (Shared Connection)
1	Each of Ports A and B	Pairing Port A and B
2	Each of Ports C and D	Pairing Port C and D
3	Each of Ports E and F	Pairing Port E and F
4	N/A	N/A

5. Connect laptop and service tool.
6. Verify MCU port assignment match what dip switches are enabled.
If Snet is not available, view all controllers connected to the MCU and verify port assignments.

Indoor Unit/ Ventilator Option	Address	Main Address	00 to 4F
		RMC Address	00 to FE
	Product Option 3)*	-	Refer to the installation manual of the connected indoor unit or ventilator
	Installation Option 1 3)*	-	
	Installation Option 2 3)*	-	
MCU Port	MCU Address	00 to 15	
	MCU Port	A to F	



Indoor Unit Installation Data					
Address	Model	RMC	MCU ADDRESS	MCU PORT	Loc
0	RAC	00	1	E	
1	RAC	01	1	E	
2	RAC	00	2	B	
3	RAC	03	2	B	
4	RAC	00	2	D	
5	RAC	05	2	D	

E219 ERROR CODE

SUBCOOLER INLET TEMPERATURE SENSOR IN MCU OPEN OR SHORT

Revision Date: 1/13/2025

Subject: E219 Error Code

Models: VRF HEAT RECOVERY

Title: Subcooler Inlet Temperature Sensor In MCU Open or Short

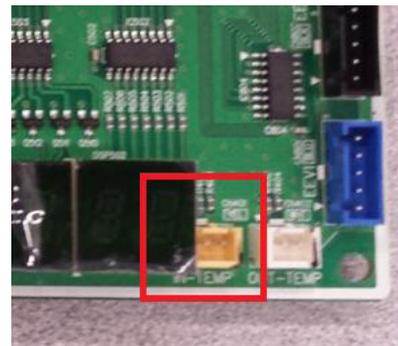
TROUBLESHOOTING STEPS

1. Locate MCU that is in error. (E219-C100 is MCU address 00)
2. Locate the Subcooler inlet sensor at CN401 on MCU PCB.
3. Inspect the sensor and make sure it's plugged in correctly.
4. OHM the sensor and compare it to the resistance chart below,
 - If the sensor is out of range or open, replace the sensor.
 - If the sensor tests within range, replace the MCU PCB.

T (C°)	T (F°)	Rmin (k Ω)	Rcent (k Ω)	Rmax (k Ω)
-1	30	27.33	28.47	29.63
0	32	26.18	27.27	28.37
2	36	24.06	25.03	26.02
3	37	23.07	24.00	24.93
5	41	21.23	22.06	22.90
7	45	19.55	20.30	21.06
9	48	18.03	18.70	19.38
10	50	17.31	17.95	18.60
11	52	16.63	17.24	17.86
14	57	14.77	15.29	15.81
15	59	14.20	14.69	15.19
17	63	13.13	13.58	14.03
19	66	12.16	12.57	12.97
21	70	11.27	11.64	12.00
22	72	10.85	11.20	11.55
25	77	9.700	10.00	10.30
26	79	9.341	9.633	9.926
27	81	8.997	9.282	9.568
30	86	8.049	8.313	8.578
31	88	7.758	8.016	8.275
33	91	7.213	7.458	7.704
34	93	6.957	7.196	7.436
37	99	6.249	6.470	6.694
38	100	6.032	6.247	6.465



Test with needlepoint leads on the 2 silver tabs



E220 ERROR CODE

SUBCOOLER OUTLET TEMPERATURE SENSOR IN MCU OPEN OR SHORT

Revision Date: 1/17/2025

Subject: E220 Error Code

Models: VRF HEAT RECOVERY

Title: Subcooler Outlet Temperature Sensor In MCU Open or Short

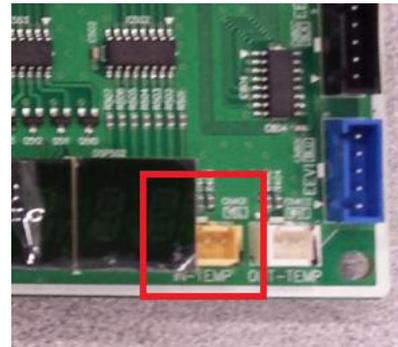
TROUBLESHOOTING STEPS

1. Locate MCU that is in error. (E220-C100 is MCU address 00)
2. Locate the Subcooler outlet sensor at CN402 on MCU PCB.
3. Inspect the sensor and make sure it is plugged in correctly.
4. OHM the sensor and compare it to the resistance chart below.
 - If the sensor is out of range or open, replace the sensor.
 - If the sensor tests within range, replace MCU PCB.

T (C°)	T (F°)	Rmin (k Ω)	Rcent (k Ω)	Rmax (k Ω)
-1	30	27.33	28.47	29.63
0	32	26.18	27.27	28.37
2	36	24.06	25.03	26.02
3	37	23.07	24.00	24.93
5	41	21.23	22.06	22.90
7	45	19.55	20.30	21.06
9	48	18.03	18.70	19.38
10	50	17.31	17.95	18.60
11	52	16.63	17.24	17.86
14	57	14.77	15.29	15.81
15	59	14.20	14.69	15.19
17	63	13.13	13.58	14.03
19	66	12.16	12.57	12.97
21	70	11.27	11.64	12.00
22	72	10.85	11.20	11.55
25	77	9.700	10.00	10.30
26	79	9.341	9.633	9.926
27	81	8.997	9.282	9.568
30	86	8.049	8.313	8.578
31	88	7.758	8.016	8.275
33	91	7.213	7.458	7.704
34	93	6.957	7.196	7.436
37	99	6.249	6.470	6.694
38	100	6.032	6.247	6.465



Test with needlepoint leads on the 2 silver tabs



E221 ERROR CODE

OUTDOOR UNIT AMBIENT SENSOR OPEN OR SHORT

Revision Date: 12/10/2024

Subject: E221 Error Code

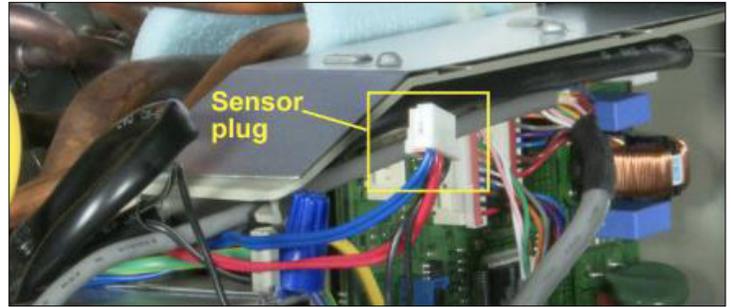
Models: MWLD, MWPD, MWHD, MMPD, MMLD Single Zone, VRF

Title: Outdoor Unit Ambient Sensor Open or Short

TROUBLESHOOTING STEPS

1. Locate the ambient sensor on the outdoor unit.
2. Ohm the sensor and compare it to the resistance chart below.
 - If the sensor is out of range, replace the sensor.
 - If the sensor is in range, replace the board on which the sensor is connected.

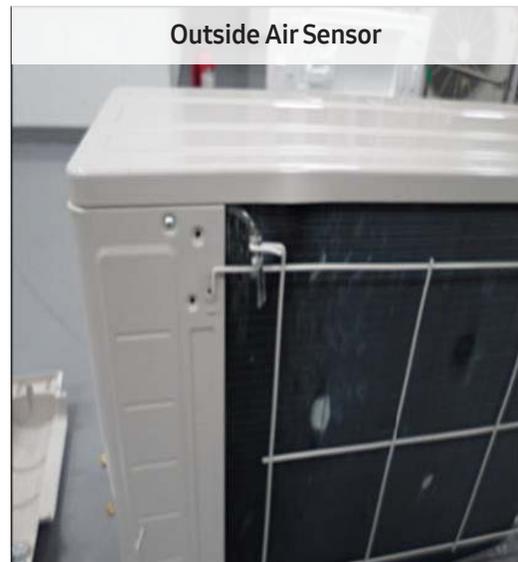
T (C°)	T (F°)	Rmin (k Ω)	Rcent (k Ω)	Rmax (k Ω)
-1	30	27.33	28.47	29.63
0	32	26.18	27.27	28.37
2	36	24.06	25.03	26.02
3	37	23.07	24.00	24.93
5	41	21.23	22.06	22.90
7	45	19.55	20.30	21.06
9	48	18.03	18.70	19.38
10	50	17.31	17.95	18.60
11	52	16.63	17.24	17.86
14	57	14.77	15.29	15.81
15	59	14.20	14.69	15.19
17	63	13.13	13.58	14.03
19	66	12.16	12.57	12.97
21	70	11.27	11.64	12.00
22	72	10.85	11.20	11.55
25	77	9.700	10.00	10.30
26	79	9.341	9.633	9.926
27	81	8.997	9.282	9.568
30	86	8.049	8.313	8.578
31	88	7.758	8.016	8.275
33	91	7.213	7.458	7.704
34	93	6.957	7.196	7.436
37	99	6.249	6.470	6.694
38	100	6.032	6.247	6.465



Unplug the sensor connection



Test with needlepoint leads on the 2 silver tabs



E231 ERROR CODE

CONDENSER OUTLET SENSOR IS OPEN OR SHORT

Revision Date: 12/12/2024

Subject: E231 Error Code

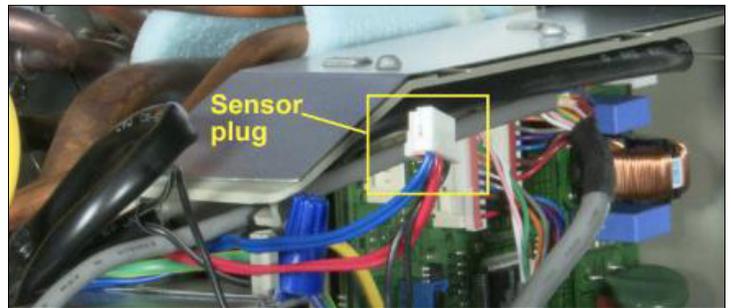
Models: VRF, MMPD, MMLD Single Zone, MWLD, MWPD, MWHD, MMPD, MMLD MULTI-ZONE, WATER, CHILLER

Title: Condenser Outlet Sensor (COND_OUT) Is Open Or Short

TROUBLESHOOTING STEPS

1. Locate the ambient sensor on the outdoor unit.
2. Ohm the sensor and compare it to the resistance chart below.
 - If the sensor is out of range, replace the sensor.
 - If the sensor is in range, replace the board on which the sensor is connected.

T (C°)	T (F°)	Rmin (k Ω)	Rcent (k Ω)	Rmax (k Ω)
-1	30	27.33	28.47	29.63
0	32	26.18	27.27	28.37
2	36	24.06	25.03	26.02
3	37	23.07	24.00	24.93
5	41	21.23	22.06	22.90
7	45	19.55	20.30	21.06
9	48	18.03	18.70	19.38
10	50	17.31	17.95	18.60
11	52	16.63	17.24	17.86
14	57	14.77	15.29	15.81
15	59	14.20	14.69	15.19
17	63	13.13	13.58	14.03
19	66	12.16	12.57	12.97
21	70	11.27	11.64	12.00
22	72	10.85	11.20	11.55
25	77	9.700	10.00	10.30
26	79	9.341	9.633	9.926
27	81	8.997	9.282	9.568
30	86	8.049	8.313	8.578
31	88	7.758	8.016	8.275
33	91	7.213	7.458	7.704
34	93	6.957	7.196	7.436
37	99	6.249	6.470	6.694
38	100	6.032	6.247	6.465



Unplug the sensor connection



Test with needlepoint leads on the 2 silver tabs

E308 ERROR CODE

100227

SUCTION TEMPERATURE SENSOR IS OPEN/SHORT

3/2026

Revision Date: 1/31/2025

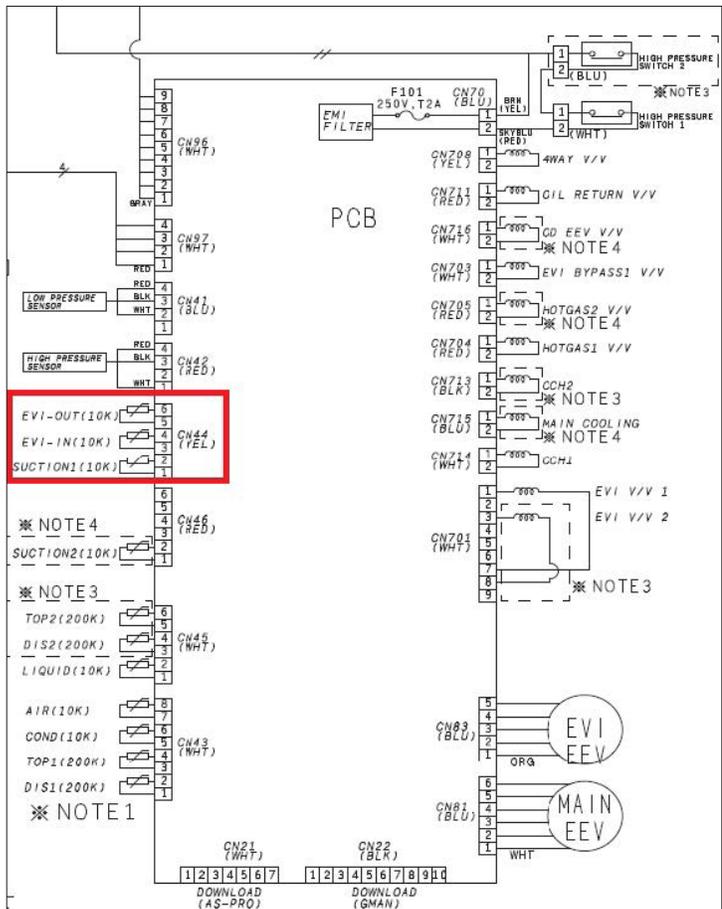
Subject: E308 Error Code

Models: VRF, CHILLER, WATER

Title: Suction Temperature Sensor is Open/Short

TROUBLESHOOTING STEPS

1. Locate the Suction 1 sensor on the outdoor unit
2. Ohm the sensor and compare it to the resistance chart below.
 - If the sensor is out of range, replace the sensor.
 - If the sensor tests within range, replace the PCB on which the sensor is connected



T (C°)	T (F°)	Rmin (k Ω)	Rcent (k Ω)	Rmax (k Ω)
-1	30	27.33	28.47	29.63
0	32	26.18	27.27	28.37
2	36	24.06	25.03	26.02
3	37	23.07	24.00	24.93
5	41	21.23	22.06	22.90
7	45	19.55	20.30	21.06
9	48	18.03	18.70	19.38
10	50	17.31	17.95	18.60
11	52	16.63	17.24	17.86
14	57	14.77	15.29	15.81
15	59	14.20	14.69	15.19
17	63	13.13	13.58	14.03
19	66	12.16	12.57	12.97
21	70	11.27	11.64	12.00
22	72	10.85	11.20	11.55
25	77	9.700	10.00	10.30
26	79	9.341	9.633	9.926
27	81	8.997	9.282	9.568
30	86	8.049	8.313	8.578
31	88	7.758	8.016	8.275
33	91	7.213	7.458	7.704
34	93	6.957	7.196	7.436
37	99	6.249	6.470	6.694
38	100	6.032	6.247	6.465

E311 ERROR CODE

LIQUID TUBE SENSOR IS OPEN/SHORT

100227

3/2026

Revision Date: 1/31/2025

Subject: E311 Error Code

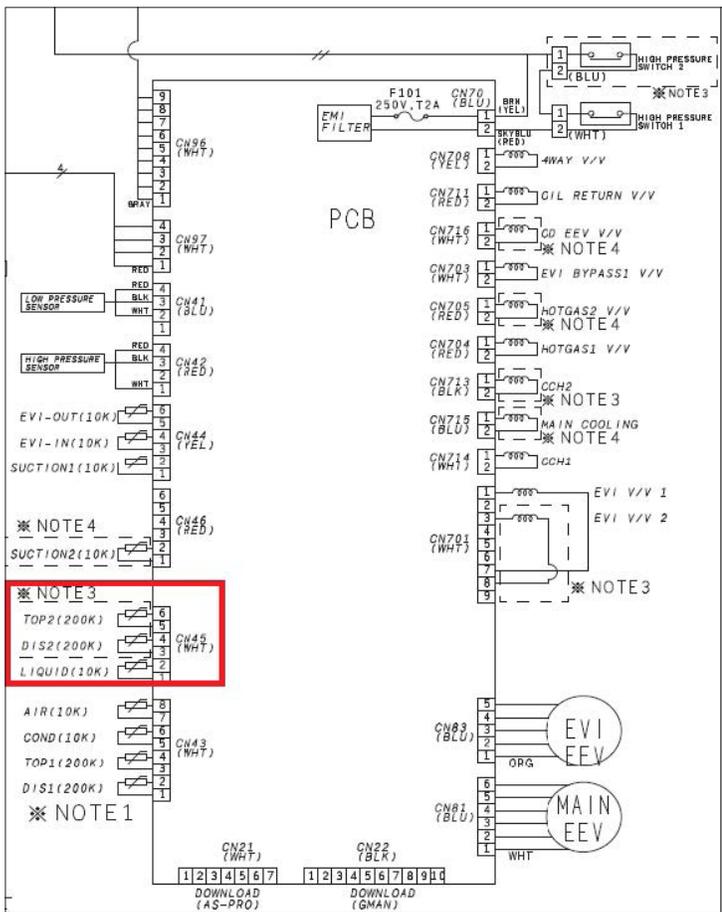
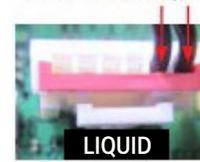
Models: VRF, CHILLER, WATER

Title: Liquid Tube Sensor is Open/Short

TROUBLESHOOTING STEPS

1. Locate the liquid tube sensor on the outdoor unit.
2. Ohm the sensor and compare it to the resistance chart below.
 - If the sensor is out of range, replace the sensor.
 - If the sensor tests within range, replace the PCB on which the sensor is connected.

Resistance value measure part



T (C°)	T (F°)	Rmin (k Ω)	Rcent (k Ω)	Rmax (k Ω)
-1	30	27.33	28.47	29.63
0	32	26.18	27.27	28.37
2	36	24.06	25.03	26.02
3	37	23.07	24.00	24.93
5	41	21.23	22.06	22.90
7	45	19.55	20.30	21.06
9	48	18.03	18.70	19.38
10	50	17.31	17.95	18.60
11	52	16.63	17.24	17.86
14	57	14.77	15.29	15.81
15	59	14.20	14.69	15.19
17	63	13.13	13.58	14.03
19	66	12.16	12.57	12.97
21	70	11.27	11.64	12.00
22	72	10.85	11.20	11.55
25	77	9.700	10.00	10.30
26	79	9.341	9.633	9.926
27	81	8.997	9.282	9.568
30	86	8.049	8.313	8.578
31	88	7.758	8.016	8.275
33	91	7.213	7.458	7.704
34	93	6.957	7.196	7.436
37	99	6.249	6.470	6.694
38	100	6.032	6.247	6.465

E320 ERROR CODE

OLP SENSOR IS OPEN OR SHORT

100227

3/2026

Revision Date: 12/17/2024

Subject: E320 Error Code

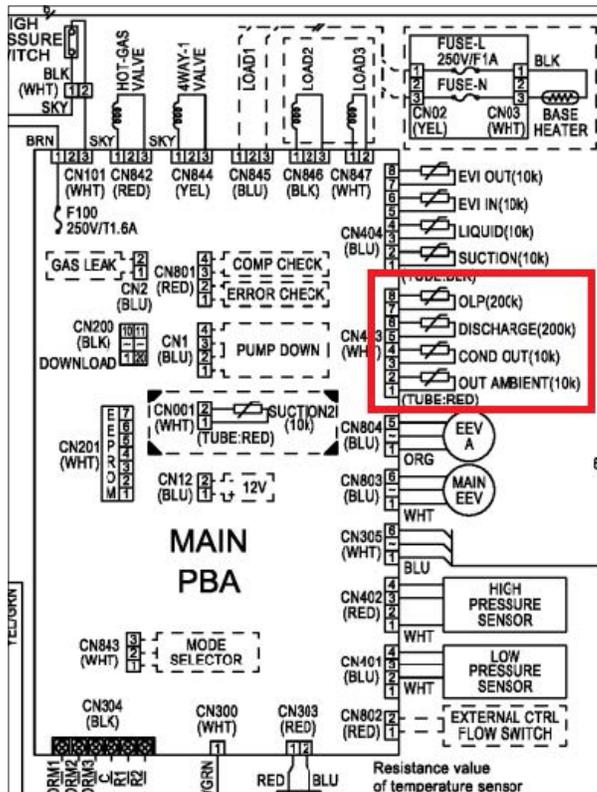
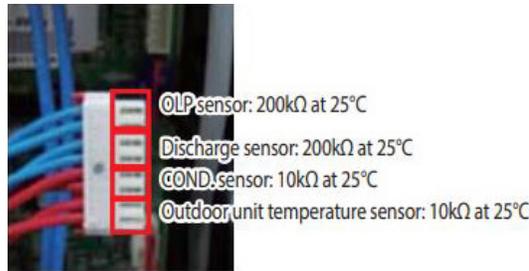
Models: MMPD, MMLD Single Zone, MMPD, MMLD MULTI-ZONE

Title: OLP Sensor Is Open or Short

TROUBLESHOOTING STEPS

1. Locate the OLP sensor on the outdoor unit Main PCB.
2. Ohm the sensor and compare it to the resistance chart below.
 - If the sensor is out of range, replace the sensor.
 - If the sensor tests within range, replace the Main PCB on which the sensor is connected.

Temp (C°)	Max (k Ω)	Center (k Ω)	Min (k Ω)
32	563.1	553.50	515.2
41	476.1	446.20	417.1
50	385.1	362.40	340.2
59	312.6	295.40	278.5
68	256.6	242.50	229.50
77	210	200.00	190.0
86	174.6	165.70	156.8
95	145.8	137.80	130.0
104	122.5	115.40	108.4
113	103.3	96.95	90.8
122	87.87	81.92	76.5
131	74.47	69.44	64.6
140	63.65	59.16	54.9
149	54.55	50.54	46.7



E321 ERROR CODE

EVI EEV INLET SENSOR IS OPEN OR SHORT

Revision Date: 12/10/2024

Subject: E321 Error Code

Models: VRF, CHILLER, WATER

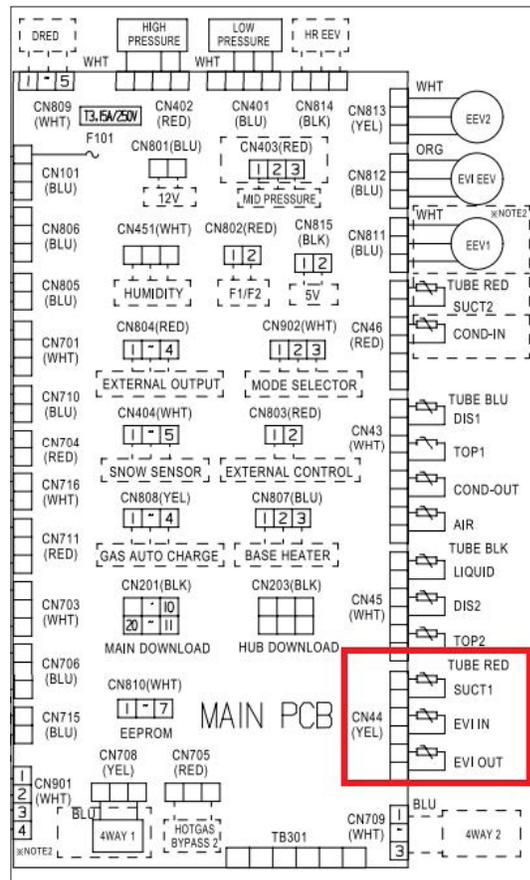
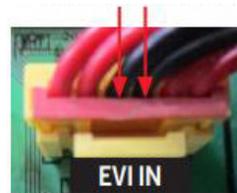
Title: EVI EEV Inlet Sensor Is Open or Short

TROUBLESHOOTING STEPS

1. Locate the EVI EEV Inlet sensor on the outdoor unit at CN44 on the Main PCB.
2. Ohm the sensor and compare it to the resistance chart below.
 - If the sensor is out of range, replace the sensor.
 - If the sensor tests within range, replace the Main PCB on which the sensor is connected.

T (C°)	T (F°)	Rmin (k Ω)	Rcent (k Ω)	Rmax (k Ω)
-1	30	27.33	28.47	29.63
0	32	26.18	27.27	28.37
2	36	24.06	25.03	26.02
3	37	23.07	24.00	24.93
5	41	21.23	22.06	22.90
7	45	19.55	20.30	21.06
9	48	18.03	18.70	19.38
10	50	17.31	17.95	18.60
11	52	16.63	17.24	17.86
14	57	14.77	15.29	15.81
15	59	14.20	14.69	15.19
17	63	13.13	13.58	14.03
19	66	12.16	12.57	12.97
21	70	11.27	11.64	12.00
22	72	10.85	11.20	11.55
25	77	9.700	10.00	10.30
26	79	9.341	9.633	9.926
27	81	8.997	9.282	9.568
30	86	8.049	8.313	8.578
31	88	7.758	8.016	8.275
33	91	7.213	7.458	7.704
34	93	6.957	7.196	7.436
37	99	6.249	6.470	6.694
38	100	6.032	6.247	6.465

Resistance value measure part



E322 ERROR CODE

EVI EEV OUTLET SENSOR IS OPEN OR SHORT

100227

3/2026

Revision Date: 12/16/2024

Subject: E322 Error Code

Models: VRF, CHILLER, WATER

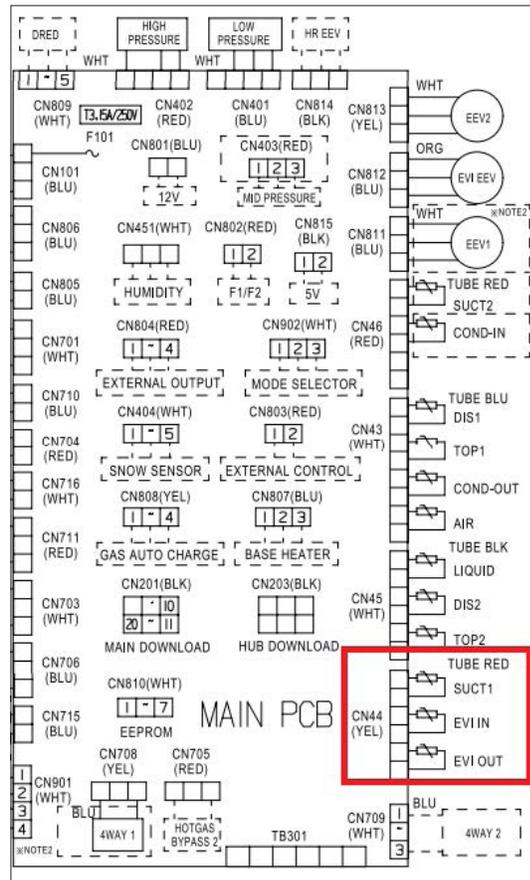
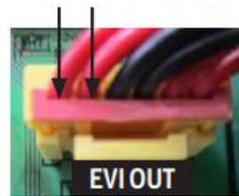
Title: EVI EEV Outlet Sensor Is Open or Short

TROUBLESHOOTING STEPS

1. Locate the EVI EEV Outlet sensor on the outdoor unit at CN44 on the Main PCB.
2. Ohm the sensor and compare it to the resistance chart below.
 - If the sensor is out of range, replace the sensor.
 - If the sensor tests within range, replace the Main PCB on which the sensor is connected.

T (C°)	T (F°)	Rmin (k Ω)	Rcent (k Ω)	Rmax (k Ω)
-1	30	27.33	28.47	29.63
0	32	26.18	27.27	28.37
2	36	24.06	25.03	26.02
3	37	23.07	24.00	24.93
5	41	21.23	22.06	22.90
7	45	19.55	20.30	21.06
9	48	18.03	18.70	19.38
10	50	17.31	17.95	18.60
11	52	16.63	17.24	17.86
14	57	14.77	15.29	15.81
15	59	14.20	14.69	15.19
17	63	13.13	13.58	14.03
19	66	12.16	12.57	12.97
21	70	11.27	11.64	12.00
22	72	10.85	11.20	11.55
25	77	9.700	10.00	10.30
26	79	9.341	9.633	9.926
27	81	8.997	9.282	9.568
30	86	8.049	8.313	8.578
31	88	7.758	8.016	8.275
33	91	7.213	7.458	7.704
34	93	6.957	7.196	7.436
37	99	6.249	6.470	6.694
38	100	6.032	6.247	6.465

Resistance value measure part



E323 ERROR CODE

SUCTION SENSOR 2 OPEN/SHORT ERROR

Revision Date: 12/16/2024

Subject: E323 Error Code

Models: VRF, CHILLER, WATER

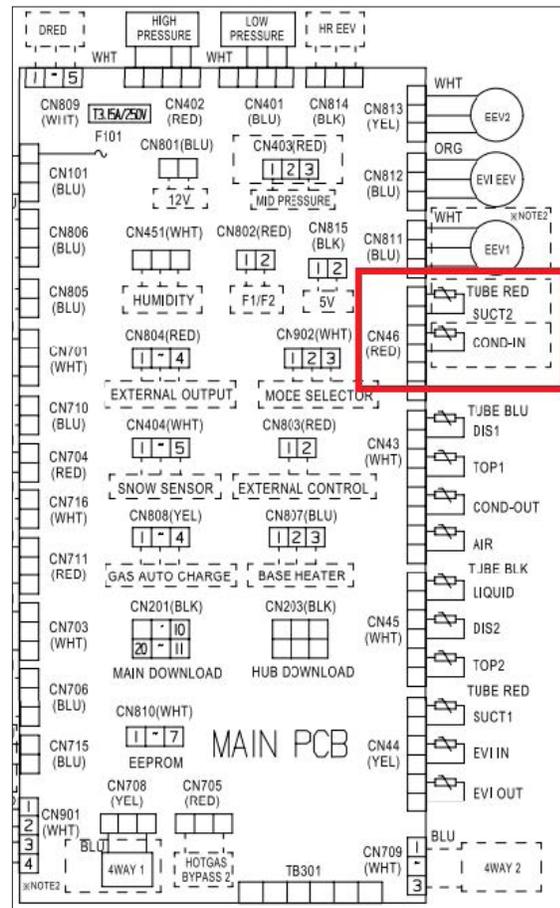
Title: Suction Sensor 2 Is Open or Short

TROUBLESHOOTING STEPS

1. Locate the Suction sensor 2 on the outdoor unit Main PCB.
2. Ohm the sensor and compare it to the resistance chart below.
 - If the sensor test is out of range, replace the sensor.
 - If the sensor is within range, replace the Main PCB on which the sensor is connected.



T (C°)	T (F°)	Rmin (k Ω)	Rcent (k Ω)	Rmax (k Ω)
-1	30	27.33	28.47	29.63
0	32	26.18	27.27	28.37
2	36	24.06	25.03	26.02
3	37	23.07	24.00	24.93
5	41	21.23	22.06	22.90
7	45	19.55	20.30	21.06
9	48	18.03	18.70	19.38
10	50	17.31	17.95	18.60
11	52	16.63	17.24	17.86
14	57	14.77	15.29	15.81
15	59	14.20	14.69	15.19
17	63	13.13	13.58	14.03
19	66	12.16	12.57	12.97
21	70	11.27	11.64	12.00
22	72	10.85	11.20	11.55
25	77	9.700	10.00	10.30
26	79	9.341	9.633	9.926
27	81	8.997	9.282	9.568
30	86	8.049	8.313	8.578
31	88	7.758	8.016	8.275
33	91	7.213	7.458	7.704
34	93	6.957	7.196	7.436
37	99	6.249	6.470	6.694
38	100	6.032	6.247	6.465



E330 ERROR CODE

MMPD, MMLD MULTI-ZONE INLET SENSOR OF PORT 0 ERROR

Revision Date: 2/03/2025

Subject: E330 Error Code

Models: MMPD, MMLD MULTI-ZONE OUTDOOR MODELS

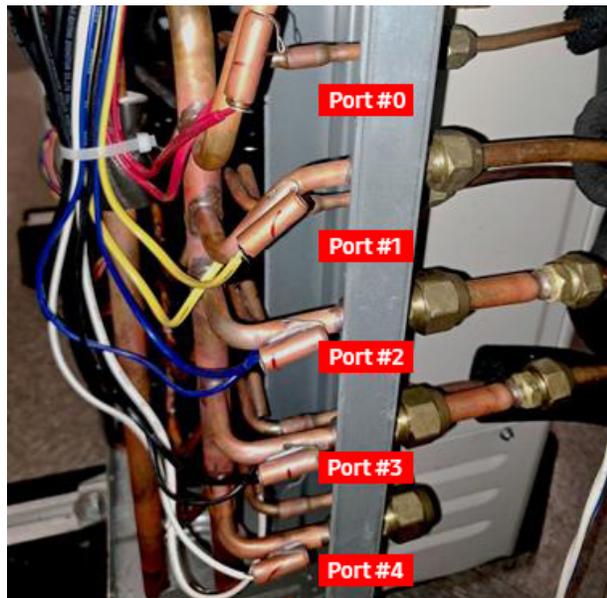
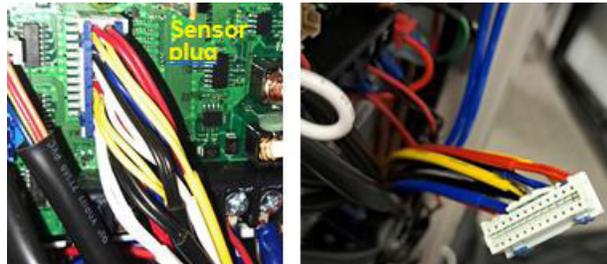
Title: MMPD, MMLD MULTI-ZONE Inlet Sensor of Port 0 Error

TROUBLESHOOTING STEPS

The inlet temperature sensor (TA_0) of port #0 in the MMPD, MMLD MULTI-ZONE outdoor unit has separated from the pipe.

1. Power the unit off for 15-20 minutes before continuing to the next step.
2. Locate the sensor plug on the outdoor PCB. The location will vary on different models. Use the wiring schematic for proper location.
3. Ohm Red sensor wires and compare to the resistance chart down below.
 - If the sensor is out of range, replace the sensor harness.
 - If the sensor tests within range, replace the PCB on which the sensor is connected.

T (C°)	T (F°)	Rmin (k Ω)	Rcent (k Ω)	Rmax (k Ω)
-1	30	27.33	28.47	29.63
0	32	26.18	27.27	28.37
2	36	24.06	25.03	26.02
3	37	23.07	24.00	24.93
5	41	21.23	22.06	22.90
7	45	19.55	20.30	21.06
9	48	18.03	18.70	19.38
10	50	17.31	17.95	18.60
11	52	16.63	17.24	17.86
14	57	14.77	15.29	15.81
15	59	14.20	14.69	15.19
17	63	13.13	13.58	14.03
19	66	12.16	12.57	12.97
21	70	11.27	11.64	12.00
22	72	10.85	11.20	11.55
25	77	9.700	10.00	10.30
26	79	9.341	9.633	9.926
27	81	8.997	9.282	9.568
30	86	8.049	8.313	8.578
31	88	7.758	8.016	8.275
33	91	7.213	7.458	7.704
34	93	6.957	7.196	7.436
37	99	6.249	6.470	6.694
38	100	6.032	6.247	6.465



E331 ERROR CODE

MMPD, MMLD MULTI-ZONE INLET SENSOR OF PORT 1 ERROR

Revision Date: 2/03/2025

Subject: E331 Error Code

Models: MMPD, MMLD MULTI-ZONE OUTDOOR MODELS

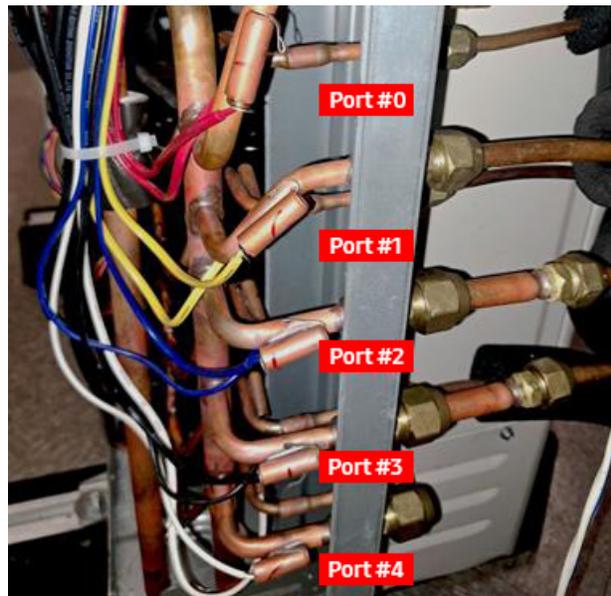
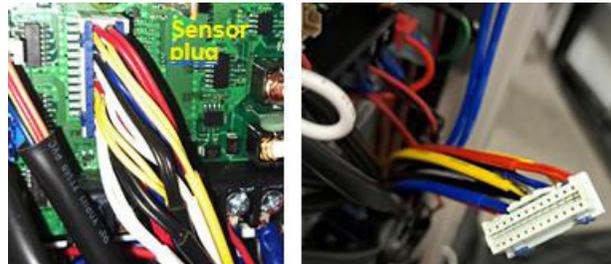
Title: MMPD, MMLD MULTI-ZONE Inlet Sensor of Port 1 Error

TROUBLESHOOTING STEPS

The inlet temperature sensor (TA_1) of port #1 in the MMPD, MMLD MULTI-ZONE outdoor unit has separated from the pipe.

1. Power the unit off for 15-20 minutes before continuing to the next step.
2. Locate the inlet sensor plug on the outdoor PCB. Location will vary on different models, use wiring schematic for proper location.
3. Ohm Yellow inlet sensor wires and compare to the resistance chart down below.
 - If the sensor is out of range, replace the sensor harness.
 - If the sensor tests within range, replace the PCB on which the sensor is connected.

T (C°)	T (F°)	Rmin (k Ω)	Rcent (k Ω)	Rmax (k Ω)
-1	30	27.33	28.47	29.63
0	32	26.18	27.27	28.37
2	36	24.06	25.03	26.02
3	37	23.07	24.00	24.93
5	41	21.23	22.06	22.90
7	45	19.55	20.30	21.06
9	48	18.03	18.70	19.38
10	50	17.31	17.95	18.60
11	52	16.63	17.24	17.86
14	57	14.77	15.29	15.81
15	59	14.20	14.69	15.19
17	63	13.13	13.58	14.03
19	66	12.16	12.57	12.97
21	70	11.27	11.64	12.00
22	72	10.85	11.20	11.55
25	77	9.700	10.00	10.30
26	79	9.341	9.633	9.926
27	81	8.997	9.282	9.568
30	86	8.049	8.313	8.578
31	88	7.758	8.016	8.275
33	91	7.213	7.458	7.704
34	93	6.957	7.196	7.436
37	99	6.249	6.470	6.694
38	100	6.032	6.247	6.465



E332 ERROR CODE

MMPD, MMLD MULTI-ZONE INLET SENSOR OF PORT 2 ERROR

Revision Date: 2/03/2025

Subject: E332 Error Code

Models: MMPD, MMLD MULTI-ZONE OUTDOOR MODELS

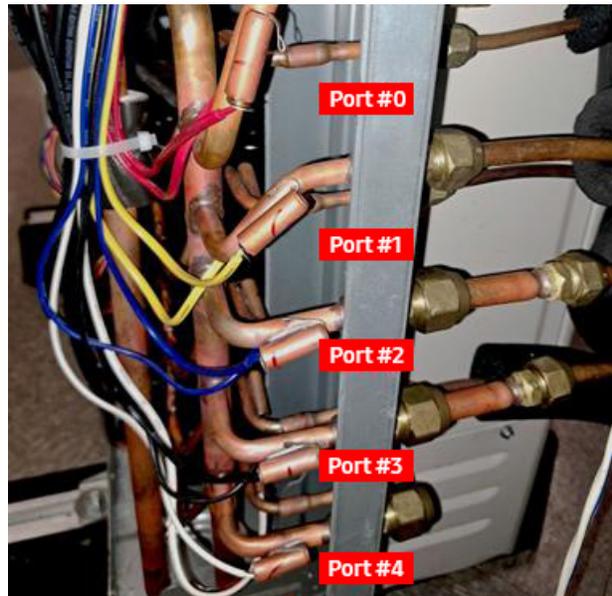
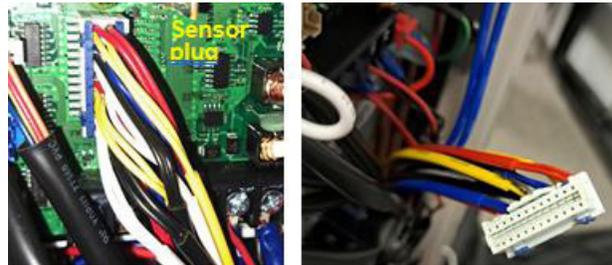
Title: MMPD, MMLD MULTI-ZONE Inlet Sensor of Port 2 Error

TROUBLESHOOTING STEPS

The inlet temperature sensor (TA_2) of port #2 in the MMPD, MMLD MULTI-ZONE outdoor unit has separated from the pipe.

1. Power the unit off for 15-20 minutes before continuing to the next step.
2. Locate the inlet sensor plug on the outdoor PCB. The location will vary on different models; use wiring schematic for proper location.
3. Ohm Blue inlet sensor wires and compare to the resistance chart down below.
 - If the sensor is out of range, replace the sensor harness.
 - If the sensor tests within range, replace the PCB on which the sensor is connected.

T (C°)	T (F°)	Rmin (k Ω)	Rcent (k Ω)	Rmax (k Ω)
-1	30	27.33	28.47	29.63
0	32	26.18	27.27	28.37
2	36	24.06	25.03	26.02
3	37	23.07	24.00	24.93
5	41	21.23	22.06	22.90
7	45	19.55	20.30	21.06
9	48	18.03	18.70	19.38
10	50	17.31	17.95	18.60
11	52	16.63	17.24	17.86
14	57	14.77	15.29	15.81
15	59	14.20	14.69	15.19
17	63	13.13	13.58	14.03
19	66	12.16	12.57	12.97
21	70	11.27	11.64	12.00
22	72	10.85	11.20	11.55
25	77	9.700	10.00	10.30
26	79	9.341	9.633	9.926
27	81	8.997	9.282	9.568
30	86	8.049	8.313	8.578
31	88	7.758	8.016	8.275
33	91	7.213	7.458	7.704
34	93	6.957	7.196	7.436
37	99	6.249	6.470	6.694
38	100	6.032	6.247	6.465



E333 ERROR CODE

MMPD, MMLD MULTI-ZONE INLET SENSOR OF PORT 3 ERROR

Revision Date: 2/03/2025

Subject: E333 Error Code

Models: MMPD, MMLD MULTI-ZONE OUTDOOR MODELS

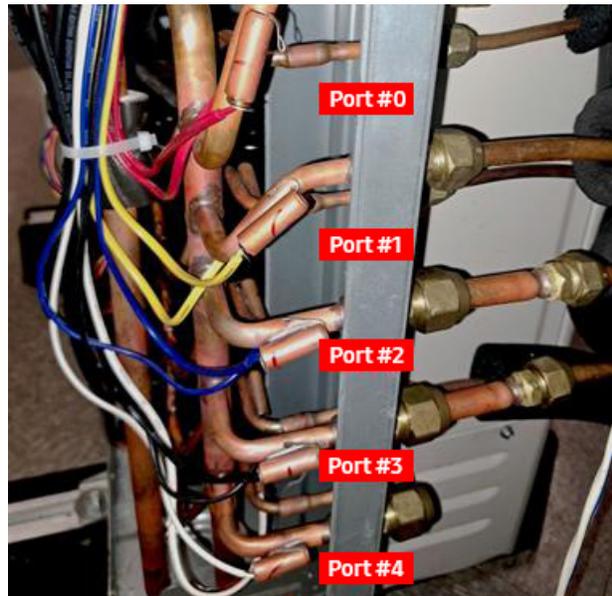
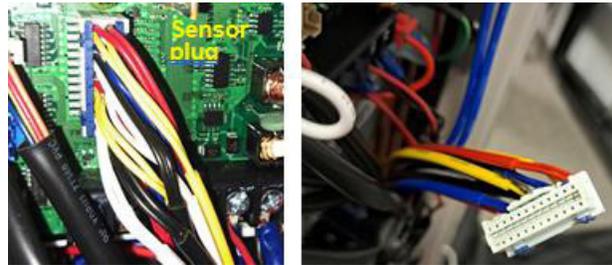
Title: MMPD, MMLD MULTI-ZONE Inlet Sensor of Port 3 Error

TROUBLESHOOTING STEPS

The inlet temperature sensor (TA_3) of port #3 in the MMPD, MMLD MULTI-ZONE outdoor unit has separated from the pipe.

1. Power the unit off for 15-20 minutes before continuing to the next step.
2. Locate the inlet sensor plug on the outdoor PCB. The location will vary on different models, use wiring schematic for proper location.
3. Ohm Black inlet sensor wires and compare to the resistance chart down below.
 - If the sensor is out of range, replace the sensor harness.
 - If the sensor tests within range, replace the PCB on which the sensor is connected.

T (C°)	T (F°)	Rmin (k Ω)	Rcent (k Ω)	Rmax (k Ω)
-1	30	27.33	28.47	29.63
0	32	26.18	27.27	28.37
2	36	24.06	25.03	26.02
3	37	23.07	24.00	24.93
5	41	21.23	22.06	22.90
7	45	19.55	20.30	21.06
9	48	18.03	18.70	19.38
10	50	17.31	17.95	18.60
11	52	16.63	17.24	17.86
14	57	14.77	15.29	15.81
15	59	14.20	14.69	15.19
17	63	13.13	13.58	14.03
19	66	12.16	12.57	12.97
21	70	11.27	11.64	12.00
22	72	10.85	11.20	11.55
25	77	9.700	10.00	10.30
26	79	9.341	9.633	9.926
27	81	8.997	9.282	9.568
30	86	8.049	8.313	8.578
31	88	7.758	8.016	8.275
33	91	7.213	7.458	7.704
34	93	6.957	7.196	7.436
37	99	6.249	6.470	6.694
38	100	6.032	6.247	6.465



E334 ERROR CODE

MMPD, MMLD MULTI-ZONE INLET SENSOR OF PORT 4 ERROR

Revision Date: 2/03/2025

Subject: E334 Error Code

Models: MMPD, MMLD MULTI-ZONE OUTDOOR MODELS

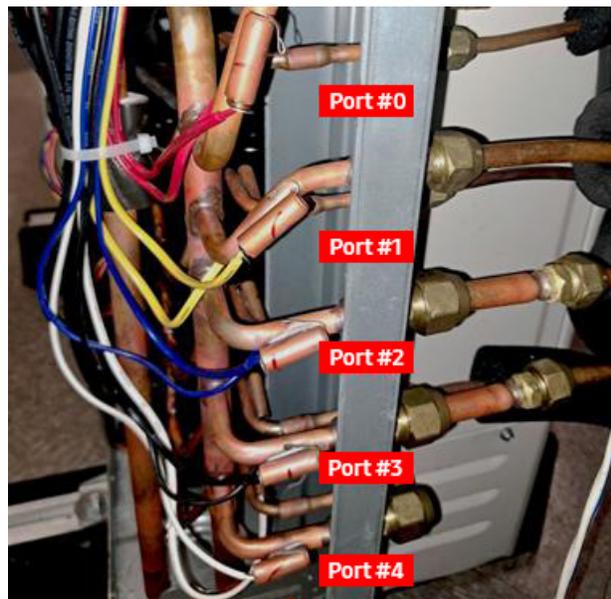
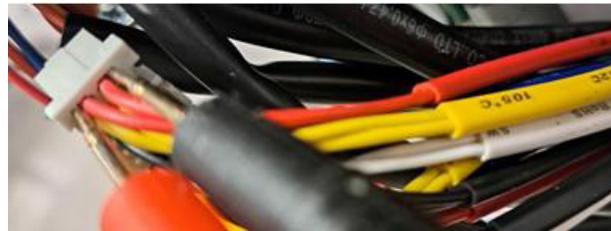
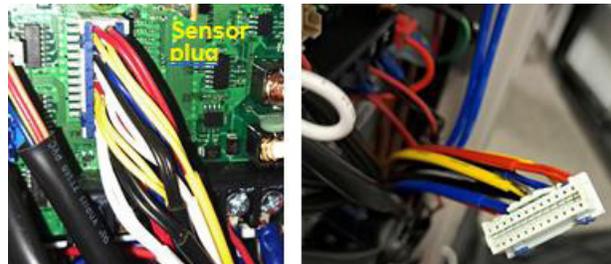
Title: MMPD, MMLD MULTI-ZONE Inlet Sensor of Port 4 Error

TROUBLESHOOTING STEPS

The inlet temperature sensor (TA_4) of port #4 in the MMPD, MMLD MULTI-ZONE outdoor unit has separated from the pipe.

1. Power the unit off for 15-20 minutes before continuing to the next step.
2. Locate the inlet sensor plug on the outdoor PCB. Location will vary on different models, use wiring schematic for proper location.
3. Ohm White inlet sensor wires and compare to the resistance chart down below.
 - If the sensor is out of range, replace the sensor harness.
 - If the sensor tests within range, replace the PCB on which the sensor is connected.

T (C°)	T (F°)	Rmin (k Ω)	Rcent (k Ω)	Rmax (k Ω)
-1	30	27.33	28.47	29.63
0	32	26.18	27.27	28.37
2	36	24.06	25.03	26.02
3	37	23.07	24.00	24.93
5	41	21.23	22.06	22.90
7	45	19.55	20.30	21.06
9	48	18.03	18.70	19.38
10	50	17.31	17.95	18.60
11	52	16.63	17.24	17.86
14	57	14.77	15.29	15.81
15	59	14.20	14.69	15.19
17	63	13.13	13.58	14.03
19	66	12.16	12.57	12.97
21	70	11.27	11.64	12.00
22	72	10.85	11.20	11.55
25	77	9.700	10.00	10.30
26	79	9.341	9.633	9.926
27	81	8.997	9.282	9.568
30	86	8.049	8.313	8.578
31	88	7.758	8.016	8.275
33	91	7.213	7.458	7.704
34	93	6.957	7.196	7.436
37	99	6.249	6.470	6.694
38	100	6.032	6.247	6.465



E335 ERROR CODE

MMPD, MMLD MULTI-ZONE OUTLET SENSOR OF PORT 0 ERROR

Revision Date: 2/03/2025

Subject: E335 Error Code

Models: MMPD, MMLD MULTI-ZONE OUTDOOR MODELS

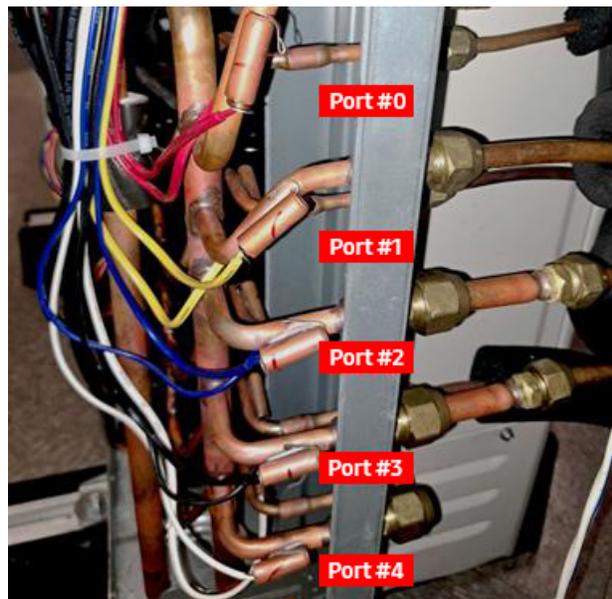
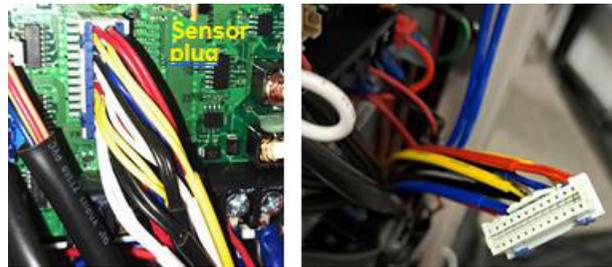
Title: MMPD, MMLD MULTI-ZONE Outlet Sensor of Port 0 Error

TROUBLESHOOTING STEPS

The outlet temperature sensor (TB_0) of port #0 in the MMPD, MMLD MULTI-ZONE outdoor unit has separated from the pipe.

1. Power the unit off for 15-20 minutes before continuing to the next step.
2. Locate the outlet sensor plug on the outdoor PCB. Location will vary on different models, use wiring schematic for proper location.
3. Ohm Red outlet sensor wires and compare to the resistance chart down below.
 - If the sensor is out of range, replace the sensor harness.
 - If the sensor tests within range, replace the PCB on which the sensor is connected.

T (C°)	T (F°)	Rmin (k Ω)	Rcent (k Ω)	Rmax (k Ω)
-1	30	27.33	28.47	29.63
0	32	26.18	27.27	28.37
2	36	24.06	25.03	26.02
3	37	23.07	24.00	24.93
5	41	21.23	22.06	22.90
7	45	19.55	20.30	21.06
9	48	18.03	18.70	19.38
10	50	17.31	17.95	18.60
11	52	16.63	17.24	17.86
14	57	14.77	15.29	15.81
15	59	14.20	14.69	15.19
17	63	13.13	13.58	14.03
19	66	12.16	12.57	12.97
21	70	11.27	11.64	12.00
22	72	10.85	11.20	11.55
25	77	9.700	10.00	10.30
26	79	9.341	9.633	9.926
27	81	8.997	9.282	9.568
30	86	8.049	8.313	8.578
31	88	7.758	8.016	8.275
33	91	7.213	7.458	7.704
34	93	6.957	7.196	7.436
37	99	6.249	6.470	6.694
38	100	6.032	6.247	6.465



E336 ERROR CODE

MMPD, MMLD MULTI-ZONE OUTLET SENSOR OF PORT 1 ERROR

Revision Date: 2/03/2025

Subject: E336 Error Code

Models: MMPD, MMLD MULTI-ZONE OUTDOOR MODELS

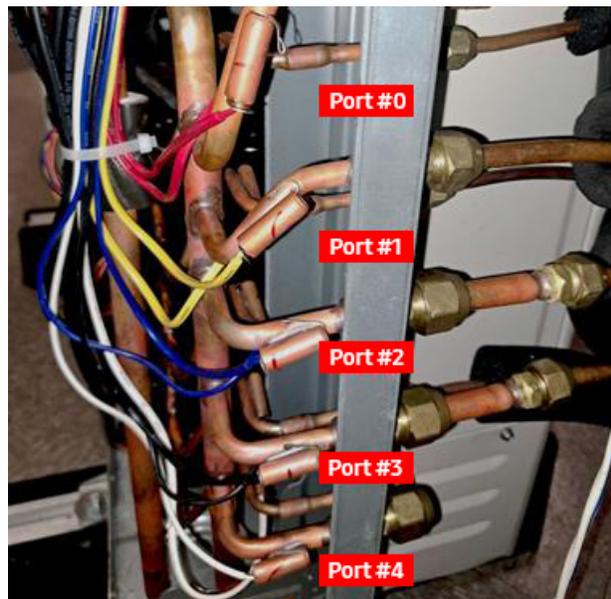
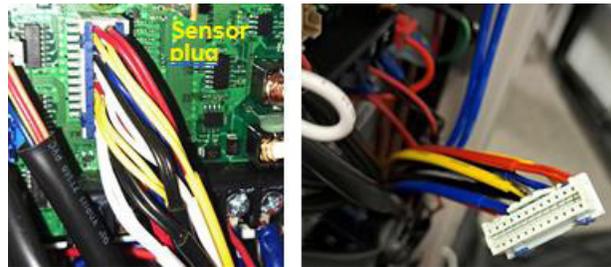
Title: MMPD, MMLD MULTI-ZONE Outlet Sensor of Port 1 Error

TROUBLESHOOTING STEPS

The outlet temperature sensor (TB_1) of port #1 in the MMPD, MMLD MULTI-ZONE outdoor unit has separated from the pipe.

1. Power the unit off for 15-20 minutes before continuing to the next step.
2. Locate the outlet sensor plug on the outdoor PCB. The location will vary on different models, use wiring schematic for proper location.
3. Ohm Yellow outlet sensor wires and compare to the resistance chart down below.
 - If the sensor is out of range, replace the sensor harness.
 - If the sensor tests within range, replace the PCB on which the sensor is connected.

T (C°)	T (F°)	Rmin (k Ω)	Rcent (k Ω)	Rmax (k Ω)
-1	30	27.33	28.47	29.63
0	32	26.18	27.27	28.37
2	36	24.06	25.03	26.02
3	37	23.07	24.00	24.93
5	41	21.23	22.06	22.90
7	45	19.55	20.30	21.06
9	48	18.03	18.70	19.38
10	50	17.31	17.95	18.60
11	52	16.63	17.24	17.86
14	57	14.77	15.29	15.81
15	59	14.20	14.69	15.19
17	63	13.13	13.58	14.03
19	66	12.16	12.57	12.97
21	70	11.27	11.64	12.00
22	72	10.85	11.20	11.55
25	77	9.700	10.00	10.30
26	79	9.341	9.633	9.926
27	81	8.997	9.282	9.568
30	86	8.049	8.313	8.578
31	88	7.758	8.016	8.275
33	91	7.213	7.458	7.704
34	93	6.957	7.196	7.436
37	99	6.249	6.470	6.694
38	100	6.032	6.247	6.465



E337 ERROR CODE

MMPD, MMLD MULTI-ZONE OUTLET SENSOR OF PORT 2 ERROR

Revision Date: 2/03/2025

Subject: E337 Error Code

Models: MMPD, MMLD MULTI-ZONE OUTDOOR MODELS

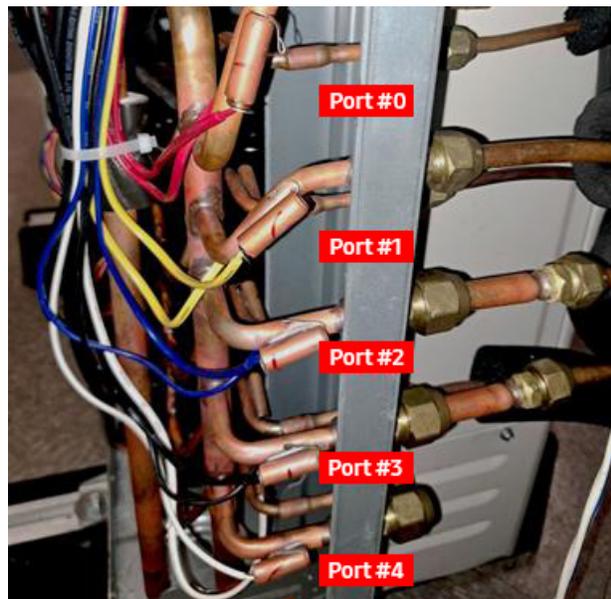
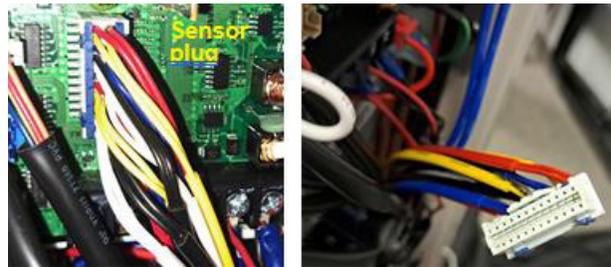
Title: MMPD, MMLD MULTI-ZONE Outlet Sensor of Port 2 Error

TROUBLESHOOTING STEPS

The outlet temperature sensor (TB_2) of port #2 in the MMPD, MMLD MULTI-ZONE outdoor unit has separated from the pipe.

1. Power the unit off for 15-20 minutes before continuing to the next step.
2. Locate the outlet sensor plug on the outdoor PCB. The location will vary on different models, use wiring schematic for proper location.
3. Ohm Blue outlet sensor wires and compare to the resistance chart down below.
 - If the sensor is out of range, replace the sensor harness.
 - If the sensor tests within range, replace the PCB on which the sensor is connected.

T (C°)	T (F°)	Rmin (k Ω)	Rcent (k Ω)	Rmax (k Ω)
-1	30	27.33	28.47	29.63
0	32	26.18	27.27	28.37
2	36	24.06	25.03	26.02
3	37	23.07	24.00	24.93
5	41	21.23	22.06	22.90
7	45	19.55	20.30	21.06
9	48	18.03	18.70	19.38
10	50	17.31	17.95	18.60
11	52	16.63	17.24	17.86
14	57	14.77	15.29	15.81
15	59	14.20	14.69	15.19
17	63	13.13	13.58	14.03
19	66	12.16	12.57	12.97
21	70	11.27	11.64	12.00
22	72	10.85	11.20	11.55
25	77	9.700	10.00	10.30
26	79	9.341	9.633	9.926
27	81	8.997	9.282	9.568
30	86	8.049	8.313	8.578
31	88	7.758	8.016	8.275
33	91	7.213	7.458	7.704
34	93	6.957	7.196	7.436
37	99	6.249	6.470	6.694
38	100	6.032	6.247	6.465



E338 ERROR CODE

MMPD, MMLD MULTI-ZONE OUTLET SENSOR OF PORT 3 ERROR

Revision Date: 2/03/2025

Subject: E338 Error Code

Models: MMPD, MMLD MULTI-ZONE OUTDOOR MODELS

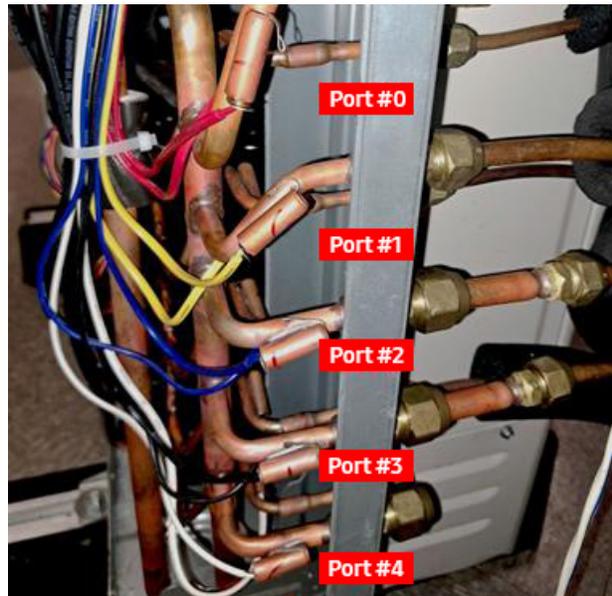
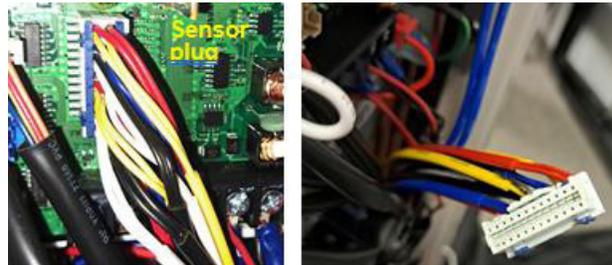
Title: MMPD, MMLD MULTI-ZONE Outlet Sensor of Port 3 Error

TROUBLESHOOTING STEPS

The outlet temperature sensor (TB_3) of port #3 in the MMPD, MMLD MULTI-ZONE outdoor unit has separated from the pipe.

1. Power the unit off for 15-20 minutes before continuing to the next step.
2. Locate the outlet sensor plug on the outdoor PCB. The location will vary on different models. Use wiring schematic for proper location.
3. Ohm Black outlet sensor wires and compare to the resistance chart down below.
 - If the sensor is out of range, replace the sensor harness.
 - If the sensor tests within range, replace the PCB on which the sensor is connected.

T (C°)	T (F°)	Rmin (k Ω)	Rcent (k Ω)	Rmax (k Ω)
-1	30	27.33	28.47	29.63
0	32	26.18	27.27	28.37
2	36	24.06	25.03	26.02
3	37	23.07	24.00	24.93
5	41	21.23	22.06	22.90
7	45	19.55	20.30	21.06
9	48	18.03	18.70	19.38
10	50	17.31	17.95	18.60
11	52	16.63	17.24	17.86
14	57	14.77	15.29	15.81
15	59	14.20	14.69	15.19
17	63	13.13	13.58	14.03
19	66	12.16	12.57	12.97
21	70	11.27	11.64	12.00
22	72	10.85	11.20	11.55
25	77	9.700	10.00	10.30
26	79	9.341	9.633	9.926
27	81	8.997	9.282	9.568
30	86	8.049	8.313	8.578
31	88	7.758	8.016	8.275
33	91	7.213	7.458	7.704
34	93	6.957	7.196	7.436
37	99	6.249	6.470	6.694
38	100	6.032	6.247	6.465



E339 ERROR CODE

MMPD, MMLD MULTI-ZONE OUTLET SENSOR OF PORT 4 ERROR

Revision Date: 2/03/2025

Subject: E339 Error Code

Models: MMPD, MMLD MULTI-ZONE OUTDOOR MODELS

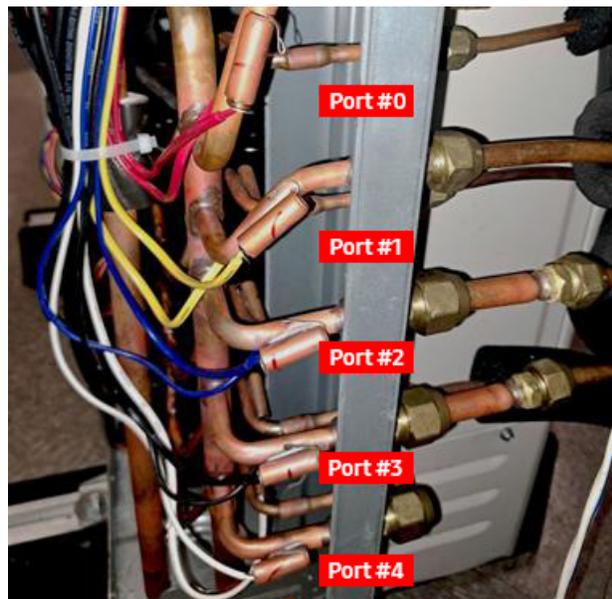
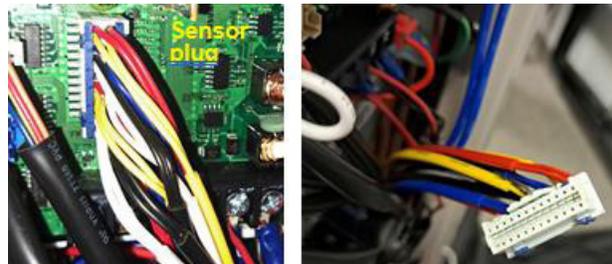
Title: MMPD, MMLD MULTI-ZONE Outlet Sensor of Port 4 Error

TROUBLESHOOTING STEPS

The outlet temperature sensor (TB_4) of port #4 in the MMPD, MMLD MULTI-ZONE outdoor unit has separated from the pipe.

1. Power the unit off for 15-20 minutes before continuing to the next step.
2. Locate the outlet sensor plug on the outdoor PCB. The location will vary on different models. Use wiring schematic for proper location. Ohm White outlet sensor wires and compare to the resistance chart down below.
 - If the sensor is out of range, replace the sensor harness.
 - If the sensor tests within range, replace the PCB on which the sensor is connected.

T (C°)	T (F°)	Rmin (k Ω)	Rcent (k Ω)	Rmax (k Ω)
-1	30	27.33	28.47	29.63
0	32	26.18	27.27	28.37
2	36	24.06	25.03	26.02
3	37	23.07	24.00	24.93
5	41	21.23	22.06	22.90
7	45	19.55	20.30	21.06
9	48	18.03	18.70	19.38
10	50	17.31	17.95	18.60
11	52	16.63	17.24	17.86
14	57	14.77	15.29	15.81
15	59	14.20	14.69	15.19
17	63	13.13	13.58	14.03
19	66	12.16	12.57	12.97
21	70	11.27	11.64	12.00
22	72	10.85	11.20	11.55
25	77	9.700	10.00	10.30
26	79	9.341	9.633	9.926
27	81	8.997	9.282	9.568
30	86	8.049	8.313	8.578
31	88	7.758	8.016	8.275
33	91	7.213	7.458	7.704
34	93	6.957	7.196	7.436
37	99	6.249	6.470	6.694
38	100	6.032	6.247	6.465



E346 ERROR CODE

FAILURE TO START FAN MOTOR #2

Revision Date: 2/21/2025

Subject: E346 Error Code

Models: VRF, CHILLER

Title: Failure to Start Fan Motor #2

TROUBLESHOOTING STEPS

1. Remove power to the condensing unit for a minimum of 15 minutes.
2. Inspect the fan blade and make sure there are no obstructions.
3. Verify blade spins freely.

NOTE: There are two plug connections for each fan motor. Power (red, white, and black) and hall effect sensor.

4. Follow and inspect wiring. Verify there is no damage to wires or plugs.
5. Make sure all plugs and spade connectors are secure and connected properly.
6. Disconnect power plug (Fan motor 1 is white plug, Fan motor 2 is blue plug). Check resistance at plug going to Fan motor. Red-White, Red- Black and White to Black. The resistance value between each winding should be equal, under 10Ω and open to ground



Fan #2 is on the right-hand side of the unit.

IF ALL VALUES ARE WITHIN RANGE, YOU HAVE 2 OPTIONS:



OPTION 1 - NO INVERTER TESTER

1. Reverse connector plugs for Fan motor 1 and Fan motor 2. (Fan Motor and Hall Effect plug)
2. Restore power to the unit.
 - If the E346 error returns, replace fan PCB.
 - If the error changes to E446, replace the fan motor.

OPTION 2 - INVERTER CHECK

1. Remove power from the unit for a minimum of 15 minutes. Remove Fan connections from Fan PCB and connect inverter checker.
2. Restore power to unit Press K2 button 12 times to initiate the inverter test for fan motor 2.
 - If the inverter test fails, replace Fan PCB.
 - If it passes, replace Fan motor.

To see a video demonstration of this troubleshooting technique, click **PLAY VIDEO** below.



! IMPORTANT

Before reconnecting wire harnesses, leave the unit powered off for 15 to 20 minutes.

E347 ERROR CODE

FAN MOTOR #2 IS NOT CONNECTED

Revision Date: 2/21/2025

Subject: E347 Error Code

Models: VRF, CHILLER

Title: Fan Motor #2 Is Not Connected

TROUBLESHOOTING STEPS

1. Remove power to the condensing unit for a minimum of 15 minutes.
2. Inspect the fan blade and make sure there are no obstructions.
3. Verify blade spins freely.

NOTE: There are two plug connections for each fan motor. Power (red, white, and black) and hall effect sensor.

4. Follow and inspect wiring. Make sure there is no damage to wires or plugs.
5. Verify all plugs and spade connectors are secure and connected properly.
6. Disconnect power plug (Fan motor 1 is white plug, Fan motor 2 is blue plug) Check resistance at plug going to Fan motor. Red-White, Red- Black and White to Black. The resistance value between each winding should be equal, under 10Ω and open to ground.



Fan #2 is on the right-hand side of the unit.

IF ALL VALUES ARE WITHIN RANGE, YOU HAVE 2 OPTIONS:



OPTION 1 - NO INVERTER TESTER

1. Reverse connector plugs for Fan motor 1 and Fan motor 2 (fan motor and Hall Effect plug).
2. Restore power to the unit.
 - If the E347 error returns, replace fan PCB.
 - If the error changes to E447, replace the fan motor.

OPTION 2 - INVERTER CHECK

1. Remove power from the unit for a minimum of 15 minutes.
2. Remove Fan connections from Fan PCB and connect inverter checker.
3. Restore power to unit Press K2 button 12 times to initiate the inverter test for fan motor 2.
 - If the inverter test fails, replace Fan PCB.
 - If it passes, replace Fan motor.

To see a video demonstration of this troubleshooting technique, click PLAY VIDEO below.



! IMPORTANT

Before reconnecting wire harnesses, leave the unit powered off for 15 to 20 minutes.

E348 ERROR CODE

FAN MOTOR #2 LOCKED IN OUTDOOR UNIT

Revision Date:1/24/2025

Subject: E348 Error Code

Models: VRF, CHILLER

Title: Fan Motor #2 Locked In Outdoor Unit



Fan #2 is on the right-hand side of the unit.

TROUBLESHOOTING STEPS

1. Remove power to the condensing unit for a minimum of 15 minutes.
2. Inspect the fan blade and make sure there are no obstructions.
3. Verify blade spins freely.

NOTE: There are two plug connections for each fan motor. Power (red, white, and black) and hall effect sensor.

4. Follow and inspect wiring.
5. Verify there is no damage to wires or plugs.
6. Make sure all plugs and spade connectors are secure and connected properly.
7. Disconnect power plug (fan motor 1 is white plug; fan motor 2 is blue plug). Check resistance at plug going to Fan motor. Red-White, Red- Black and White to Black. The resistance value between each winding should be equal, under 10Ω and open to ground.

IF ALL VALUES ARE WITHIN RANGE, YOU HAVE 2 OPTIONS:



OPTION 1 - NO INVERTER TESTER

1. Reverse connector plugs for Fan motor 1 and Fan motor 2. (Fan Motor and Hall Effect plug)
2. Restore power to the unit.
 - If the E348 error returns, replace fan PCB.
 - If the error changes to E448, replace the fan motor.

To see a video demonstration of this troubleshooting technique, click **PLAY VIDEO** below.

OPTION 2 - INVERTER CHECK

1. Remove power from the unit for a minimum of 15 minutes. Remove Fan connections from Fan PCB and connect inverter checker.
2. Restore power to unit Press K2 button 12 times to initiate the inverter test for fan motor 2.
 - If the inverter test fails, replace Fan PCB.
 - If it passes, replace Fan motor.



! IMPORTANT

Before reconnecting wire harnesses, leave the unit powered off for 15 to 20 minutes.

E361 ERROR CODE

FAILURE TO START COMPRESSOR 2

100227

3/2026

Revision Date:12/19/2024

Subject: E361 Error Code

Models: VRF, CHILLER, WATER

Title: Failure to Start Compressor 2

TROUBLESHOOTING STEPS

E361 DIAGNOSTICS

1. Disable the compressor with the error code
 - a. Press and hold K2 for 3 seconds (00 00)
 - b. Press K2 to select the compressor to disable

NOTE: 00 01 = Disable Comp 1 00 02 = Disable Comp 2

- c. Hold K2 for 2 seconds to save selection
2. Run system in Heat or Cool test depending on conditions
 - a. Heat Test: Press K1 2 times
 - b. Cool Test: Press K2 2 times

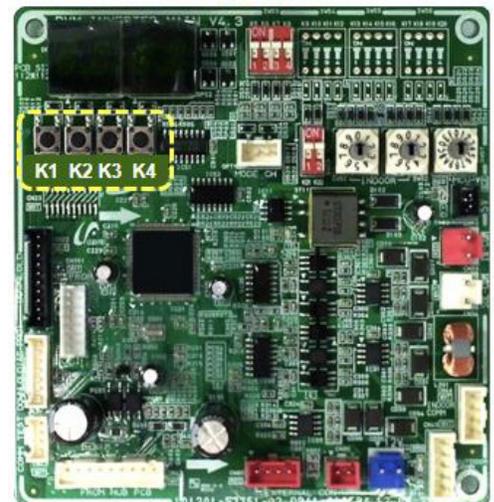
Running the system without the compressor in fault is critical in determining a constant value of working compressor. There must be a working circuit to accurately diagnose this error without an inverter checker.

- If the system operates without error, continue to step 3.
 - If the system shows a compressor fault, skip to step 6.
3. Remove power to the condensing unit for a minimum of 15 minutes before continuing to the next step
 4. Remove the leads to the compressor with error and Ohm the compressor
 5. Compressor Ohm values between terminals must be equal or lesser than 2Ω.
 - If testing with a megohmmeter, the value between terminals to ground should be higher than 1MΩ. With a meter each winding should be open to ground.
 - If the readings are not the same, have open windings, or is grounded, replace the compressor.
 - If the readings are normal, continue to step 5.

Figure 19. VRF S2 Main PCB



Figure 20. VRF ODU Main PCB



Measure U-V, V-W, U-W	
Terminals	Ohm (Ω)
U-V	Less than or equal to 2
V-W	Less than or equal to 2
U-W	Less than or equal to 2

Measure U, V, W to GND		
Terminals	Ohm (Ω)	Megaohm
U-GND	OL	> 1 MΩ
V-GND	OL	> 1 MΩ
W-GND	OL	> 1 MΩ

E361 ERROR CODE

FAILURE TO START COMPRESSOR 2

6. Remove the leads at compressor 1 and connect them to compressor 2. Run system in Cool or Heat test mode
 - If Compressor 2 operates when wired to Inverter 1, replace Inverter 2
 - If the error changes to E461, Replace Compressor 2
7. Inverter Check Mode using an Inverter Checker
 - Remove leads at compressor and connect to an inverter checker
 - Use inverter check mode with the K buttons on Main PCB
 - If all LEDs light and flicker on the Inverter Checker, the Inverter PCB output is correct
 - If any single LED is not flashing or remains solid, the Inverter PCB is faulty and must be replaced

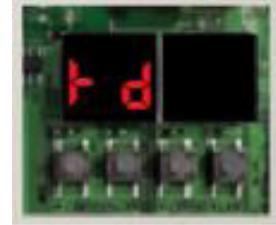


Figure 21. Inverter 1 Check Mode

Press K2 - 9 times

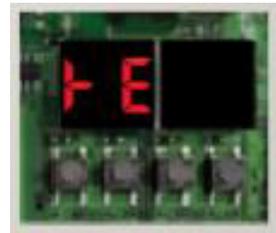
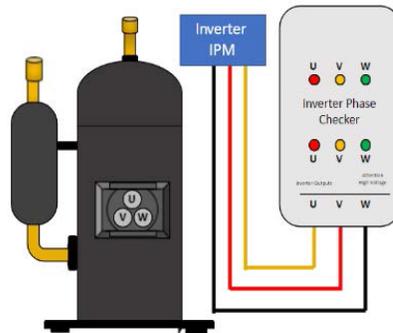


Figure 22. Inverter 2 Check Mode

Press K2 - 10 times

E364 ERROR CODE

OVERCURRENT ERROR ON COMPRESSOR 2

Revision Date:12/17/2024

Subject: E364 Error Code

Models: VRF, CHILLER, WATER

Title: Overcurrent Error on Compressor 2

TROUBLESHOOTING STEPS

E364 COMPRESSOR 2 DIAGNOSTICS

1. Disable the compressor with the error code
 - Press and hold K2 for 3 seconds (00 00)
 - Press K2 to select the compressor to disable

NOTE: 00 01 = Disable Comp 1 00 02 = Disable Comp 2

- Hold K2 for 2 seconds to save selection

2. Run system in Heat or Cool test depending on conditions
 - Heat Test: Press K1 2 times
 - Cool Test: Press K2 2 times

Running the system without the compressor in fault is critical in determining a constant value of working compressor. There must be a working circuit to accurately diagnose this error without an inverter checker.

- If the system operates without error, continue to step 3.
- If the system shows a compressor fault, skip to step 6.

3. Remove power to the condensing unit for a minimum of 15 minutes before continuing to the next step

4. Remove the leads to the compressor with error and Ohm the compressor
Compressor Ohm values between terminals must be equal or lesser than 2Ω.

- If testing with a megohmmeter, the value between terminals to ground should be higher than 1MΩ. With a meter each winding should be open to ground.
- If the readings are not the same, have open windings, or is grounded, replace the compressor.
- If the readings are normal, continue to step 5.



Measure U-V, V-W, U-W

Terminals	Ohm (Ω)
U-V	Less than or equal to 2
V-W	Less than or equal to 2
U-W	Less than or equal to 2

Measure U, V, W to GND

Terminals	Ohm (Ω)	Megaohm
U-GND	OL	> 1 MΩ
V-GND	OL	> 1 MΩ
W-GND	OL	> 1 MΩ

E364 ERROR CODE

100227

3/2026

OVERCURRENT ERROR ON COMPRESSOR 2

5. Remove the leads at compressor 1 and connect them to compressor 2; run system in Cool or Heat test mode.
 - If Compressor 2 operates when wired to Inverter 1, replace Inverter 2
 - If the error changes to E464, replace Compressor 2
6. Inverter Check Mode using an Inverter Checker.
 - Remove leads at compressor and connect to an inverter checker
 - Use inverter check mode with the K buttons on Main PCB
 - If all LEDs light and flicker on the Inverter Checker, the Inverter PCB output is correct
 - If any single LED is not flashing or remains solid, the Inverter PCB is faulty and must be replaced

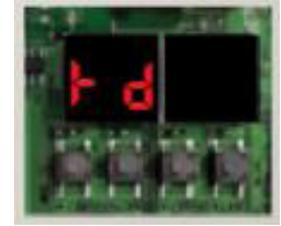


Figure 23. Inverter 1 Check Mode

Press K2 - 9 times

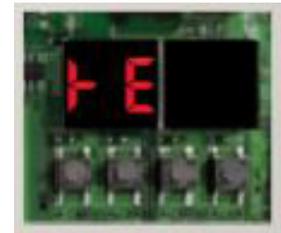
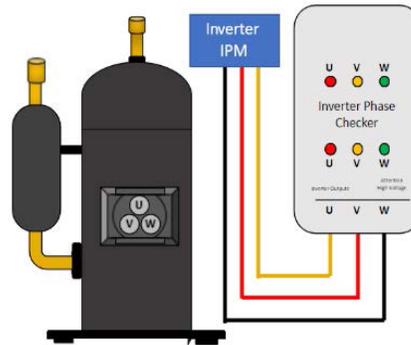


Figure 24. Inverter 2 Check Mode

Press K2 - 10 times

E366 ERROR CODE

INVERTER PBA 2 DC LINK VOLTAGE SENSING ERROR

100227

3/2026

Revision Date:1/24/2025

Subject: E366 Error Code

Models: VRF, CHILLER, WATER

Title: Inverter PBA 2 DC Link Voltage Sensing Error

TROUBLESHOOTING STEPS

230V HEAT PUMP AND HEAT RECOVERY DIAGNOSTICS

1. Check the Incoming Voltage (208/230Vac ± 10%)
2. Power the unit OFF for 15-20 minutes before continuing to step 3
3. Check Fuses on EMI PCB
4. Remove the wires on the Reactor coil and ohm the Reactor (resistance value should be less than 5 ohms, open to ground on each leg)

RESULTS

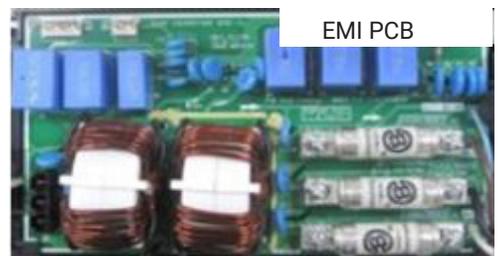
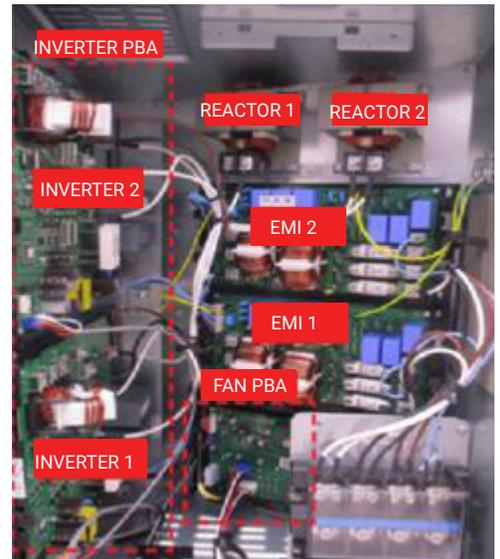
- > If incoming voltage is incorrect, correct the supply voltage (208/230 Vac ± 10%)
- > If EMI PCB has an open fuse, replace the EMI PCB
- > If the Reactor is open or short to ground, replace the Reactor
- > If supply power, EMI Fuses, and Reactor test within range, replace Inverter 2 PCB

460V HEAT PUMP AND HEAT RECOVERY DIAGNOSTICS

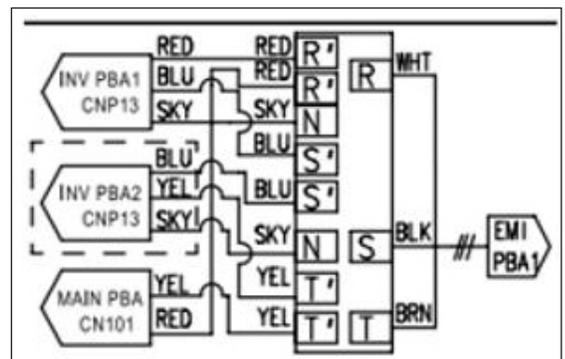
1. Check Incoming Voltage (460Vac ± 10%)
2. Check the Voltage at the Transformer (Primary 460V, Secondary 230V)
3. The Transformer is in the lower left side of the unit near compressor 1. It is not located in the control board cabinet.
4. Power the unit OFF for 15-20 minutes before continuing to step 4
5. Test the fuses on the EMI PCB
6. Remove the wires on the Reactor coil and ohm the Reactor (resistance value should be less than 5 ohms, open to ground on each leg)

RESULTS

- > If incoming voltage is incorrect, correct the supply voltage (460 Vac ± 10%)
- > If EMI PCB has an open fuse, replace the EMI PCB
- > If the Reactor is open or short to ground, replace the Reactor
- > If supply power, EMI Fuses, Transformer Voltage, and Reactor test within range, replace Inverter 2 PCB



460V to 230V Transformer



! IMPORTANT

Before reconnecting wire harnesses or DC link voltage, leave the unit powered off for 15 to 20 minutes.

E378 ERROR CODE

OUTDOOR FAN MOTOR #2 OVERCURRENT

Revision Date: 2/21/2025

Subject: E378 Error Code

Models: VRF, CHILLER

Title: Outdoor Fan Motor #2 Overcurrent

TROUBLESHOOTING STEPS

1. Remove power to the condensing unit for a minimum of 15 minutes.
2. Inspect the fan blade and make sure there are no obstructions.
3. Verify blade spins freely.

NOTE: There are two plug connections for each fan motor. Power (red, white, and black) and hall effect sensor.

4. Follow and inspect wiring; make sure there is no damage to wires or plugs.
5. Make sure all plugs and spade connectors are secure and connected properly.
6. Disconnect power plug (Fan motor 1 is white plug, Fan motor 2 is blue plug) Check resistance at plug going to Fan motor. Red-White, Red- Black and White to Black. The resistance value between each winding should be equal, under 10Ω and open to ground.



Fan #2 is on the right-hand side of the unit.

IF ALL VALUES ARE WITHIN RANGE, YOU HAVE 2 OPTIONS:



OPTION 1 - NO INVERTER TESTER

1. Reverse connector plugs for Fan motor 1 and Fan motor 2. (Fan Motor and Hall Effect plug)
2. Restore power to the unit.
 - If the E378 error returns, replace fan PCB.
 - If the error changes to E478, replace the fan motor.

To see a video demonstration of this troubleshooting technique, click **PLAY VIDEO** below.

OPTION 2 - INVERTER CHECK

1. Remove power from the unit for a minimum of 15 minutes.
2. Remove Fan connections from Fan PCB and connect inverter checker.
3. Restore power to unit Press K2 button 12 times to initiate the inverter test for fan motor 2.
 - If the inverter test fails, replace Fan PCB.
 - If it passes, replace Fan motor.



! IMPORTANT

Before reconnecting wire harnesses, leave the unit powered off for 15 to 20 minutes.

E387 ERROR CODE

HALL SENSOR (RPM SENSOR) IN OUTDOOR FAN MOTOR 2

Revision Date:12/19/2024

Subject: E387 Error Code

Models: VRF, CHILLER

Title: Hall Sensor (RPM Sensor) in Outdoor Fan Motor 2



Fan #2 is on the right-hand side of the unit.

TROUBLESHOOTING STEPS

1. Remove power to the condensing unit for a minimum of 15 minutes.
2. Inspect the fan blade and make sure there are no obstructions.
3. Verify blade spins freely.

NOTE: There are two plug connections for each fan motor. Power (red, white, and black) and hall effect sensor.

4. Follow and inspect wiring. Make sure there is no damage to wires or plugs.
5. Make sure all plugs and spade connectors are secure and connected properly.
6. Disconnect power plug (Fan motor 1 is white plug, Fan motor 2 is blue plug) Check resistance at plug going to Fan motor. Red-White, Red- Black and White to Black. The resistance value between each winding should be equal, under 10Ω and open to ground.

IF ALL VALUES ARE WITHIN RANGE, YOU HAVE 2 OPTIONS:



OPTION 1 - NO INVERTER TESTER

1. Reverse connector plugs for Fan motor 1 and Fan motor 2. (Fan Motor and Hall Effect plug)
2. Restore power to the unit.
 - If the E387 error returns, replace fan PCB.
 - If the error changes to E487, replace the fan motor.

To see a video demonstration of this troubleshooting technique, click **PLAY VIDEO** below.

OPTION 2 - INVERTER CHECK

1. Remove power from the unit for a minimum of 15 minutes. Remove Fan connections from Fan PCB and connect inverter checker.
2. Restore power to unit Press K2 button 12 times to initiate the inverter test for fan motor 2.
 - If the inverter test fails, replace Fan PCB.
 - If it passes, replace Fan motor.



! IMPORTANT

Before reconnecting wire harnesses, leave the unit powered off for 15 to 20 minutes.

E389 ERROR CODE

OUTDOOR UNIT FAN MOTOR 2 STOPPED DUE TO OVERLOAD (V-LIMIT)

Revision Date:12/20/2024

Subject: E389 Error Code

Models: VRF, CHILLER

Title: Outdoor Unit Fan Motor 2 Stopped Due to Overload (V-Limit)

TROUBLESHOOTING STEPS

1. Remove power to the condensing unit for a minimum of 15 minutes.
2. Inspect the fan blade and make sure there are no obstructions.
3. Verify blade spins freely.

NOTE: There are two plug connections for each fan motor. Power (red, white, and black) and hall effect sensor.

4. Follow and inspect wiring. Make sure there is no damage to wires or plugs.
5. Make sure all plugs and spade connectors are secure and connected properly.
6. Disconnect power plug (Fan motor 1 is white plug, Fan motor 2 is blue plug) Check resistance at plug going to Fan motor. Red-White, Red- Black and White to Black. The resistance value between each winding should be equal, under 10Ω and open to ground.



Fan #2 is on the right-hand side of the unit.

IF ALL VALUES ARE WITHIN RANGE, YOU HAVE 2 OPTIONS:



OPTION 1 - NO INVERTER TESTER

1. Reverse connector plugs for Fan motor 1 and Fan motor 2. (Fan Motor and Hall Effect plug)
2. Restore power to the unit.
 - If the E389 error returns, replace fan PCB.
 - If the error changes to E489, replace the fan motor.

To see a video demonstration of this troubleshooting technique, click **PLAY VIDEO** below.

OPTION 2 - INVERTER CHECK

1. Remove power from the unit for a minimum of 15 minutes. Remove Fan connections from Fan PCB and connect inverter checker.
2. Restore power to unit Press K2 button 12 times to initiate the inverter test for fan motor 2.
 - If the inverter test fails, replace Fan PCB.
 - If it passes, replace Fan motor.



! IMPORTANT

Before reconnecting wire harnesses, leave the unit powered off for 15 to 20 minutes.

E396 ERROR CODE

DC LINK SENSOR ERROR IN FAN MOTOR CONTROLLER #2

Revision Date:12/12/2024

Subject: E396 Error Code

Models: VRF, CHILLER

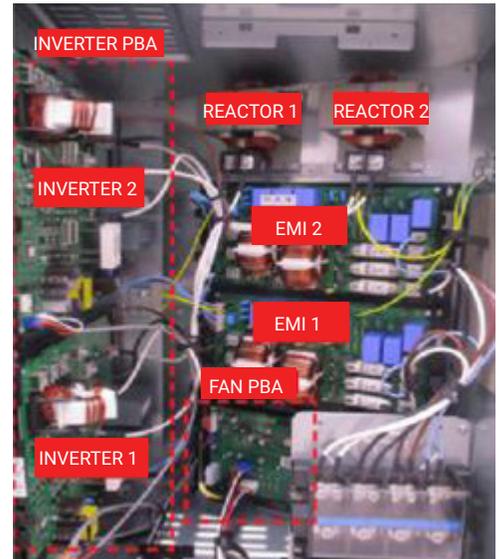
Title: DC Link Sensor Error in Fan Motor Controller #2

TROUBLESHOOTING STEPS

230V HEAT PUMP AND HEAT RECOVERY DIAGNOSTICS

1. Check the Incoming Voltage (208/230Vac ± 10%).
2. Power the unit OFF for 15-20 minutes before continuing to step 3.
3. Check Fuses on EMI PCB.
4. Remove the wires on the Reactor coil and ohm the Reactor (resistance value should be less than 5 ohms, open to ground on each leg)
5. Disconnect DC Link Voltage connector from the FAN PCB (leave connected to Inverter PCB).
6. Move the disconnected end of the DC Link Voltage harness to a safe location so voltage can be tested from White to Yellow when power is applied.
7. Restore power to unit and check for proper DC Link Voltage.

NOTE: Link voltage is sent from the Inverter PCB to the Fan PCB for both 230 & 460V Heat Pumps). Link Voltage Connector (Yellow to White Wire).



To calculate for the correct DC link voltage, multiply incoming AC power by 1.41

Example:

Incoming Voltage x 1.41 = DC Link Voltage

230Vac x 1.41 = 324.3 Vdc (DC Link Voltage)

460Vac x 1.41 = 648.6 Vdc (DC Link Voltage)

E396 ERROR CODE

DC LINK SENSOR ERROR IN FAN MOTOR CONTROLLER #2

RESULTS

- > If incoming voltage is incorrect, correct the supply voltage (208/230 Vac ± 10%)
- > If EMI PCB has an open fuse, replace the EMI PCB
- > If the Reactor is open or short to ground, replace the Reactor
- > If DC link voltage is accurate, replace Fan PCB (DC link voltage sensor in Fan PCB is faulty)
- > If supply power, EMI Fuses, and Reactor test within range, but DC link voltage is below 150 Vdc, replace Inverter 1 and Fan PCB

! IMPORTANT

Before reconnecting wire harnesses or DC link voltage, leave the unit powered off for 15 to 20 minutes.

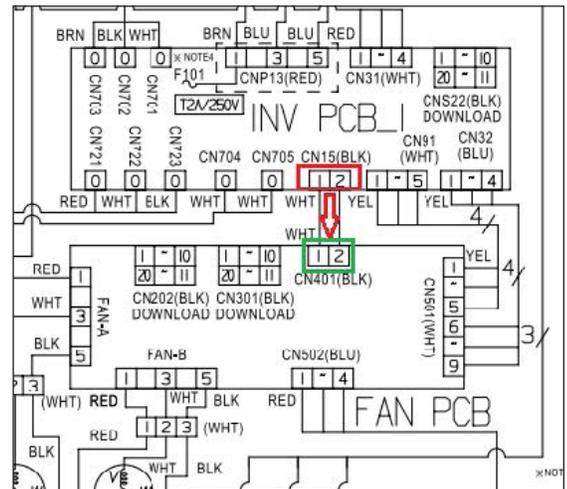
460V HEAT PUMP AND HEAT RECOVERY DIAGNOSTICS

1. Check Incoming Voltage (460Vac ± 10%)
2. Check the Voltage at the Transformer (Primary 460V, Secondary 230V)

NOTE: The Transformer is in the lower left side of the unit near compressor 1. It is not located in the control board cabinet.

3. Power the unit OFF for 15-20 minutes before continuing to step 4.
4. Test the fuses on the EMI PCB.
5. Remove the wires on the Reactor coil and ohm the Reactor (resistance value should be less than 5 ohms, open to ground on each leg)
6. Disconnect Link Voltage connector from the FAN PCB (leave connected to Inverter PCB)
7. Move the disconnected end of the Link Voltage harness to a safe location so voltage can be tested from White to Yellow when power is applied.
8. Restore power to unit and check for proper Link Voltage refer to page 1 DC Link voltage calculation

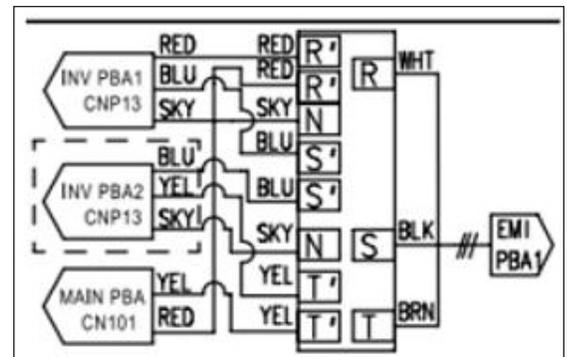
(Reference Pictures on previous page)



RESULTS

- > If incoming voltage is incorrect, correct the supply voltage (460 Vac ± 10%).
- > If EMI PCB has an open fuse, replace the EMI PCB.
- > If the Reactor is open or short to ground, replace the Reactor.
- > If link voltage is accurate, replace Fan PCB (link voltage sensor in Fan PCB is faulty).
- > If supply power, EMI Fuses, and Reactor test within range, but DC link voltage is below 150 Vdc, replace Inverter 1 and Fan PCB.

460V to 230V Transformer



! IMPORTANT

Before reconnecting wire harnesses or DC link voltage, leave the unit powered off for 15 to 20 minutes.

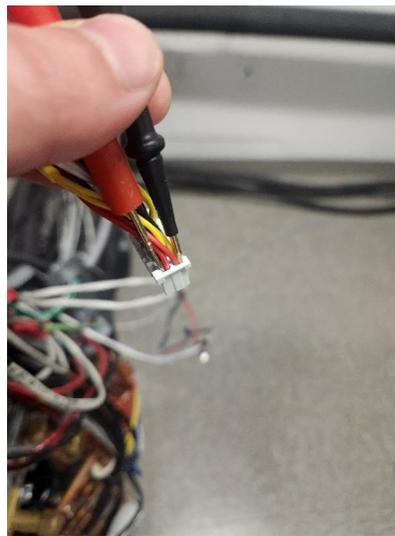
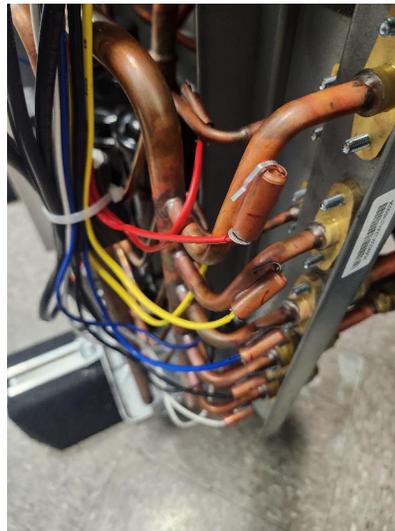
E401 ERROR CODE
OUTDOOR FREEZING DETECTION

Revision Date:1/24/2025
Subject: E401 Error Code
Models: MMPD, MMLD MULTI-ZONE
Title: Outdoor Freezing Detection

TROUBLESHOOTING STEPS

1. Ensure EVA thermistors are installed correctly on each copper line jacket and plugged in properly on PCB.
2. Power off unit for a minimum of 15-20 minutes before continuing to next step.
3. Remove thermistor harness, Ohm the sensor and compare it to the resistance chart.
4. Replace thermistor harness if reading incorrectly.
 - If thermistors are reading correctly, check refrigerant levels.
 - If refrigerant levels are accurate, replace PCB.

T (C°)	T (F°)	Rmin (k Ω)	Rcent (k Ω)	Rmax (k Ω)
-1	30	27.33	28.47	29.63
0	32	26.18	27.27	28.37
2	36	24.06	25.03	26.02
3	37	23.07	24.00	24.93
5	41	21.23	22.06	22.90
7	45	19.55	20.30	21.06
9	48	18.03	18.70	19.38
10	50	17.31	17.95	18.60
11	52	16.63	17.24	17.86
14	57	14.77	15.29	15.81
15	59	14.20	14.69	15.19
17	63	13.13	13.58	14.03
19	66	12.16	12.57	12.97
21	70	11.27	11.64	12.00
22	72	10.85	11.20	11.55
25	77	9.700	10.00	10.30
26	79	9.341	9.633	9.926
27	81	8.997	9.282	9.568
30	86	8.049	8.313	8.578
31	88	7.758	8.016	8.275
33	91	7.213	7.458	7.704
34	93	6.957	7.196	7.436
37	99	6.249	6.470	6.694
38	100	6.032	6.247	6.465



To see a video demonstration of this troubleshooting technique, click PLAY VIDEO below.



E419 ERROR CODE

EEV CLOSE ERROR. EEV 1 IN OUTDOOR UNIT CANNOT FULLY CLOSE

Revision Date:1/27/2025

Subject: E419 Error Code

Models: MMPD, MMLD MULTI-ZONE, MWLD, MWPD, MWHD, MMPD, MMLD Single Zone

Title: EEV Close Error. EEV 1 in Outdoor Unit Cannot Fully Close

TROUBLESHOOTING STEPS

1. Disconnect power to the condenser and inspect the EEV electrical connector to ensure it is properly plugged into the PCB.
2. Remove the EEV #1 (A port) coil and inspect for rust or foreign objects.
3. Reseat coil to its proper position.
4. Remove the electrical connector and measure the resistance between the blue wire and other colored wires. Use the resistance table below.
If the resistance is inconsistent, replace EEV #1 (A port) coil.
5. When power is supplied, do you hear or feel the EEV coil vibrate for calibration?
If not, troubleshoot PCB.
6. Ohm EVA IN/OUT thermistors using a 10k ohm resistance chart.
7. When the system is running in cool mode, does your suction pressure stay higher than normal? On MMPD, MMLD MULTI-ZONE model, run each Indoor unit individually to verify operating pressures.
8. Take a temperature difference on the inlet and outlet of the EEV #1 (A port). If there is no change, replace EEV #1 (A port) assembly.

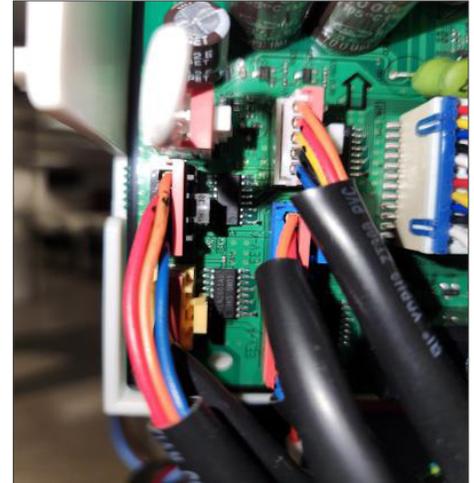


Figure 25. Inspect EEV Plug Location

TEST RESISTANCE



Winding	Resistance
Blue - Black	46 ±2Ω(68°F)
Blue - Yellow	46 ±2Ω(68°F)
Blue - Red	46 ±2Ω(68°F)
Blue - Orange	46 ±2Ω(68°F)

Blue - Orange / Red / Yellow / Black
:46 ± 10% Ω at 20°C
Orange - Yellow : 92 ± 10% Ω at 20°C
Red - Black : 92 ± 10% Ω at 20°C

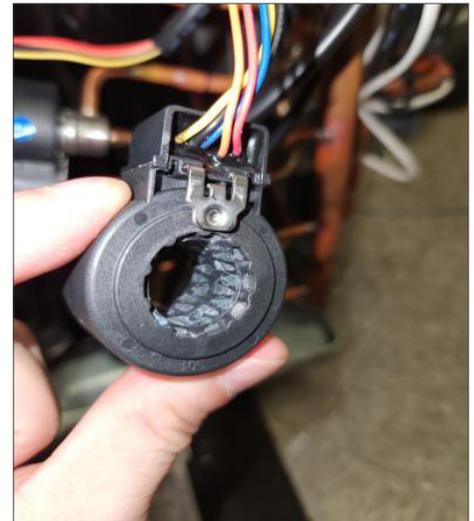


Figure 26. Remove and Inspect EEV Coil for Rust or Foreign Object

E421 ERROR CODE

EEV CLOSE ERROR. EEV 3 IN OUTDOOR UNIT CANNOT FULLY CLOSE

Revision Date:1/27/2025

Subject: E421 Error Code

Models: MMPD, MMLD MULTI-ZONE

Title: EEV Close Error. EEV 3 in Outdoor Unit Cannot Fully Close

TROUBLESHOOTING STEPS

1. Disconnect power to the condenser and inspect the EEV electrical connector to ensure it is properly plugged into the PCB.
2. Remove the EEV #3 (C port) coil and inspect for rust or foreign objects.
3. Reseat coil to its proper position.
4. Remove the electrical connector and measure the resistance between the blue wire and other colored wires.
5. Use the resistance table below.
If the resistance is inconsistent, replace EEV #3 (C port) coil.
6. Do you hear or feel the EEV #3 (C port) coil vibrate for calibration when power is supplied?
If not, troubleshoot PCB.
7. Ohm EVA IN/OUT thermistors using a 10k ohm resistance chart.
8. Does your suction pressure stay higher than normal when the system is running in cool mode?
9. MMPD, MMLD MULTI-ZONE models:
 - a. Run each Indoor unit individually to verify operating pressures.
 - b. Take a temperature difference on the inlet and outlet of the EEV #3 (C port).
If there is no change, replace EEV #3 (C port) assembly.

TEST RESISTANCE



Winding	Resistance
Blue - Black	46 ±2Ω(68°F)
Blue - Yellow	46 ±2Ω(68°F)
Blue - Red	46 ±2Ω(68°F)
Blue - Orange	46 ±2Ω(68°F)

Blue - Orange / Red / Yellow / Black :46 ± 10% Ω at 20°C

Orange - Yellow : 92 ± 10% Ω at 20°C

Red - Black : 92 ± 10% Ω at 20°C

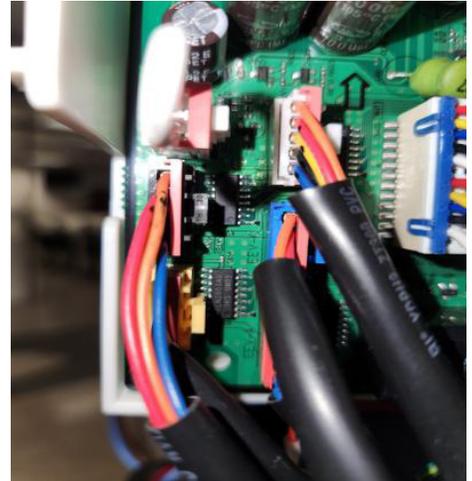


Figure 27. Inspect EEV Plug Location

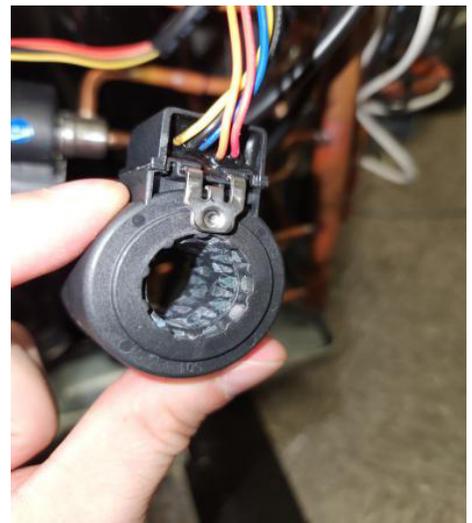


Figure 28. Remove and Inspect EEV Coil for Rust or Foreign Object

E422 ERROR CODE

EEV OPEN ERROR. EEV 1 IN OUTDOOR UNIT CANNOT FULLY OPEN

Revision Date:1/27/2025

Subject: E422 Error Code

Models: MMPD, MMLD MULTI-ZONE, MWLD, MWPD, MWHD, MMPD, MMLD Single Zone

Title: EEV Open Error. EEV 1 in Outdoor Unit Cannot Fully Open

TROUBLESHOOTING STEPS

1. Disconnect power to the condenser and inspect the EEV electrical connector to ensure it is properly plugged into the PCB.
2. Remove the EEV coil and inspect for rust or foreign objects.
3. Reseat coil to its proper position.
4. Remove the electrical connector for EEV #1 (A port) and measure the resistance between the blue wire and other colored wires.
5. Use the resistance table below.
If the resistance is inconsistent, replace EEV #1 (A port) coil.
6. Do you hear or feel the EEV coil vibrate during calibration when power is supplied?
If not, troubleshoot PCB.
7. Ohm EVA IN/OUT thermistors using a 10k ohm resistance chart.
8. Does your suction pressure go into a vacuum when the system is running in cool mode?

MMPD, MMLD MULTI-ZONE models: run each Indoor unit individually to verify operating pressures. Replace EEV #1 (A port) assembly.

TEST RESISTANCE



Winding	Resistance
Blue - Black	46 ±2Ω(68°F)
Blue - Yellow	46 ±2Ω(68°F)
Blue - Red	46 ±2Ω(68°F)
Blue - Orange	46 ±2Ω(68°F)

Blue - Orange / Red / Yellow / Black
:46 ± 10% Ω at 20°C
Orange - Yellow : 92 ± 10% Ω at 20°C
Red - Black : 92 ± 10% Ω at 20°C

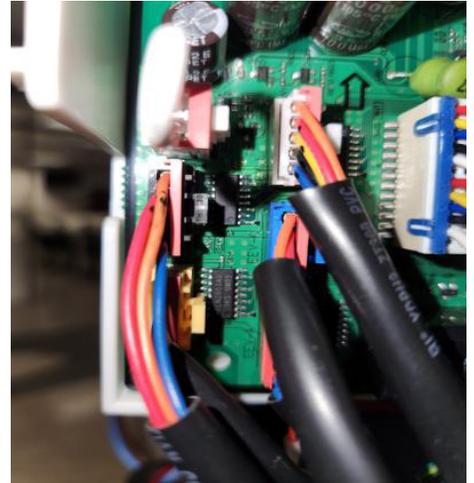


Figure 29. Inspect EEV Plug Location



Figure 30. Remove and Inspect EEV Coil for Rust or Foreign Object

E423 ERROR CODE

EEV OPEN ERROR. EEV 2 IN OUTDOOR UNIT CANNOT FULLY OPEN

Revision Date:1/27/2025

Subject: E423 Error Code

Models: MMPD, MMLD MULTI-ZONE

Title: EEV Open Error. EEV 2 in Outdoor Unit Cannot Fully Open

TROUBLESHOOTING STEPS

1. Disconnect power to the condenser and inspect the EEV electrical connector to ensure it is properly plugged into the PCB.
2. Remove the EEV coil and inspect for rust or foreign objects.
3. Reseat coil to its proper position.
4. Remove the electrical connector for EEV #2 (B port) and measure the resistance between the blue wire and other colored wires.
5. Use the resistance table below.
If the resistance is inconsistent, replace EEV #2 (B port) coil.
6. Do you hear or feel the EEV coil vibrate during calibration when power is supplied? If not, troubleshoot PCB.
7. Ohm EVA IN/OUT thermistors using a 10k ohm resistance chart.
8. Does your suction pressure go into a vacuum when the system is running in cool mode?

MMPD, MMLD MULTI-ZONE models: run each Indoor unit individually to verify operating pressures. Replace EEV #2 (B port) assembly.

TEST RESISTANCE



Winding	Resistance
Blue - Black	46 ±2Ω(68°F)
Blue - Yellow	46 ±2Ω(68°F)
Blue - Red	46 ±2Ω(68°F)
Blue - Orange	46 ±2Ω(68°F)

Blue - Orange / Red / Yellow / Black
:46 ± 10% Ω at 20°C
Orange - Yellow : 92 ± 10% Ω at 20°C
Red - Black : 92 ± 10% Ω at 20°C

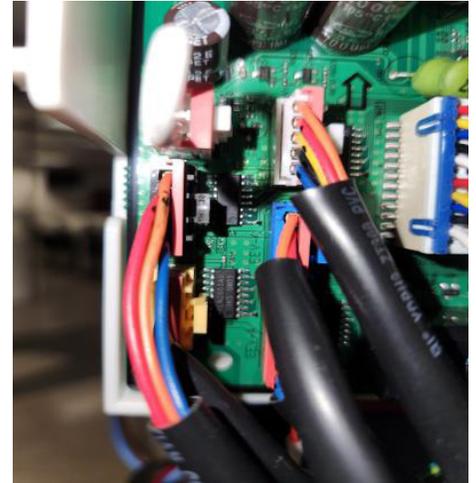


Figure 31. Inspect EEV Plug Location



Figure 32. Remove and Inspect EEV Coil for Rust or Foreign Object

E424 ERROR CODE

EEV OPEN ERROR. EEV 3 IN OUTDOOR UNIT CANNOT FULLY OPEN

Revision Date:1/27/2025

Subject: E424 Error Code

Models: MMPD, MMLD MULTI-ZONE

Title: EEV Open Error. EEV 3 in Outdoor Unit Cannot Fully Open

TROUBLESHOOTING STEPS

1. Disconnect power to the condenser and inspect the EEV electrical connector to ensure it is properly plugged into the PCB.
 2. Remove the EEV coil and inspect for rust or foreign objects.
 3. Reseat coil to its proper position.
 4. Remove the electrical connector for EEV #3 (C port) and measure the resistance between the blue wire and other colored wires.
 5. Use the resistance table below.
If the resistance is inconsistent, replace EEV #3 (C port) coil.
 6. Do you hear or feel the EEV coil vibrate during calibration when power is supplied? If not, troubleshoot PCB.
 7. Ohm EVA IN/OUT thermistors using a 10k ohm resistance chart.
 8. Does your suction pressure go into a vacuum when the system is running in cool mode?
- MMPD, MMLD MULTI-ZONE models: run each Indoor unit individually to verify operating pressures. Replace EEV #3 (C port) assembly.

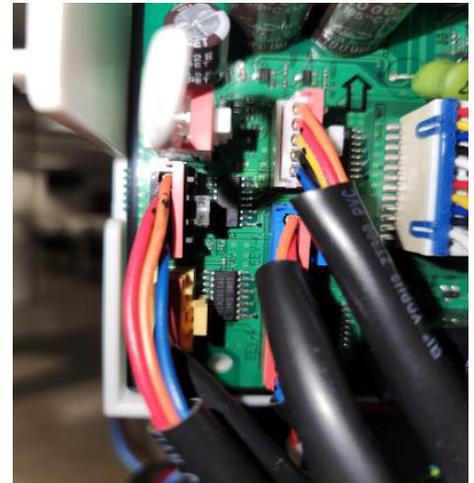


Figure 33. Inspect EEV Plug Location

TEST RESISTANCE



Winding	Resistance
Blue - Black	46 ±2Ω(68°F)
Blue - Yellow	46 ±2Ω(68°F)
Blue - Red	46 ±2Ω(68°F)
Blue - Orange	46 ±2Ω(68°F)

Blue - Orange / Red / Yellow / Black
:46 ± 10% Ω at 20°C
Orange - Yellow : 92 ± 10% Ω at 20°C
Red - Black : 92 ± 10% Ω at 20°C



Figure 34. Remove and Inspect EEV Coil for Rust or Foreign Object



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MINI-SPLITS ERROR CODES

E435 ERROR CODE WATER FLOW SWITCH ERROR

100227
3/2026

Revision Date:12/17/2024
Subject: E435 Error Code
Models: WATER
Title: Water Flow Switch Error

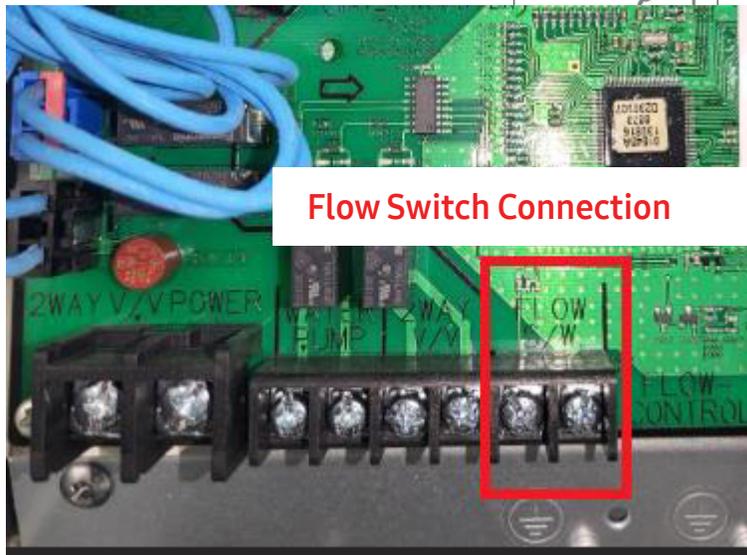
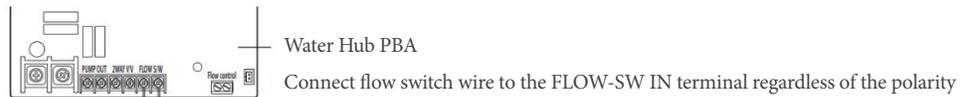
TROUBLESHOOTING STEPS

1. Verify the water circulating pump is operating.
2. Verify there is a closed connection on Flow S/W connection.

NOTE: Flow S/W connection is a dry contact input. The device connected to the Flow S/W terminals is field supplied.

If flow-switch is open, check pressure drop across heat exchanger and verify proper gallons per minute (GPM) are flowing through heat exchanger. Refer to Technical Data Book (TDB) for pressure drop charts.

3. Verify any flow control valves, isolation valves or bypass valves are open.
4. Verify that strainer is clear.



E439 ERROR CODE
REFRIGERANT LEAK ERROR

100227
3/2026

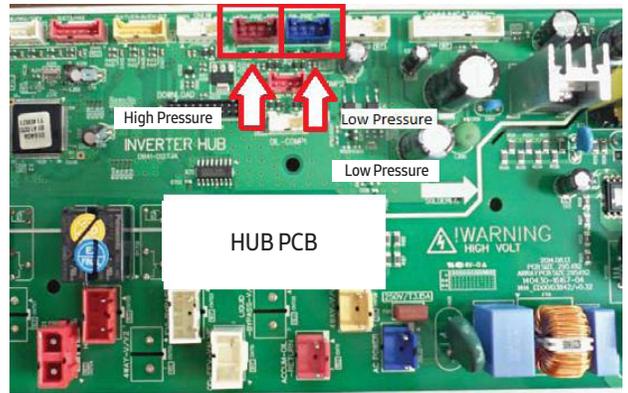
Revision Date:1/13/2025
Subject: E439 Error Code
Models: VRF, CHILLER, WATER
Title: Refrigerant Leak Error

JUDGMENT METHOD

- If compressor is idle and pressure is below 14 PSIG on low side, error E439 will occur.
- If compressor is operating in cooling mode and pressure drops below 44 PSIG on low side, error E439 will occur.
- If compressor is operating in heating mode and pressure drops below 31 PSIG on low side, error E439 will occur.

TROUBLESHOOTING STEPS

1. Connect manifold gauges to system and verify standing pressure compared to ambient temp using a PT chart.
2. Connect laptop and open Samsung service software. (Snet Pro2)
3. Verify manifold gauges and Snet service software match. If they do not match, test pressure transducers. See low - and high-pressure transducer chart below.
If standing pressure is below 14 PSIG while in idle, place system in vacuum mode, pressure test system to 500 PSIG with dry nitrogen and test for leaks.
4. Locate and repair leaks, conduct triple evacuation process and weigh in charge per install manual or VRF pro file.



- > Molex connection on circuit board will be in a different location across models.
- > Check wiring diagram to ensure proper location.

LOW PRESSURE TABLE

LOW PRESSURE							
VOUT	PSIG	VOUT	PSIG	VOUT	PSIG	VOUT	PSIG
0.5	0	1.5	73	2.5	145	3.5	218
0.6	7	1.6	80	2.6	152	3.6	225
0.7	15	1.7	87	2.7	160	3.7	232
0.8	22	1.8	94	2.8	167	3.8	239
0.9	29	1.9	102	2.9	174	3.9	247
1.0	36	2.0	109	3.0	181	4.0	254
1.1	44	2.1	116	3.1	189	4.1	261
1.2	51	2.2	123	3.2	196	4.2	268
1.3	58	2.3	131	3.3	203	4.3	276
1.4	65	2.4	138	3.4	210	4.4	283
				4.5	290		

HIGH PRESSURE TABLE

HIGH PRESSURE							
VOUT	PSIG	VOUT	PSIG	VOUT	PSIG	VOUT	PSIG
0.5	0	1.5	181	2.5	363	3.5	544
0.6	18	1.6	199	2.6	381	3.6	562
0.7	36	1.7	218	2.7	399	3.7	580
0.8	54	1.8	236	2.8	417	3.8	598
0.9	73	1.9	254	2.9	435	3.9	616
1.0	91	2.0	272	3.0	453	4.0	635
1.1	109	2.1	290	3.1	471	4.1	653
1.2	127	2.2	308	3.2	490	4.2	671
1.3	145	2.3	326	3.3	508	4.3	689
1.4	163	2.4	344	3.4	526	4.4	707
						4.5	725



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MINI-SPLITS ERROR CODES

100227

3/2026

E439 ERROR CODE

REFRIGERANT LEAK ERROR

Saturation Pressure-Temperature Data for R410a (psig)*

Temp (°F)	Pressure		Temp (°C)	Temp (°F)	Pressure		Temp (°C)	Temp (°F)	Pressure		Temp (°C)	Temp (°F)	Pressure		Temp (°C)
	Liquid	Vapor													
-49	5.5	5.4	-45	1	49.7	49.5	-17.2	51	145.8	145.2	10.6	101	323.1	322.1	38.3
-48	6	5.9	-44.4	2	51.1	50.8	-16.7	52	148.4	147.9	11.1	102	327.7	326.7	38.9
-47	6.6	6.5	-43.9	3	52.4	52.2	-16.1	53	151.1	150.5	11.7	103	332.4	331.4	39.4
-46	7.1	7.1	-43.3	4	53.8	53.5	-15.6	54	153.8	153.2	12.2	104	337.1	336.1	40
-45	7.7	7.6	-42.8	5	55.2	54.9	-15	55	156.5	156	12.8	105	341.9	340.9	40.6
-44	8.3	8.2	-42.2	6	56.6	56.3	-14.4	56	159.3	158.7	13.3	106	346.7	345.7	41.1
-43	8.9	8.8	-41.7	7	58	57.8	-13.9	57	162.1	161.5	13.9	107	351.6	350.5	41.7
-42	9.5	9.4	-41.1	8	59.5	59.2	-13.3	58	164.9	164.4	14.4	108	356.5	355.4	42.2
-41	10.1	10	-40.6	9	60.9	60.7	-12.8	59	167.8	167.2	15	109	361.4	360.4	42.8
-40	10.8	10.7	-40	10	62.4	62.2	-12.2	60	170.7	170.1	15.6	110	366.4	365.4	43.3
-39	11.4	11.3	-39.4	11	63.9	63.7	-11.7	61	173.7	173.1	16.1	111	371.5	370.4	43.9
-38	12.1	12	-38.9	12	65.5	65.2	-11.1	62	176.7	176	16.7	112	376.6	375.5	44.4
-37	12.7	12.6	-38.3	13	67.1	66.8	-10.6	63	179.7	179	17.2	113	381.8	380.7	45
-36	13.4	13.3	-37.8	14	68.6	68.4	-10	64	182.7	182.1	17.8	114	387	385.9	45.6
-35	14.1	14	-37.2	15	70.3	70	-9.4	65	185.8	185.2	18.3	115	392.3	391.2	46.1
-34	14.8	14.7	-36.7	16	71.9	71.6	-8.9	66	188.9	188.3	18.9	116	397.6	396.5	46.7
-33	15.6	15.5	-36.1	17	73.5	73.3	-8.3	67	192.1	191.4	19.4	117	403	401.9	47.2
-32	16.3	16.2	-35.6	18	75.2	74.9	-7.8	68	195.3	194.6	20	118	408.4	407.3	47.8
-31	17.1	16.9	-35	19	76.9	76.6	-7.2	69	198.5	197.8	20.6	119	413.9	412.8	48.3
-30	17.8	17.7	-34.4	20	78.7	78.4	-6.7	70	201.8	201.1	21.1	120	419.4	418.3	48.9
-29	18.6	18.5	-33.9	21	80.4	80.1	-6.1	71	205.1	204.4	21.7	121	425	423.9	49.4
-28	19.4	19.3	-33.3	22	82.2	81.9	-5.6	72	208.4	207.7	22.2	122	430.7	429.5	50
-27	20.2	20.1	-32.8	23	84	83.7	-5	73	211.8	211.1	22.8	123	436.4	435.2	50.6
-26	21	20.9	-32.2	24	85.8	85.5	-4.4	74	215.2	214.5	23.3	124	442.1	441	51.1
-25	21.9	21.8	-31.7	25	87.7	87.4	-3.9	75	218.7	217.9	23.9	125	447.9	446.8	51.7
-24	22.7	22.6	-31.1	26	89.6	89.2	-3.3	76	222.2	221.4	24.4	126	453.8	452.7	52.2
-23	23.6	23.5	-30.6	27	91.5	91.1	-2.8	77	225.7	224.9	25	127	459.8	458.6	52.8
-22	24.5	24.4	-30	28	93.4	93.1	-2.2	78	229.3	228.5	25.6	128	465.8	464.6	53.3
-21	25.4	25.3	-29.4	29	95.4	95	-1.7	79	232.9	232.1	26.1	129	471.8	470.7	53.9
-20	26.3	26.2	-28.9	30	97.4	97	-1.1	80	236.5	235.8	26.7	130	477.9	476.8	54.4
-19	27.3	27.1	-28.3	31	99.4	99	-0.6	81	240.2	239.4	27.2	131	484.1	483	55
-18	28.2	28.1	-27.8	32	101.4	101.1	0	82	244	243.2	27.8	132	490.3	489.2	55.6
-17	29.2	29	-27.2	33	103.5	103.1	0.6	83	247.8	246.9	28.3	133	496.6	495.5	56.1
-16	30.2	30	-26.7	34	105.6	105.2	1.1	84	251.6	250.7	28.9	134	503	501.9	56.7
-15	31.2	31	-26.1	35	107.7	107.3	1.7	85	255.4	254.6	29.4	135	509.4	508.3	57.2
-14	32.2	32	-25.6	36	109.9	109.5	2.2	86	259.3	258.5	30	136	515.9	514.8	57.8
-13	33.2	33.1	-25	37	112.1	111.7	2.8	87	263.3	262.4	30.6	137	522.5	521.4	58.3
-12	34.3	34.1	-24.4	38	114.3	113.9	3.3	88	267.3	266.4	31.1	138	529.1	528	58.9
-11	35.4	35.2	-23.9	39	116.5	116.1	3.9	89	271.3	270.4	31.7	139	535.8	534.7	59.4
-10	36.5	36.3	-23.3	40	118.8	118.4	4.4	90	275.4	274.5	32.2	140	542.5	541.4	60
-9	37.6	37.4	-22.8	41	121.1	120.7	5	91	279.5	278.6	32.8	141	549.3	548.3	60.6
-8	38.7	38.5	-22.2	42	123.4	123	5.6	92	283.6	282.7	33.3	142	556.2	555.2	61.1

E440 ERROR CODE

OUTDOOR UNIT ERROR - [PROTECTION CONTROL] SYSTEM WILL NOT OPERATE IN HEATING MODE BECAUSE AMBIENT TEMPERATURE IS OVER 30°C (86°F)

Revision Date: 1/29/2025

Subject: E440 Error Code

Models: MWLD, MWPD, MWHD, MMPD, MMLD Single Zone, MMPD, MMLD MULTI-ZONE, VRF , CHILLER

Title: Outdoor Unit Error – [Protection control] System will not operate in heating mode because ambient temperature is over 30°C (86°F).

TROUBLESHOOTING STEPS

1. Is the outside ambient temp over 30°C (86°F)? If so, the system will not operate in heat mode.
2. Locate the ambient sensor connection on the main PCB, if the ambient temp is lower than 30°C (86°F).
3. Ohm the sensor and compare it to the resistance chart below.
If the sensor is out of range, replace the sensor.
If the sensor is in range, replace the board on which the sensor is connected.

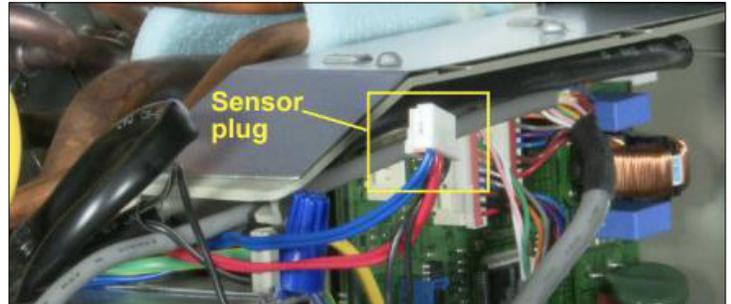


Figure 36. Unplug the sensor connection

T (C°)	T (F°)	Rmin (k Ω)	Rcent (k Ω)	Rmax (k Ω)
-1	30	27.33	28.47	29.63
0	32	26.18	27.27	28.37
2	36	24.06	25.03	26.02
3	37	23.07	24.00	24.93
5	41	21.23	22.06	22.90
7	45	19.55	20.30	21.06
9	48	18.03	18.70	19.38
10	50	17.31	17.95	18.60
11	52	16.63	17.24	17.86
14	57	14.77	15.29	15.81
15	59	14.20	14.69	15.19
17	63	13.13	13.58	14.03
19	66	12.16	12.57	12.97
21	70	11.27	11.64	12.00
22	72	10.85	11.20	11.55
25	77	9.700	10.00	10.30
26	79	9.341	9.633	9.926
27	81	8.997	9.282	9.568
30	86	8.049	8.313	8.578
31	88	7.758	8.016	8.275
33	91	7.213	7.458	7.704
34	93	6.957	7.196	7.436
37	99	6.249	6.470	6.694
38	100	6.032	6.247	6.465



Figure 35. Test with needlepoint leads on the 2 silver tabs



E442 ERROR CODE

OUTDOOR UNIT ERROR - PREVENTION OF HEATING REFRIGERANT CHARGE DUE TO OUTDOOR TEMPERATURE. AMBIENT TEMPERATURE IS OVER 15°C (59°F)

Revision Date: 2/5/2025

Subject: E442 Error Code

Models: VRF

Title: Outdoor Unit Error – Prevention of heating refrigerant charge due to outdoor temperature. Ambient temperature is over 15°C (59°F)

TROUBLESHOOTING STEPS

1. Is the outside ambient temp over 15°C (59°F)?
 - If so, the system will not operate in heat mode.
 - If the ambient temp is lower than 15°C (59°F), locate the ambient sensor connection on the main PCB.
2. Ohm the sensor and compare it to the resistance chart below.
 - If the sensor is out of range, replace the sensor.
 - If the sensor is in range, replace the board on which the sensor is connected.

T (C°)	T (F°)	Rmin (k Ω)	Rcent (k Ω)	Rmax (k Ω)
-1	30	27.33	28.47	29.63
0	32	26.18	27.27	28.37
2	36	24.06	25.03	26.02
3	37	23.07	24.00	24.93
5	41	21.23	22.06	22.90
7	45	19.55	20.30	21.06
9	48	18.03	18.70	19.38
10	50	17.31	17.95	18.60
11	52	16.63	17.24	17.86
14	57	14.77	15.29	15.81
15	59	14.20	14.69	15.19
17	63	13.13	13.58	14.03
19	66	12.16	12.57	12.97
21	70	11.27	11.64	12.00
22	72	10.85	11.20	11.55
25	77	9.700	10.00	10.30
26	79	9.341	9.633	9.926
27	81	8.997	9.282	9.568
30	86	8.049	8.313	8.578
31	88	7.758	8.016	8.275
33	91	7.213	7.458	7.704
34	93	6.957	7.196	7.436
37	99	6.249	6.470	6.694
38	100	6.032	6.247	6.465



Figure 37. Test with needlepoint leads on the 2 silver tabs



E443 ERROR CODE
REFRIGERANT LEAK ERROR

100227
3/2026

Revision Date:1/24/2025

Subject: E443 Error Code

Models: VRF, CHILLER, WATER

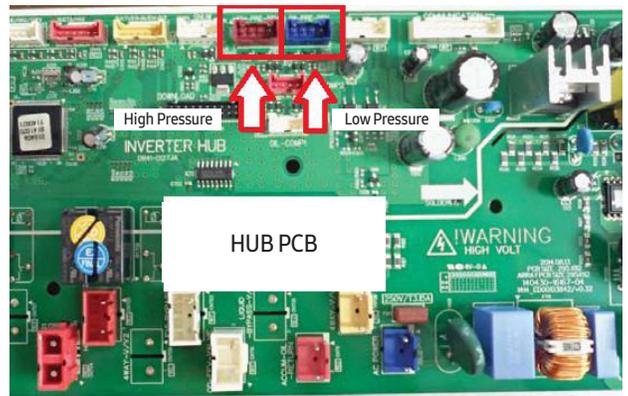
Title: Refrigerant Leak Error

JUDGMENT METHOD

If compressor is idle and pressure is below 14 PSIG on low side, error E443 will occur.

TROUBLESHOOTING STEPS

1. Connect manifold gauges to system and verify standing pressure compared to ambient temp using a PT chart.
2. Connect laptop and open Samsung service software. (Snet Pro2)
3. Verify manifold gauges and Snet service software match.
If they do not match, test pressure transducers. See low - and high-pressure transducer chart below.
If standing pressure is below 14 PSIG while in idle, place system in vacuum mode, pressure test system to 500 PSIG with dry nitrogen and test for leaks.
4. Locate and repair leaks, conduct triple evacuation process and weigh in charge per install manual or VRF pro file.



- > Molex connection on circuit board will be in a different location across models.
- > Check wiring diagram to ensure proper location.

LOW PRESSURE TABLE

LOW PRESSURE							
VOUT	PSIG	VOUT	PSIG	VOUT	PSIG	VOUT	PSIG
0.5	0	1.5	73	2.5	145	3.5	218
0.6	7	1.6	80	2.6	152	3.6	225
0.7	15	1.7	87	2.7	160	3.7	232
0.8	22	1.8	94	2.8	167	3.8	239
0.9	29	1.9	102	2.9	174	3.9	247
1.0	36	2.0	109	3.0	181	4.0	254
1.1	44	2.1	116	3.1	189	4.1	261
1.2	51	2.2	123	3.2	196	4.2	268
1.3	58	2.3	131	3.3	203	4.3	276
1.4	65	2.4	138	3.4	210	4.4	283
						4.5	290

HIGH PRESSURE TABLE

HIGH PRESSURE							
VOUT	PSIG	VOUT	PSIG	VOUT	PSIG	VOUT	PSIG
0.5	0	1.5	181	2.5	363	3.5	544
0.6	18	1.6	199	2.6	381	3.6	562
0.7	36	1.7	218	2.7	399	3.7	580
0.8	54	1.8	236	2.8	417	3.8	598
0.9	73	1.9	254	2.9	435	3.9	616
1.0	91	2.0	272	3.0	453	4.0	635
1.1	109	2.1	290	3.1	471	4.1	653
1.2	127	2.2	308	3.2	490	4.2	671
1.3	145	2.3	326	3.3	508	4.3	689
1.4	163	2.4	344	3.4	526	4.4	707
						4.5	725

E446 ERROR CODE

FAILURE TO START FAN MOTOR 1 ODU

100227

3/2026

Revision Date:12/19/2024

Subject: E446 Error Code

Models: VRF, CHILLER

Title: Failure to Start Fan Motor 1 ODU

TROUBLESHOOTING STEPS: CONDENSER WITH 2 FANS

1. Remove power to the condensing unit for a minimum of 15 minutes.
2. Inspect the fan blade and make sure there are no obstructions.
3. Verify blade spins freely.

NOTE: There are two plug connections for each fan motor. Power (red, white, and black) and hall effect sensor. (See Fan Motor Connector Image)

4. Follow and inspect wiring; verify there is no damage to wires or plugs.
5. Make sure all plugs and spade connectors are secure and connected properly.
6. Disconnect power plug (Fan motor 1 is white plug, Fan motor 2 is blue plug)
Check resistance at plug going to Fan motor. Red-White, Red- Black and White to Black. The resistance value between each winding should be equal, under 10Ω and open to ground
7. Reverse connector plugs for Fan motor 1 and Fan motor 2 (Fan Motor and Hall Effect plug).
8. Restore power to the unit. If the E446 error return, replace fan PCB.
 - If the error changes to E346, replace the fan motor.
 - If results are inconclusive, and you have an inverter checker tool, continue to inverter Fan PCB test.
9. Remove Fan connections from Fan PCB and connect inverter checker.
10. Press K2 button 11 times to initiate the inverter test for fan motor 1.
 - If the inverter test fails, replace Fan PCB.
 - If it passes, replace the Fan motor.



Fan #1 is on the left-hand side of the unit.



Fan Motor Connector



Hall-Sensor Connector

To see a video demonstration of this troubleshooting technique, click PLAY VIDEO below.



E446 ERROR CODE

FAILURE TO START FAN MOTOR 1 ODU

100227

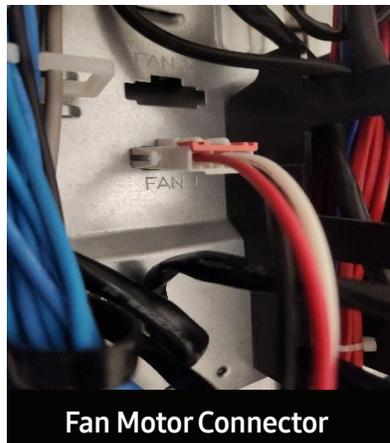
3/2026

TROUBLESHOOTING STEPS: CONDENSER WITH 1 FAN

1. Remove power to the condensing unit for a minimum of 15 minutes.
2. Inspect the fan blade and make sure there are no obstructions.
3. Verify blade spins freely.

NOTE: There are two plug connections for fan motor. Power (red, white, and black) and hall effect sensor (see Fan Motor Connector Image).

4. Follow and inspect wiring; verify there is no damage to wires or plugs.
5. Make sure all plugs and spade connectors are secure and connected properly.
6. Disconnect power plug.
7. Check resistance at plug going to Fan motor. Red-White, Red- Black and White to Black. The resistance value between each winding should be equal, under 10Ω and open to ground
8. Remove fan connections from board and connect inverter checker to Fan PCB, if all values are within range.
9. Press K2 button 11 times to initiate the inverter test for fan motor 1.
 - If the inverter test fails, replace Fan PCB.
 - If it passes, replace Fan motor.



To see a video demonstration of this troubleshooting technique, click PLAY VIDEO below.

PLAY VIDEO 

IMPORTANT

Before reconnecting wire harnesses, leave the unit powered off for 15 to 20 minutes.

E447 ERROR CODE

FAN MOTOR 1 NOT CONNECTED TO OUTDOOR UNIT

100227

3/2026

Revision Date:12/20/2024

Subject: E447 Error Code

Models: VRF, CHILLER

Title: Fan Motor 1 Not Connected to Outdoor Unit

TROUBLESHOOTING STEPS: CONDENSER WITH 2 FANS

1. Remove power to the condensing unit for a minimum of 15 minutes.
2. Inspect the fan blade and make sure there are no obstructions.
3. Verify blade spins freely.

NOTE: There are two plug connections for each fan motor. Power (red, white, and black) and hall effect sensor. (See Fan Motor Connector Image)

4. Follow and inspect wiring; verify there is no damage to wires or plugs.
5. Make sure all plugs and spade connectors are secure and connected properly.
6. Disconnect power plug (Fan motor 1 is white plug, Fan motor 2 is blue plug) Check resistance at plug going to Fan motor. Red-White, Red- Black and White to Black. The resistance value between each winding should be equal, under 10Ω and open to ground.
7. Reverse connector plugs for Fan motor 1 and Fan motor 2. (Fan Motor and Hall Effect plug)
8. Restore power to the unit.
 - If the E447 error returns, replace fan PCB.
 - If the error changes to E347, replace the fan motor.
 - If results are inconclusive, and you have an inverter checker tool, continue to inverter Fan PCB test.
9. Remove power from the unit for a minimum of 15 minutes.
10. Remove Fan connections from Fan PCB and connect inverter checker.
11. Restore power to unit.
12. Press K2 button 11 times to initiate the inverter test for fan motor 1.
 - If the inverter test fails, replace Fan PCB.
 - If it passes, replace Fan motor



Fan #1 is on the left-hand side of the unit.



Fan Motor Connector



Hall-Sensor Connector

To see a video demonstration of this troubleshooting technique, click PLAY VIDEO below.



E447 ERROR CODE

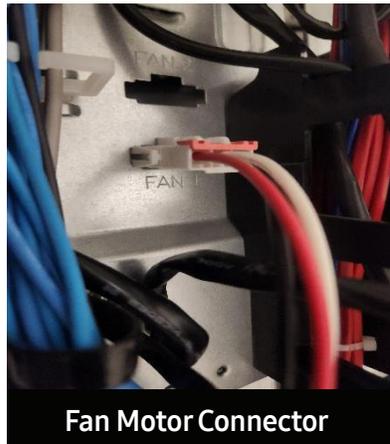
FAN MOTOR 1 NOT CONNECTED TO OUTDOOR UNIT

TROUBLESHOOTING STEPS: CONDENSER WITH 1 FAN

1. Turn the power to the system off and wait 15 minutes.
2. Inspect the fan blade and make sure there are no obstructions.
3. Verify blade spins freely.

NOTE: There are two plug connections for fan motor. Power (red, white, and black) and hall effect sensor.

4. Follow and inspect wiring; make sure there is no damage to wires/plugs.
5. Make sure all plugs and spade connectors are secure and connected correctly.
6. Unplug power plug (Fan motor1 is white plug) Ohm out connections. U-V, U-W, V-W. The resistance value between each winding should be equal, under 10Ω and open to ground. If all values are within range, remove fan connections from board and connect inverter checker to Fan PCB.
7. Press K2 button 11 times to initiate the inverter test for fan motor 1.
 - If the inverter test fails, replace Fan PCB.
 - If it passes, replace fan motor.



To see a video demonstration of this troubleshooting technique, click **PLAY VIDEO** below.

PLAY VIDEO 

IMPORTANT

Before reconnecting wire harnesses, leave the unit powered off for 15 to 20 minutes.

E448 ERROR CODE

FAN MOTOR 1 LOCKED IN OUTDOOR UNIT

100227

3/2026

Revision Date: 12/20/2024

Subject: E448 Error Code

Models: VRF, CHILLER

Title: Fan Motor 1 Locked in Outdoor Unit

TROUBLESHOOTING STEPS: CONDENSER WITH 2 FANS

1. Remove power to the condensing unit for a minimum of 15 minutes.
2. Inspect the fan blade and make sure there are no obstructions.
3. Verify blade spins freely.

NOTE: There are two plug connections for each fan motor. Power (red, white, and black) and hall effect sensor (see Fan Motor Connector Image).

4. Follow and inspect wiring; verify there is no damage to wires or plugs.
5. Make sure all plugs and spade connectors are secure and connected properly.
6. Disconnect power plug (Fan motor 1 is white plug, Fan motor 2 is blue plug) Check resistance at plug going to Fan motor. Red-White, Red- Black and White to Black. The resistance value between each winding should be equal, under 10Ω and open to ground.
7. Reverse connector plugs for Fan motor 1 and Fan motor 2. (Fan Motor and Hall Effect plug)
8. Restore power to the unit. If the E448 error returns, replace fan PCB.
 - If the error changes to E348, replace the fan motor.
 - If results are inconclusive, and you have an inverter checker tool, continue to inverter Fan PCB test.
9. Remove power from the unit for a minimum of 15 minutes. Remove Fan connections from Fan PCB and connect inverter checker.
10. Restore power to unit. Press K2 button 11 times to initiate the inverter test for fan motor 1.
 - If the inverter test fails, replace Fan PCB.
 - If it passes, replace Fan motor.



Fan #1 is on the left-hand side of the unit.



Fan Motor Connector



Hall-Sensor Connector

To see a video demonstration of this troubleshooting technique, click PLAY VIDEO below.

PLAY VIDEO



E448 ERROR CODE

FAN MOTOR 1 LOCKED IN OUTDOOR UNIT

100227

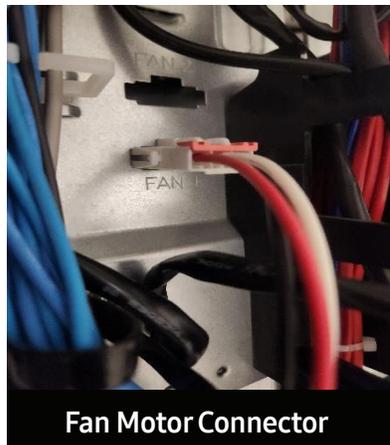
3/2026

TROUBLESHOOTING STEPS: CONDENSER WITH 1 FAN

1. Turn the power to the system off and wait 15 minutes.
2. Inspect the fan blade and make sure there are no obstructions.
3. Verify blade spins freely.

NOTE: There are two plug connections for fan motor. Power (red, white, and black) and hall effect sensor.

4. Follow and inspect wiring; make sure there is no damage to wires/plugs.
5. Make sure all plugs and spade connectors are secure and connected correctly.
6. Unplug power plug (Fan motor1 is white plug) Ohm out connections. U-V, U-W, V-W. The resistance value between each winding should be equal, under 10Ω and open to ground.
 - If all values are within range, remove fan connections from board and connect inverter checker to Fan PCB.
7. Press K2 button 11 times to initiate the inverter test for fan motor 1. Inverter test video
 - If the inverter test fails, replace Fan PCB.
 - If it passes, replace fan motor.



Fan Motor Connector

To see a video demonstration of this troubleshooting technique, click **PLAY VIDEO** below.



! IMPORTANT

Before reconnecting wire harnesses, leave the unit powered off for 15 to 20 minutes.

E454 ERROR CODE

OUTDOOR FAN MOTOR RPM ERROR

100227

3/2026

Revision Date:1/27/2025

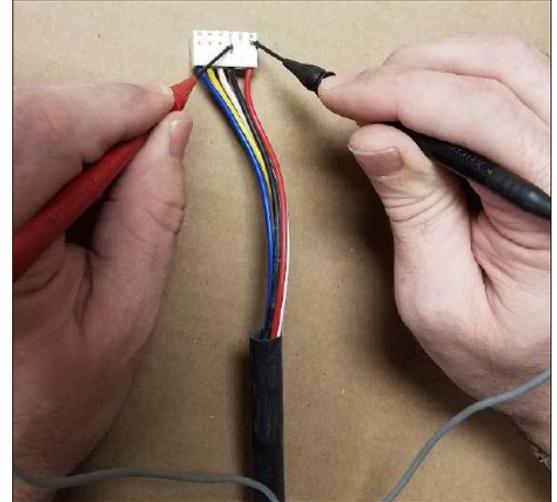
Subject: E454 Error Code

Models: MMPD, MMLD MULTI-ZONE, MWLD, MWPD, MWHD, MMPD, MMLD Single Zone

Title: Outdoor Fan Motor RPM Error

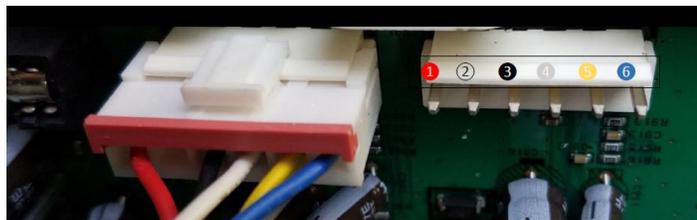
TROUBLESHOOTING STEPS:

1. Check the Incoming Voltage (208/230Vac ± 10%).
2. Locate fan connection on PCB.
3. Leave Fan motor plug connected to PCB.
4. Verify voltage is sent from PCB to fan motor on Red & Black wires (Pins 1 & 3).
5. Utilize chart below for power supply voltage range.
If correct voltage is not supplied, continue troubleshooting of PCB.
6. Power the unit off for 15-20 minutes before continuing to step 6.
7. Disconnect fan motor plug and ohm out fan motor.
8. Use a multimeter that is capable of reading Mega and Kilo OHM; use combinations below for resistance.



- Measure BLDC Motor Resistance
- : No. 1 (red, Vm) & No. 3 (Black, GND)
- : No. 4 (wht, Vcc) & No. 3 (Black, GND)
- : No. 5 (yellow, Vsp) & No. 3 (Black, GND)
- : No. 6 (blue, FG) & No. 3 (Black, GND)

- Defect : Less than 500Ω or short



1. Red
2. Blank
3. Black
4. White
5. Yellow
6. Blue

Wire	Pin#	Remark
Red - Black	1-3	Motor power supply voltage (290 ~ 340 VDC)
White - Black	4-3	Motor control voltage (15 VDC)
Yellow - Black	5-3	Rotation command voltage (0 ~ 5 VDC)
Blue - Black	6-3	Rotation pulse input (fluctuating 0 ~ 3.2 VDC)*
*Some models may vary approximate range 0 ~ 5 VDC		

E458 ERROR CODE

FAN MOTOR LOCKING ERROR OR OVERCURRENT CT1 (CURRENT SENSOR 1)

Revision Date:2/5/2025

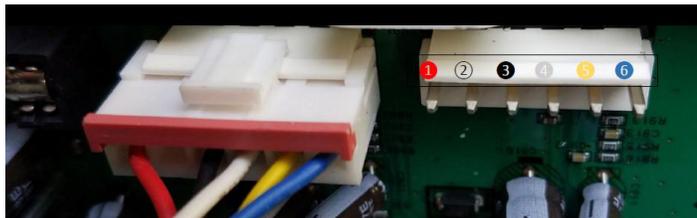
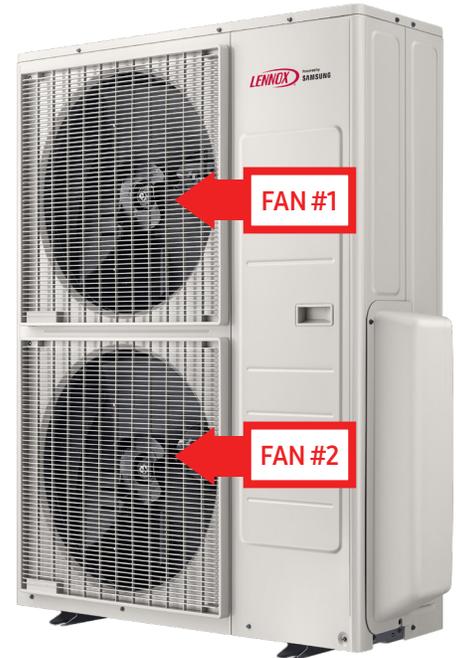
Subject: E458 Error Code

Models: MWLD, MWPD, MWHD, MMPD, MMLD Single Zone, MMPD, MMLD MULTI-ZONE

Title: Fan Motor Locking Error or Overcurrent CT1 (Current Sensor 1)

TROUBLESHOOTING STEPS: CONDENSER WITH 2 FANS

1. Power the unit off for 15 -20 minutes before continuing to next step.
2. Inspect the fan blade and make sure there are no obstructions and fan blade spins freely.
3. Follow and inspect wiring. Make sure there is no damage to wires or plugs.
4. Make sure all plugs are secure and connected correctly.
5. Restore power to the unit.
6. Leave Fan motor plug connected to PCB. Verify voltage is sent from PCB to fan motor on Red & Black wires (Pins 1 & 3). Utilize chart below for power supply voltage range.
7. Power the unit off for 15 -20 minutes. Swap Fan 1 plug and Fan 2 plug on PCB.
8. Restore power to the unit.
9. Turn indoor unit on in heat or cool mode.
 - If the error stays the same, replace PCB.
 - If the error changes to E475, replace the fan motor number 1.
10. Power the unit off for 15 -20 minutes.
11. Return Fan 1 plug and Fan 2 plug on PCB to original location.



1. Red
2. Blank
3. Black
4. White
5. Yellow
6. Blue

Wire	Pin#	Remark
Red - Black	1-3	Motor power supply voltage (290 ~ 340 VDC)
White - Black	4-3	Motor control voltage (15 VDC)
Yellow - Black	5-3	Rotation command voltage (0 ~ 5 VDC)
Blue - Black	6-3	Rotation pulse input (fluctuating 0 ~ 3.2 VDC)*

*Some models may vary approximate range 0 ~ 5 VDC

! IMPORTANT

Before reconnecting wire harnesses, leave the unit powered off for 15 to 20 minutes.

E461 ERROR CODE

FAILURE TO START COMPRESSOR 1

Revision Date: 12/26/2024

Subject: E461 Error Code

Models: VRF, CHILLER, WATER

Title: Failure to Start Compressor 1

TROUBLESHOOTING STEPS

E461 DIAGNOSTICS

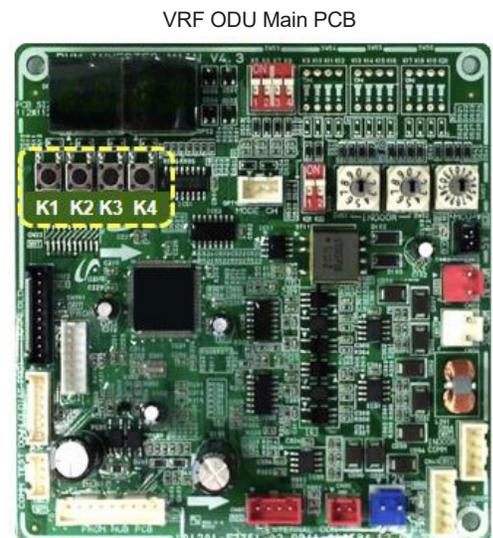
1. Disable the compressor with the error code
 - Press and hold K2 for 3 seconds (00 00)
 - Press K2 to select the compressor to disable

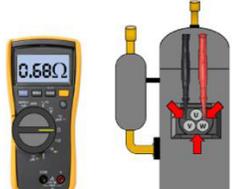
NOTE: 00 01 = Disable Comp 1 00 02 = Disable Comp 2

- Hold K2 for 2 seconds to save selection
2. Run system in Heat or Cool test depending on conditions
 - Heat Test: Press K1 2 times
 - Cool Test: Press K2 2 times

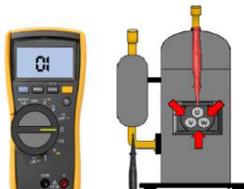
Running the system without the compressor in fault is critical in determining a constant value of working compressor. There must be a working circuit to accurately diagnose this error without an inverter checker.

- If the system operates without error, continue to step 3.
 - If the system shows a compressor fault, skip to step 6.
3. Remove power to the condensing unit for a minimum of 15 minutes before continuing to the next step
 4. Remove the leads to the compressor with error and Ohm the compressor Compressor Ohm values between terminals must be equal or lesser than 2Ω.
 - If testing with a megohmmeter, the value between terminals to ground should be higher than 1MΩ. With a meter each winding should be open to ground.
 - If the readings are not the same, have open windings, or is grounded, replace the compressor.
 - If the readings are normal, continue to step 5.





Measure U-V, V-W, U-W	
Terminals	Ohm (Ω)
U-V	Less than or equal to 2
V-W	Less than or equal to 2
U-W	Less than or equal to 2



Measure U, V, W to GND		
Terminals	Ohm (Ω)	Megaohm
U-GND	OL	> 1 MΩ
V-GND	OL	> 1 MΩ
W-GND	OL	> 1 MΩ

E461 ERROR CODE

FAILURE TO START COMPRESSOR 1

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5. Remove the leads at compressor 1 and connect them to compressor 2; run system in Cool or Heat test mode
 - If Compressor 1 operates when wired to Inverter 2, replace Inverter 1
 - If the error changes to E361, replace Compressor 1
6. Inverter Check Mode using an Inverter Checker
 - Remove leads at compressor and connect to an inverter checker
 - Use inverter check mode with the K buttons on Main PCB
 - If all LEDs light and flicker on the Inverter Checker, the Inverter PCB output is correct
 - If any single LED is not flashing or remains solid, the Inverter PCB is faulty and must be replaced

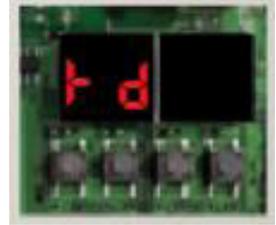


Figure 38. Inverter 1 Check Mode

Press K2 - 9 times

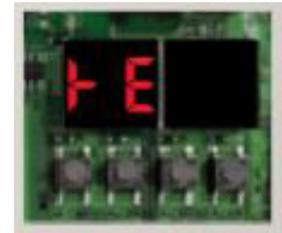
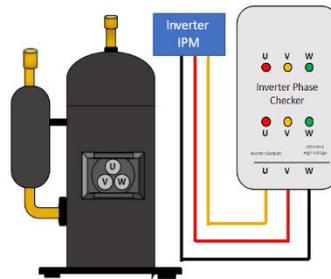


Figure 39. Inverter 2 Check Mode

Press K2 - 10 times

E464 ERROR CODE

OVERCURRENT ON COMPRESSOR 1

Revision Date:2/12/2025

Subject: E464 Error Code

Models: VRF, CHILLER, WATER, MWLD, MWPD, MWHD, MMPD, MMLD Single Zone, MMPD, MMLD MULTI-ZONE

Title: Overcurrent On Compressor 1

TROUBLESHOOTING STEPS

E464 DIAGNOSTICS

1. Disable the compressor with the error code
 - Press and hold K2 for 3 seconds (00 00)
 - Press K2 to select the compressor to disable

NOTE: 00 01 = Disable Comp 1 00 02 = Disable Comp 2

- Hold K2 for 2 seconds to save selection
2. Run system in Heat or Cool test depending on conditions
 - Heat Test: Press K1 2 times
 - Cool Test: Press K2 2 times

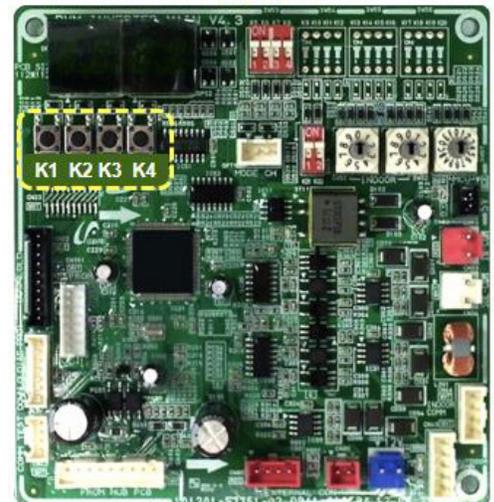
Running the system without the compressor in fault is critical in determining a constant value of working compressor. There must be a working circuit to accurately diagnose this error without an inverter checker.

- If the system operates without error, continue to step 3.
 - If the system shows a compressor fault, skip to step 6.
3. Remove power to the condensing unit for a minimum of 15 minutes before continuing to the next step
 4. Remove the leads to the compressor with error and Ohm the compressor
 5. Compressor Ohm values between terminals must be equal or lesser than 2Ω.
 - If testing with a megohmmeter, the value between terminals to ground should be higher than 1MΩ. With a meter each winding should be open to ground.
 - If the readings are not the same, have open windings, or is grounded, replace the compressor.
 - If the readings are normal, continue to step 5.

VRF S2 Main PCB



VRF ODU Main PCB

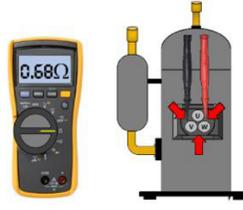


E464 ERROR CODE

OVERCURRENT ON COMPRESSOR 1

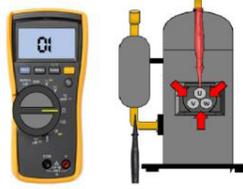
100227

3/2026



Measure U-V, V-W, U-W

Terminals	Ohm (Ω)
U-V	Less than or equal to 2
V-W	Less than or equal to 2
U-W	Less than or equal to 2



Measure U, V, W to GND

Terminals	Ohm (Ω)	Megaohm
U-GND	OL	> 1 M Ω
V-GND	OL	> 1 M Ω
W-GND	OL	> 1 M Ω

6. Remove the leads at compressor 1 and connect them to compressor 2. Run system in Cool or Heat test mode
 - If Compressor 1 operates when wired to Inverter 2, replace Inverter 1
 - If the error changes to E364, Replace Compressor 1
7. Inverter Check Mode using an Inverter Checker
 - Remove leads at compressor and connect to an inverter checker
 - Use inverter check mode with the K buttons on Main PCB
 - If all LEDs light and flicker on the Inverter Checker, the Inverter PCB output is correct
 - If any single LED is not flashing or remains solid, the Inverter PCB is faulty and must be replaced

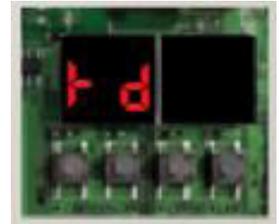


Figure 40. Inverter 1 Check Mode

Press K2 - 9 times

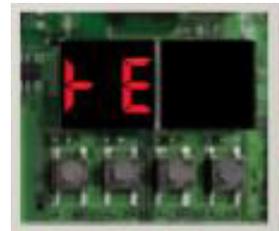
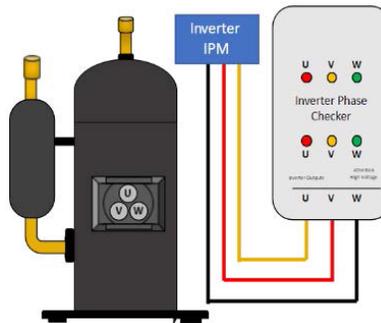


Figure 41. Inverter 2 Check Mode

Press K2 - 10 times



E464 ERROR CODE

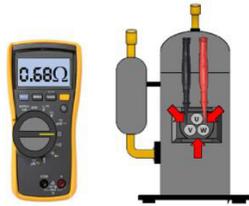
OVERCURRENT ON COMPRESSOR 1

100227

3/2026

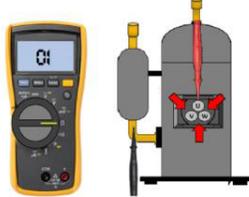
8. Remove power to the condensing unit for a minimum of 15 minutes before continuing to the next step
9. Remove the leads to the compressor with error and ohm the compressor

NOTE: Compressor Ohm values between terminals must be equal or less than 2Ω. If testing with a megohmmeter, the value between terminals to ground should be higher than 1 meg. With a meter, each winding should be open to ground. If the readings are not the same, have open windings, or is grounded, replace the compressor. If the readings are normal, continue to step 3.



Measure U-V, V-W, U-W

Terminals	Ohm (Ω)
U-V	Less than or equal to 2
V-W	Less than or equal to 2
U-W	Less than or equal to 2



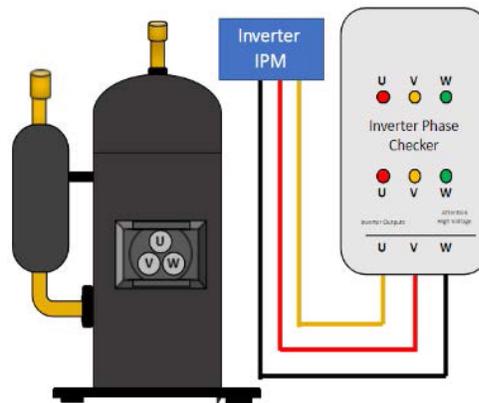
Measure U, V, W to GND

Terminals	Ohm (Ω)	Megaohm
U-GND	OL	> 1 MΩ
V-GND	OL	> 1 MΩ
W-GND	OL	> 1 MΩ

10. Inverter Check Mode using an Inverter Checker

- Remove leads at compressor and connect to an inverter checker
- Use inverter check mode using the K buttons on Main PCB. If all LEDs light and flicker on the inverter checker, the Inverter PCB output is correct
- If any single LED is not flashing or remains solid, the Inverter PCB is faulty and must be replaced.
- If all LEDs light and flicker on the Inverter Checker, the Inverter PCB is good.
- If any single LED is not lit, the Inverter PCB is bad and must be replaced.

VRF ODU Main PCB



E464 ERROR CODE

OVERCURRENT ON COMPRESSOR 1

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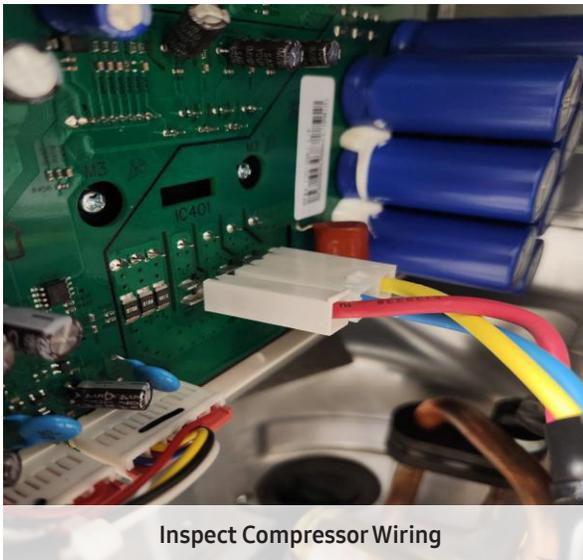
Subject: E464 Error Code

Models: MWLD, MWPD, MWHD, MMPD, MMLD Single Zone, MMPD, MMLD MULTI-ZONE

Title: Overcurrent On Compressor 1

TROUBLESHOOTING STEPS

1. Disconnect power for 15-20 minutes.
2. Inspect the compressor electrical wires/connector to ensure there is no obvious damage and connector is plugged into the PCB.
3. Remove compressor wires to ohm compressor. All 3 windings will read identical (EX: R-BI= 0.8ohm, BI-Y=0.8ohm, Y-R=0.8ohm). Between each winding to ground you should have no resistance. If reading Megaohms you should read over 1M to ground.
4. Resupply power with compressor disconnected from PCB and place system in Heating or Cooling. If E464 returns, replace inverter PCB.
5. Disconnect power for 15-20 minutes and reconnect compressor wires to PCB. Resupply power and place system in Heating or Cooling and get an IN-Rush amp draw on the red compressor wire. If you have more than 8amps, replace compressor.



Inspect Compressor Wiring



Ohm Compressor Windings

E464 ERROR CODE

OVERCURRENT ON COMPRESSOR 1

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TROUBLESHOOTING INVERTER PCB BOARD

1. Conduct compressor diode check on the back of the inverter PCB board (with power supplied) utilizing chart below.
2. Replace PCB if any reading is out of range.



NOTE: Important Note: Test point locations may vary model to model, please contact.

	Measuring Point		Normal Range
	Red Lead	Black Lead	
Measure the diode voltage values	U (24)	P (27)	0.3 ~ 0.7
	V (25)	P (27)	
	W (26)	P (27)	
	N (23-21)	U (24)	
	N (23-21)	V (25)	
Measure the Ω resistance values	U (24)	P (27)	More than 500kΩ
	V (25)	P (27)	
	W (26)	P (27)	
	N (23-21)	U (24)	
	N (23-21)	V (25)	

DC LINK VOLTAGE TEST

1. Disconnect power to the unit for 15-20 minutes. Locate your fan motor plug, memorize the Red & Black wire pins location, and disconnect plug.
2. Resupply power to the unit, measure your incoming line voltage and multiply by 1.41, the sum is the DC voltage you should read on pins 1 & 3 (Red and Black wire connecting pin) below.



1. Red
2. Blank
3. Black
4. White
5. Yellow
6. Blue

Wire	Pin#	Remark
Red - Black	1-3	Motor power supply voltage (290 ~ 340 VDC)

E466 ERROR CODE

100227

DC LINK VOLTAGE ERROR IN INVERTER #1 PCB

3/2026

Revision Date:12/12/2024

Subject: E466 Error Code

Models: VRF, CHILLER

Title: DC Link Voltage Error in Inverter #1 PCB

ISSUE

DC Link Voltage Error in Inverter 1 – DC link voltage error (Inverter PCB is not seeing the correct DC link voltage)

TROUBLESHOOTING STEPS

230V HEAT PUMP AND HEAT RECOVERY DIAGNOSTICS

1. Check the Incoming Voltage (208/230Vac ± 10%)
2. Power the unit OFF for 15-20 minutes before continuing to step 3
3. Check Fuses on EMI PCB
4. Remove the wires on the Reactor coil and ohm the Reactor (resistance value should be less than 5 ohms, open to ground on each leg)
5. Disconnect DC Link Voltage connector from the FAN PCB (leave connected to Inverter PCB)
6. Move the disconnected end of the DC Link Voltage harness to a safe location so voltage can be tested from White to Yellow when power is applied.
7. Restore power to unit and check for proper DC Link Voltage.

NOTE: DC Link voltage is sent from the Inverter PCB to the Fan PCB for both 230 & 460V Heat Pumps). DC Link Voltage Connector (Yellow to White Wire)

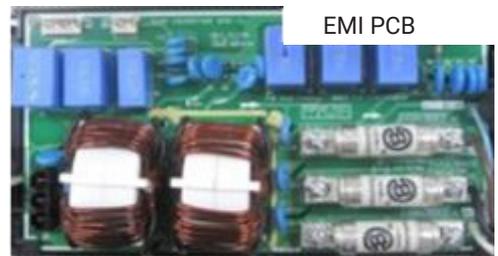
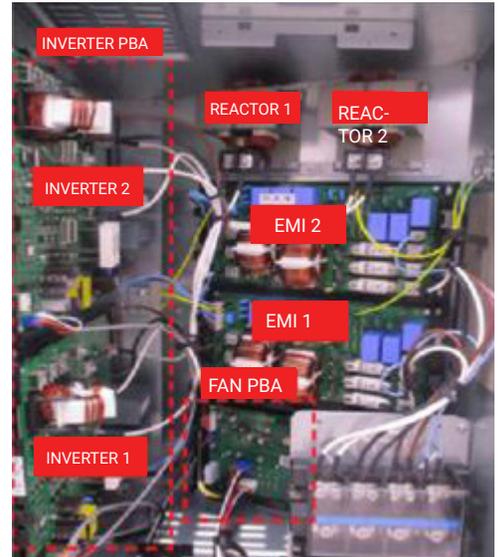
To calculate for the correct DC link voltage, multiply incoming AC power by 1.41

Example:

Incoming Voltage x 1.41 =DC Link Voltage

230Vac x 1.41 = 324.3 Vdc (DC Link Voltage)

460Vac x 1.41 = 648.6 Vdc (DC Link Voltage)



E466 ERROR CODE

DC LINK VOLTAGE ERROR IN INVERTER #1 PCB

100227

3/2026

RESULTS

- If incoming voltage is incorrect, correct the supply voltage (208/230 Vac ± 10%)
- If EMI PCB has an open fuse, replace the EMI PCB
- If the Reactor is open or short to ground, replace the Reactor
- If DC link voltage is accurate, replace Inverter #1 PCB (DC link voltage sensor in Inverter #1 is faulty)
- If supply power, EMI Fuses, and Reactor test within range, but DC link voltage is under 150Vdc, replace Inverter 1 and Fan PCB

! IMPORTANT

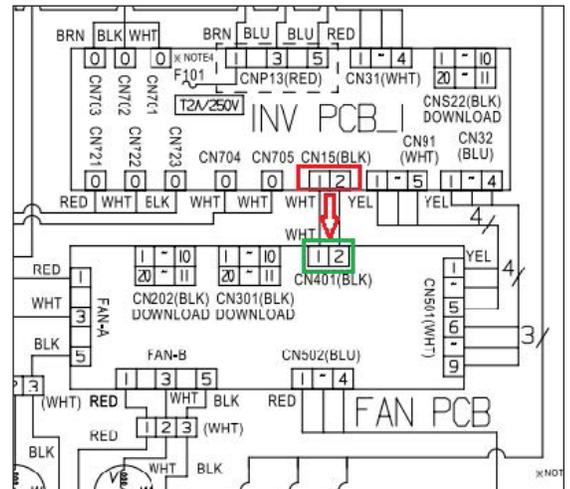
Before reconnecting wire harnesses or DC link voltage, leave the unit powered off for 15 to 20 minutes.

460V HEAT PUMP AND HEAT RECOVERY DIAGNOSTICS

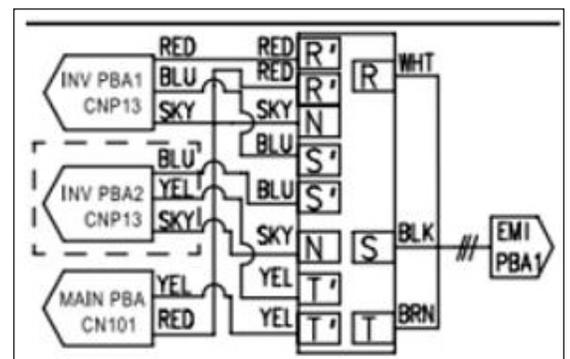
1. Check Incoming Voltage (460Vac ± 10%).
2. Check the Voltage at the Transformer (Primary 460V, Secondary 230V).
3. The Transformer is in the lower left side of the unit near compressor 1. It is not located in the control board cabinet.
4. Power the unit OFF for 15-20 minutes before continuing to step 4.
5. Test the fuses on the EMI PCB.
6. Remove the wires on the Reactor coil and ohm the Reactor (resistance value should be less than 5 ohms, open to ground on each leg)
7. Disconnect DC Link Voltage connector from the FAN PCB (leave connected to Inverter PCB).
8. Move the disconnected end of the DC Link Voltage harness to a safe location so voltage can be tested from White to Yellow when power is applied.
9. Restore power to the unit and check DC Link Voltage.

RESULTS

1. Correct supply power (460Vac ± 10%), if any power is missing.
 - If EMI PCB has an open fuse, replace the EMI PCB.
 - If the Reactor is open or short to ground, replace the Reactor.
 - If DC link voltage is accurate, replace Inverter #1 PCB (DC link voltage sensor in Inverter #1 is faulty).
 - If supply power, EMI Fuses, and Reactor test within range, but DC link voltage is under 150Vdc, replace Inverter 1 and Fan PCB.



460V to 230V Transformer



E469 ERROR CODE

INVERTER PBA 1 DC LINK VOLTAGE SENSING ERROR

100227

3/2026

Revision Date:12/13/2024

Subject: E469 Error Code

Models: VRF, CHILLER

Title: Inverter PBA 1 DC Link Voltage Sensing Error

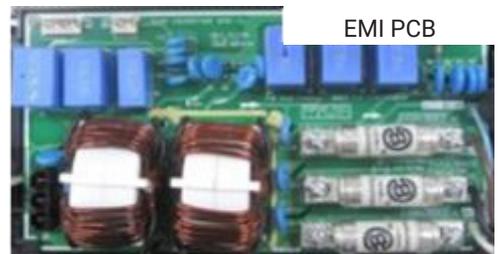
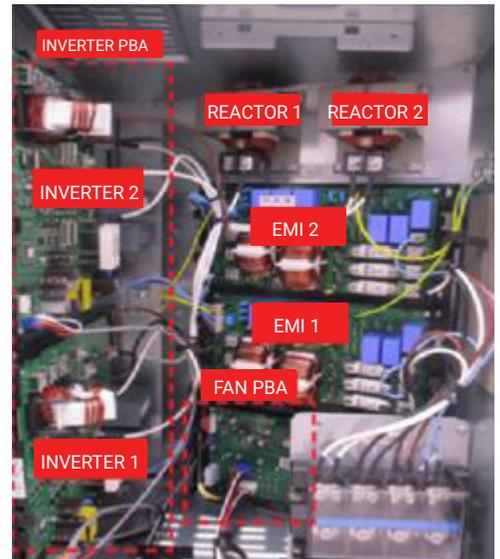
ISSUE

Error due to over voltage / low voltage of Inverter PBA 1 – DC link voltage error (Determined by Inverter PCB DC Link Voltage Sensor)

TROUBLESHOOTING STEPS

230V HEAT PUMP AND HEAT RECOVERY DIAGNOSTICS

1. Check the Incoming Voltage (208/230Vac ± 10%).
2. Power the unit OFF for 15-20 minutes before continuing to step 3.
3. Check Fuses on EMI PCB.
4. Remove the wires on the Reactor coil and ohm the Reactor (resistance value should be less than 5 ohms, open to ground on each leg).
5. Disconnect DC Link Voltage connector from the FAN PCB (leave connected to Inverter PCB).
6. Move the disconnected end of the DC Link Voltage harness to a safe location so voltage can be tested from White to Yellow when power is applied.
7. Restore power to unit and check for proper DC Link Voltage.



DC Link voltage is sent from the Inverter PCB to the Fan PCB for both 230 & 460V Heat Pumps). DC Link Voltage Connector (Yellow to White Wire)

To calculate for the correct DC link voltage, multiply incoming AC power by 1.41

Example:

Incoming Voltage x 1.41 = DC Link Voltage

230Vac x 1.41 = 324.3 Vdc (DC Link Voltage)

460Vac x 1.41 = 648.6 Vdc (DC Link Voltage)

E469 ERROR CODE

INVERTER PBA 1 DC LINK VOLTAGE SENSOR ERROR

RESULTS

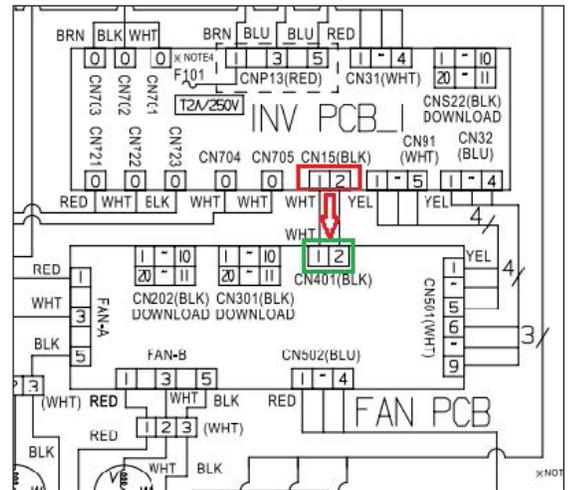
- > If incoming voltage is incorrect, correct the supply voltage (208/230 Vac ± 10%)
- > If EMI PCB has an open fuse, replace the EMI PCB
- > If the Reactor is open or short to ground, replace the Reactor
- > If DC link voltage is accurate, replace Inverter #1 PCB (DC link voltage sensor in Inverter #1 is faulty)
- > If supply power, EMI Fuses, and Reactor test within range, but DC link voltage is under 150Vdc, replace Inverter 1 and Fan PCB

! IMPORTANT

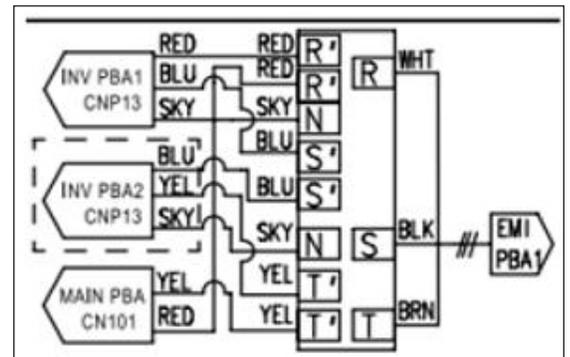
Before reconnecting wire harnesses or DC link voltage, leave the unit powered off for 15 to 20 minutes.

460V HEAT PUMP AND HEAT RECOVERY DIAGNOSTICS

1. Check Incoming Voltage (460Vac ± 10%).
2. Check the Voltage at the Transformer (Primary 460V, Secondary 230V).
3. The Transformer is in the lower left side of the unit near compressor 1. It is not located in the control board cabinet.
4. Power the unit OFF for 15-20 minutes before continuing to step 4.
5. Test the fuses on the EMI PCB
6. Remove the wires on the Reactor coil and ohm the Reactor (resistance value should be less than 5 ohms, open to ground on each leg).
7. Disconnect DC Link Voltage connector from the FAN PCB (leave connected to Inverter PCB).
8. Move the disconnected end of the DC Link Voltage harness to a safe location so voltage can be tested from White to Yellow when power is applied.
9. Restore power to the unit and check DC Link Voltage.



460V to 230V Transformer



RESULTS

- > If incoming voltage is incorrect, correct supply voltage (460Vac ± 10%)
- > If EMI PCB has an open fuse, replace the EMI PCB
- > If the Reactor is open or short to ground, replace the Reactor
- > If DC link voltage is accurate, replace Inverter #1 PCB (DC link voltage sensor in Inverter #1 is faulty)
- > If supply power, EMI Fuses, and Reactor are good, but DC link voltage is under 150Vdc, replace Inverter 1 and Fan PCB

! IMPORTANT

Before reconnecting wire harnesses or DC link voltage, leave the unit powered off for 15 to 20 minutes.

E470 ERROR CODE

OUTDOOR UNIT EEPROM READ OR WRITE ERROR

100227

3/2026

Revision Date:12/18/2024

Subject: E470 Error Code

Models: MMPD, MMLD MULTI-ZONE, MWLD, MWPD, MWHD, MMPD, MMLD Single Zone

Title: Outdoor Unit EEPROM Read Or Write Error

TROUBLESHOOTING STEPS

1. Verify the EEPROM is inserted correctly onto the Main PCB.
2. If replacing Main PCB, ensure original EEPROM is installed on replacement Main PCB.
3. When system power is restored, if the same error returns, replace EEPROM with a Pre-programmed EEPROM chip.



E475 ERROR CODE

OUTDOOR FAN MOTOR #2 ERROR OR OUTDOOR FAN MOTOR #2 RPM ERROR

Revision Date: 1/31/2025

Subject: E475 Error Code

Models: MWLD, MWPD, MWHD, MMPD, MMLD Single Zone, MMPD, MMLD MULTI-ZONE

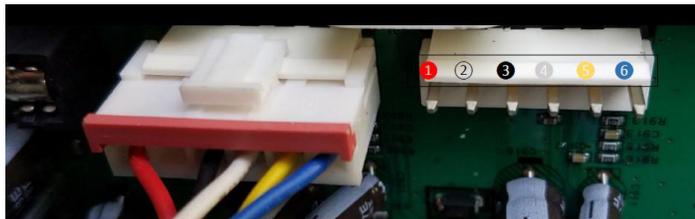
Title: Outdoor Fan Motor #2 Error or Outdoor Fan Motor #2 RPM Error

TROUBLESHOOTING STEPS:

1. Power the unit off for 15 -20 minutes before continuing to next step.
2. Inspect the fan blade and make sure there are no obstructions and fan blade spins freely.
3. Follow and inspect wiring. Verify there is no damage to wires or plugs.
4. Make sure all plugs are secure and connected correctly.
5. Restore power to the unit.
6. Leave Fan motor plug connected to PCB.
7. Verify voltage is sent from PCB to fan motor on Red & Black wires (Pins 1 & 3). Utilize chart below for power supply voltage range.
8. Power the unit off for 15 -20 minutes.
9. Swap Fan 1 plug and Fan 2 plug on PCB.
10. Restore power to the unit; turn indoor unit on in heat or cool mode.
 - If the error stays the same, replace PCB.
 - If the error changes to E458, replace the fan motor number 2.
11. Power the unit off for 15 -20 minutes.
12. Return Fan 1 plug and Fan 2 plug on PCB to original location.



Fan #2 is on the bottom



1. Red
2. Blank
3. Black
4. White
5. Yellow
6. Blue

Wire	Pin#	Remark
Red - Black	1-3	Motor power supply voltage (290 ~ 340 VDC)
White - Black	4-3	Motor control voltage (15 VDC)
Yellow - Black	5-3	Rotation command voltage (0 ~ 5 VDC)
Blue - Black	6-3	Rotation pulse input (fluctuating 0 ~ 3.2 VDC)*
*Some models may vary approximate range 0 ~ 5 VDC		

! IMPORTANT

Before reconnecting wire harnesses or DC link voltage, leave the unit powered off for 15 to 20 minutes.

E478 ERROR CODE

OUTDOOR UNIT FAN MOTOR 1 STOPPED DUE TO OVERLOAD (V-LIMIT)

Revision Date: 2/21/2025

Subject: E478 Error Code

Models: VRF, CHILLER

Title: Outdoor Fan Motor 1 Stopped Due to Overload (V-Limit)

TROUBLESHOOTING STEPS: CONDENSER WITH 2 FANS

1. Remove power to the condensing unit for a minimum of 15 minutes.
2. Inspect the fan blade and make sure there are no obstructions.
3. Verify blade spins freely.

NOTE: There are two plug connections for each fan motor. Power (red, white, and black) and hall effect sensor. (See Fan Motor Connector Image)

4. Follow and inspect wiring. Verify sure there is no damage to wires or plugs.
5. Make sure all plugs and spade connectors are secure and connected properly.
6. Disconnect power plug (Fan motor 1 is white plug, Fan motor 2 is blue plug)
7. Check resistance at plug going to Fan motor. Red-White, Red- Black and White to Black. The resistance value between each winding should be equal, under 10Ω and open to ground.
8. Reverse connector plugs for Fan motor 1 and Fan motor 2 (Fan Motor and Hall Effect plug).
9. Restore power to the unit.
 - If the E478 error returns, replace fan PCB.
 - If the error changes to E378, replace the fan motor.
 - If results are inconclusive, and you have an inverter checker tool, continue to inverter Fan PCB test.
10. Remove power from the unit for a minimum of 15 minutes.
11. Remove Fan connections from Fan PCB and connect inverter checker.
12. Restore power to unit. Press K2 button 11 times to initiate the inverter test for fan motor 1.
 - If the inverter test fails, replace Fan PCB.
 - If it passes, replace Fan motor.



Fan #1 is on the left-hand side of the unit.



Fan Motor Connector



Hall-Sensor Connector

To see a video demonstration of this troubleshooting technique, click PLAY VIDEO below.



E478 ERROR CODE

OUTDOOR UNIT FAN MOTOR 1 STOPPED DUE TO OVERLOAD (V-LIMIT)

TROUBLESHOOTING STEPS: CONDENSER WITH 1 FAN

1. Turn the power to the system off and wait 15 minutes.
2. Inspect the fan blade and make sure there are no obstructions.
3. Verify blade spins freely.

NOTE: There are two plug connections for fan motor. Power (red, white, and black) and hall effect sensor.

4. Follow and inspect wiring. Verify there is no damage to wires/plugs.
5. Make sure all plugs and spade connectors are secure and connected correctly.
6. Unplug power plug (Fan motor 1 is white plug) Ohm out connections. U-V, U-W, V-W. The resistance value between each winding should be equal, under 10Ω and open to ground.
7. Remove fan connections from the board and connect inverter checker to Fan PCB, if all values are within range.
8. Press K2 button 11 times to initiate the inverter test for fan motor 1.
 - If the inverter test fails, replace Fan PCB.
 - If it passes, replace fan motor.



To see a video demonstration of this troubleshooting technique, click **PLAY VIDEO** below.

PLAY VIDEO



! IMPORTANT

Before reconnecting wire harnesses, leave the unit powered off for 15 to 20 minutes.

E487 ERROR CODE

“HALL” SENSOR (RPM SENSOR) IN OUTDOOR FAN MOTOR 1

Revision Date: 1/13/2025

Subject: E487 Error Code

Models: VRF, CHILLER

Title: “Hall” Sensor (RPM Sensor) in Outdoor Fan Motor 1

TROUBLESHOOTING STEPS: CONDENSER WITH 2 FANS

1. Remove power to the condensing unit for a minimum of 15 minutes.
2. Inspect the fan blade and make sure there are no obstructions.
3. Verify blade spins freely
4. There are two plug connections for each fan motor. Power (red, white, and black) and hall effect sensor (See fan motor connector image).
5. Follow and inspect wiring; verify there is no damage to wires or plugs.
6. Make sure all plugs and spade connectors are secure and connected properly.
7. Disconnect power plug (Fan motor 1 is white plug, Fan motor 2 is blue plug), check resistance at plug going to Fan motor. Red to White, White to Black, Red to Black. The resistance value between each winding should be equal, under 10Ω and open to ground.
8. Reverse connector plugs to fan motor 1 and fan motor 2 (Fan motor and Hall Effect plug).
9. Restore power to the unit.
 - If the error E487 returns, replace fan PCB.
 - If the error changes to E387, replace fan motor.
 - If results are inconclusive, and you have an inverter checker tool, continue to inverter Fan PCB test.
10. Remove power from the unit for a minimum of 15 minutes.
11. Remove Fan connections from Fan PCB and connect inverter checker.
12. Restore power to unit. Press K2 button 11 times to initiate the inverter test for fan motor 1.
 - If the inverter test fails, replace Fan PCB.
 - If it passes, replace Fan motor.



Fan #1 is on the left-hand side of the unit.



Fan Motor Connector



Hall-Sensor Connector

To see a video demonstration of this troubleshooting technique, click PLAY VIDEO below.



E487 ERROR CODE

100227

3/2026

"HALL" SENSOR (RPM SENSOR) IN OUTDOOR FAN MOTOR 1

TROUBLESHOOTING STEPS: CONDENSER WITH 1 FAN

1. Remove power to the condensing unit for a minimum of 15 minutes.
2. Inspect the fan blade and make sure there are no obstructions.
3. Verify blade spins freely.

NOTE: There are two plug connections for each fan motor. Power (red, white, and black) and hall effect sensor (See fan motor connector image).

4. Follow and inspect wiring. Verify there is no damage to wires or plugs.
5. Make sure all plugs and spade connectors are secure and connected correctly.
6. Disconnect power plug (Fan motor1 is white plug), check resistance at plug going to Fan motor. Red to White, White to Black, Red to Black. The resistance value between each winding should be equal, under 10Ω and open to ground.
If all values are within range, remove fan connections from board and connect inverter checker to Fan PCB.
7. Press K2 button 11 times to initiate the inverter test for fan motor 1.
 - If the inverter test fails, replace Fan PCB.
 - If it passes, replace Fan motor.



To see a video demonstration of this troubleshooting technique, click PLAY VIDEO below.



! IMPORTANT

Before reconnecting wire harnesses, leave the unit powered off for 15 to 20 minutes.

E489 ERROR CODE

ODU FAN MOTOR 1 STOPPED DUE TO OVERLOAD

Revision Date: 1/13/2025

Subject: E489 Error Code

Models: VRF, CHILLER

Title: ODU Fan Motor 1 Stopped Due to Overload

TROUBLESHOOTING STEPS: CONDENSER WITH 2 FANS

1. Remove power to the condensing unit for a minimum of 15 minutes.
2. Inspect the fan blade and make sure there are no obstructions.
3. Verify blade spins freely

NOTE: There are two plug connections for each fan motor. Power (red, white, and black) and hall effect sensor (See fan motor connector image).

4. Follow and inspect wiring. Make sure there is no damage to wires or plugs.
5. Make sure all plugs and spade connectors are secure and connected properly.
6. Disconnect power plug (Fan motor 1 is white plug, Fan motor 2 is blue plug), check resistance at plug going to Fan motor. Red to White, White to Black, Red to Black. The resistance value between each winding should be equal, under 10Ω and open to ground.
7. Reverse connector plugs to fan motor 1 and fan motor 2 (Fan motor and Hall Effect plug).
8. Restore power to the unit.
 - If the error E489 returns, replace fan PCB.
 - If the error changes to E389, replace fan motor.
 - If results are inconclusive, and you have an inverter checker tool, continue to inverter Fan PCB test.
9. Remove power from the unit for a minimum of 15 minutes.
10. Remove Fan connections from Fan PCB and connect inverter checker.
11. Restore power to unit. Press K2 button 11 times to initiate the inverter test for fan motor 1.
 - If the inverter test fails, replace Fan PCB.
 - If it passes, replace Fan motor



Fan #1 is on the left-hand side of the unit.



To see a video demonstration of this troubleshooting technique, click PLAY VIDEO below.



E489 ERROR CODE

ODU FAN MOTOR 1 STOPPED DUE TO OVERLOAD

100227

3/2026

TROUBLESHOOTING STEPS: CONDENSER WITH 1 FAN

1. Remove power to the condensing unit for a minimum of 15 minutes.
2. Inspect the fan blade and make sure there are no obstructions.
3. Verify blade spins freely.

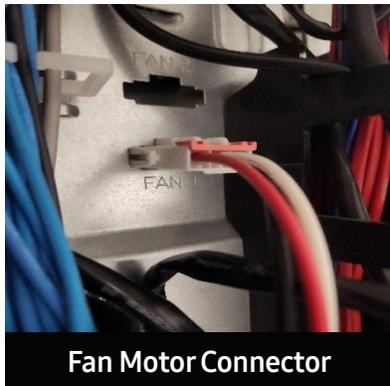
NOTE: There are two plug connections for each fan motor. Power (red, white, and black) and hall effect sensor (See fan motor connector image).

4. Follow and inspect wiring. Verify there is no damage to wires or plugs.
5. Make sure all plugs and spade connectors are secure and connected correctly.
6. Disconnect power plug (Fan motor1 is white plug), check resistance at plug going to Fan motor.

NOTE: Red to White, White to Black, Red to Black. The resistance value between each winding should be equal, under 10Ω and open to ground.

If all values are within range, remove fan connections from board and connect inverter checker to Fan PCB.

7. Press K2 button 11 times to initiate the inverter test for fan motor 1.
 - If the inverter test fails, replace Fan PCB.
 - If it passes, replace Fan motor.



To see a video demonstration of this troubleshooting technique, click PLAY VIDEO below.



! IMPORTANT

Before reconnecting wire harnesses, leave the unit powered off for 15 to 20 minutes.

E496 ERROR CODE

100227

DC LINK VOLTAGE SENSOR ERROR IN FAN PCB

3/2026

Revision Date:12/13/2024

Subject: E496 Error Code

Models: VRF, CHILLER

Title: DC Link Voltage Sensor Error in Fan PCB

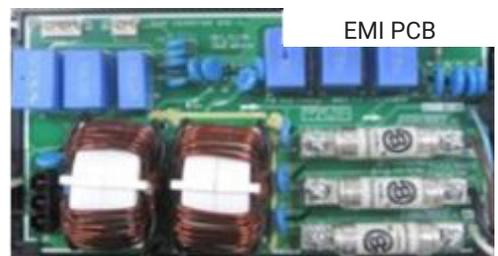
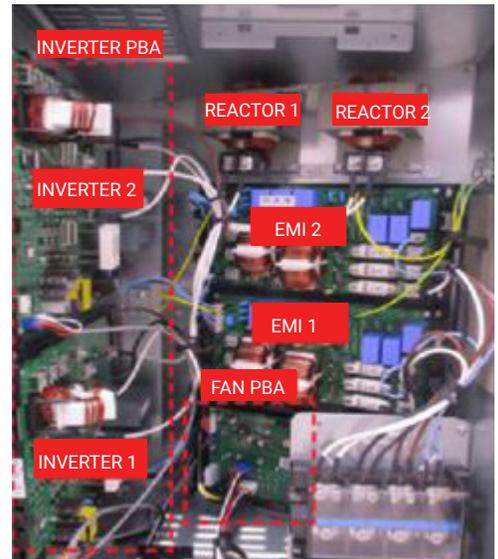
ISSUE

DC Link Voltage Sensor Error in Fan PCB – DC Link Voltage error
(Determined by Fan PCB DC Link Voltage Sensor)

TROUBLESHOOTING STEPS

230V HEAT PUMP AND HEAT RECOVERY DIAGNOSTICS

1. Check the Incoming Voltage (208/230Vac ± 10%)
2. Power the unit OFF for 15-20 minutes before continuing to step 3
3. Check Fuses on EMI PCB
4. Remove the wires on the Reactor coil and ohm the Reactor (resistance value should be less than 5 ohms, open to ground on each leg)
5. Disconnect DC Link Voltage connector from the FAN PCB (leave connected to Inverter PCB)
6. Move the disconnected end of the DC Link Voltage harness to a safe location so voltage can be tested from White to Yellow when power is applied.
7. Restore power to unit and check for proper DC Link Voltage



DC Link voltage is sent from the Inverter PCB to the Fan PCB for both 230 & 460V Heat Pumps)

DC Link Voltage Connector (Yellow to White Wire)

To calculate for the correct DC link voltage, multiply incoming AC power by 1.41

Example:

Incoming Voltage x 1.41 = DC Link Voltage

230Vac x 1.41 = 324.3 Vdc (DC Link Voltage)

460Vac x 1.41 = 648.6 Vdc (DC Link Voltage)

E496 ERROR CODE

DC LINK VOLTAGE SENSOR ERROR IN FAN PCB

RESULTS

- > If incoming voltage is incorrect, correct supply voltage (208/230 Vac ± 10%)
- > If EMI PCB has an open fuse, replace the EMI PCB
- > If the Reactor is open or short to ground, replace the Reactor
- > If DC Link Voltage is accurate, replace Fan PCB (DC Link Voltage sensor in Fan PCB is faulty)
- > If supply power, EMI Fuses, and Reactor test within range, but DC Link Voltage is under 150Vdc, replace
- > Inverter 1 and Fan PCB

! IMPORTANT

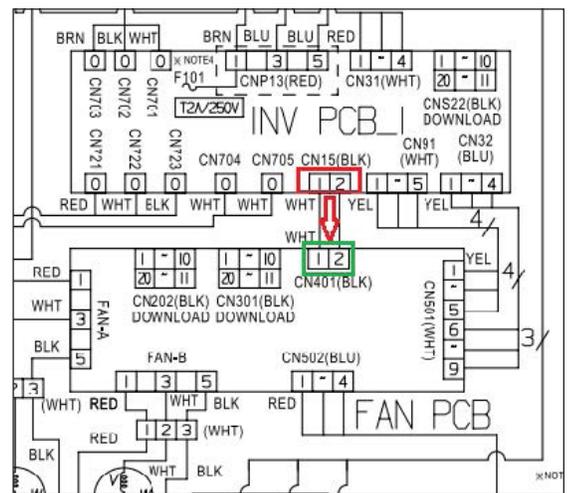
Before reconnecting wire harnesses or DC link voltage, leave the unit powered off for 15 to 20 minutes.

460V Heat Pump and Heat Recovery Diagnostics

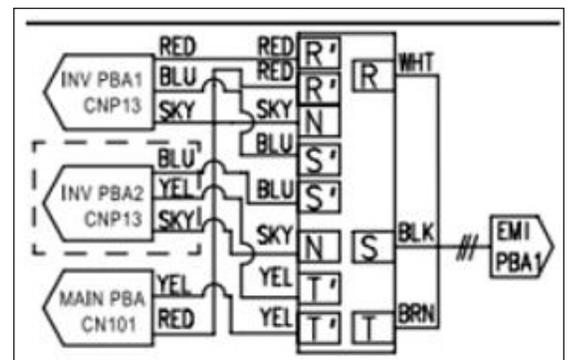
1. Check Incoming Voltage (460Vac ± 10%).
 2. Check the Voltage at the Transformer (Primary 460V, Secondary 230V).
- NOTE:** The Transformer is in the lower left side of the unit near compressor 1. It is not located in the control board cabinet.
3. Power the unit OFF for 15-20 minutes before continuing to step 4.
 4. Test the fuses on the EMI PCB.
 5. Remove the wires on the Reactor coil and ohm the Reactor (resistance value should be less than 5 ohms, open to ground on each leg).
 6. Disconnect DC Link Voltage connector from the FAN PCB (leave connected to Inverter PCB).
 7. Move the disconnected end of the DC Link Voltage harness to a safe location so voltage can be tested from White to Yellow when power is applied.
 8. Restore power to the unit and check DC Link Voltage.

RESULTS

- > If incoming voltage is incorrect, correct supply voltage (460Vac ± 10%).
- > If EMI PCB has an open fuse, replace the EMI PCB.
- > If the Reactor is open or short to ground, replace the Reactor.
- > If DC Link Voltage is accurate, replace Fan PCB (DC Link Voltage sensor in Fan PCB is faulty).
- > If supply power, EMI Fuses, and Reactor test within range, but DC Link Voltage is under 150Vdc, replace Inverter 1 and Fan PCB.



460V to 230V Transformer



! IMPORTANT

Before reconnecting wire harnesses or DC link voltage, leave the unit powered off for 15 to 20 minutes.

E665 ERROR CODE
INDOOR UNIT DRAIN PUMP ERROR

100227
3/2026

Revision Date:2/3/2025

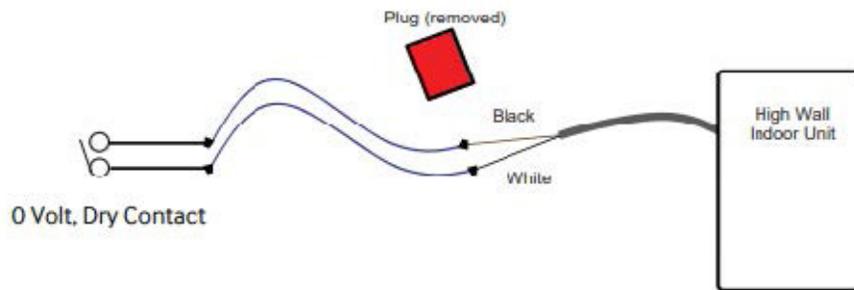
Subject: E665 Error Code

Models: WALL MOUNT MODELS WITH 3RD PARTY DRAIN PUMP INSTALLED

Title: Indoor Unit Drain Pump Error

TROUBLESHOOTING STEPS

1. Remove power to the unit for 15-20 minutes before continuing to the next step.
2. Disconnect condensate pump wires from the Black and White wire, use multimeter to ensure there is continuity present showing a closed circuit through your condensate pump float.
3. Inspect the condensate line, is there any kink or blockage?
4. Reconnect condensate wires and restore power to the unit.
 - If continuity is present through condensate float switch and E665 returns, troubleshoot PCB.
 - If the reservoir fills with water and is not removed by condensate pump, replace condensate pump.



E911 ERROR CODE

100227

WATER FLOW SWITCH "OPEN" ERROR

3/2026

Revision Date:12/13/2024

Subject: E911 Error Code

Models: CHILLER

Title: Water Flow Switch "Open" Error

ISSUE

Water flow switches "Open" Error. Less water flows than the minimum water flow. Check the pump's state of the operation. The system will check for water flow 6 times before hard lockout.

TROUBLESHOOTING STEPS

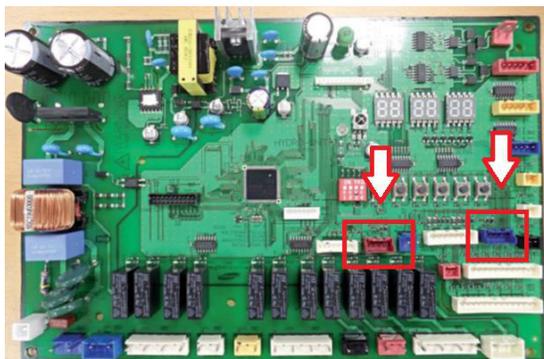
1. Make sure the water circulating pump is operating
2. Check pressure drop across heat exchanger and verify proper gallons per minute (GPM) are flowing through heat exchanger. Refer to Technical Data Book (TDB) for pressure drop charts
3. Verify there are no closed flow control valves, isolation valves or bypass valves
4. Verify that strainer is clear
5. After verifying proper water flow, locate and test pressure transducers for inlet and outlet of heat exchanger located on the hydro board utilizing transducer charts below

HIGH PRESSURE TABLE

HIGH PRESSURE							
VOUT	PSIG	VOUT	PSIG	VOUT	PSIG	VOUT	PSIG
0.5	0	1.5	181	2.5	363	3.5	544
0.6	18	1.6	199	2.6	381	3.6	562
0.7	36	1.7	218	2.7	399	3.7	580
0.8	54	1.8	236	2.8	417	3.8	598
0.9	73	1.9	254	2.9	435	3.9	616
1.0	91	2.0	272	3.0	453	4.0	635
1.1	109	2.1	290	3.1	471	4.1	653
1.2	127	2.2	308	3.2	490	4.2	671
1.3	145	2.3	326	3.3	508	4.3	689
1.4	163	2.4	344	3.4	526	4.4	707
						4.5	725

LOW PRESSURE TABLE

LOW PRESSURE							
VOUT	PSIG	VOUT	PSIG	VOUT	PSIG	VOUT	PSIG
0.5	0	1.5	73	2.5	145	3.5	218
0.6	7	1.6	80	2.6	152	3.6	225
0.7	15	1.7	87	2.7	160	3.7	232
0.8	22	1.8	94	2.8	167	3.8	239
0.9	29	1.9	102	2.9	174	3.9	247
1.0	36	2.0	109	3.0	181	4.0	254
1.1	44	2.1	116	3.1	189	4.1	261
1.2	51	2.2	123	3.2	196	4.2	268
1.3	58	2.3	131	3.3	203	4.3	276
1.4	65	2.4	138	3.4	210	4.4	283
						4.5	290



⑥ CN402-PRESSURE SENSOR

#1 :

#2: PHE IN SIGNAL

#3: GND

#4: 5V

Molex Pin Connections

E913 ERROR CODE
WATER FLOW SWITCH ERROR

100227
3/2026

Revision Date:12/16/2024
Subject: E913 Error Code
Models: CHILLER
Title: Water Flow Switch Error

ISSUE

System will not restart because "Water flow switch error" has been detected 6 times.

TROUBLESHOOTING STEPS

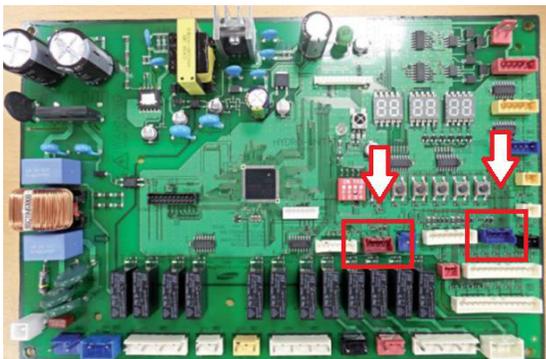
1. Make sure the water circulating pump is operating
2. Check pressure drop across heat exchanger and verify proper gallons per minute (GPM) are flowing through heat exchanger. Refer to Technical Data Book (TDB) for pressure drop charts
[CLICK HERE FOR CHILLER TDB](#)
3. Verify there are no flow control valves, isolation valves or bypass valves closed.
4. Verify is strainer is clear.
5. After verifying proper water flow, locate and test pressure transducers for inlet and outlet of heat exchanger located on the hydro board utilizing transducer charts below.

HIGH PRESSURE TABLE

HIGH PRESSURE							
VOUT	PSIG	VOUT	PSIG	VOUT	PSIG	VOUT	PSIG
0.5	0	1.5	181	2.5	363	3.5	544
0.6	18	1.6	199	2.6	381	3.6	562
0.7	36	1.7	218	2.7	399	3.7	580
0.8	54	1.8	236	2.8	417	3.8	598
0.9	73	1.9	254	2.9	435	3.9	616
1.0	91	2.0	272	3.0	453	4.0	635
1.1	109	2.1	290	3.1	471	4.1	653
1.2	127	2.2	308	3.2	490	4.2	671
1.3	145	2.3	326	3.3	508	4.3	689
1.4	163	2.4	344	3.4	526	4.4	707
						4.5	725

LOW PRESSURE TABLE

LOW PRESSURE							
VOUT	PSIG	VOUT	PSIG	VOUT	PSIG	VOUT	PSIG
0.5	0	1.5	73	2.5	145	3.5	218
0.6	7	1.6	80	2.6	152	3.6	225
0.7	15	1.7	87	2.7	160	3.7	232
0.8	22	1.8	94	2.8	167	3.8	239
0.9	29	1.9	102	2.9	174	3.9	247
1.0	36	2.0	109	3.0	181	4.0	254
1.1	44	2.1	116	3.1	189	4.1	261
1.2	51	2.2	123	3.2	196	4.2	268
1.3	58	2.3	131	3.3	203	4.3	276
1.4	65	2.4	138	3.4	210	4.4	283
						4.5	290



⑥ CN402-PRESSURE SENSOR

#1 :

#2: PHE IN SIGNAL

#3: GND

#4: 5V

Molex Pin Connections

E918 ERROR CODE
PUMP INTERLOCK MALFUNCTION

100227
3/2026

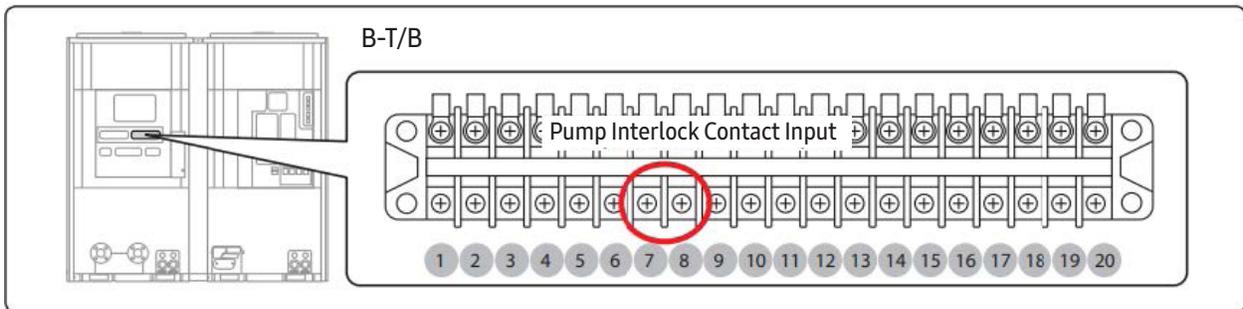
Revision Date:12/16/2024
Subject: E918 Error Code
Models: CHILLER
Title: Pump Interlock Malfunction

TROUBLESHOOTING STEPS

1. Make sure the pump is operating.
2. Verify that there is a closed connection attached on the dry contact at terminals 7 and 8 on the B-terminal block.

NOTE: There must be a closed connection when pump is running.

3. Test device they have connected to verify pump operation. This device is field supplied. Examples of field supplied connections: flow switch, current transformer or pump interlock.



“UP” on CONDENSER DISPLAY

100227
3/2026

Revision Date: 2/14/2025

Subject: “UP” on Condenser Display

Models: VRF, WATER, MMPD, MMLD Single Zone

VRF and WATER Auto Trial Operation “UP”:

1. Normal operation will be prohibited if the Auto Trial Operation is not completed.

NOTE: When the auto trial operation is not completed, UP (Unprepared) will appear on the segment display after the communication check and restrict the compressor from operating. (UP Mode will be cleared automatically when auto trial mode is completed.)

2. To start the Auto Trial, Press and hold K1 one time as shown in Table 1 below:

NOTE: Auto Trial operation may take 20 minutes to a maximum of 2 hours depending on the operation status.



Table 1: Setting key operation and checking the view mode with tact switch

K1 Control	Key Operation	Display On Segment
Press and hold 1 time	Auto trial operation	“K” “K” “BLANK” “BLANK”

3. Failure of Auto Check: An error code (Ex. E190) blinks on the display. Resolve the error by referring to the details on the troubleshooting table in the installation manual about how to troubleshoot for each error code and then perform the Auto Check again.

“UP” on CONDENSER DISPLAY
MMPD, MMLD Single Zone Auto Check Operation “UP”:

Table 1: Setting key operation and checking the view mode with tact switch This is a self-diagnosis function to determine the installation status and product integrity of the initial installation. This model requires the Auto Check to be implemented in the installation step before its normal operation is initiated.

1. Verify control connections and supply power to the unit, ensure service valves are fully open, and refrigerant charge is correct.
2. After applying power, wait for “UP” to be displayed indicating an auto check has not been performed.
3. Press the K2 button 7 times to initiate Auto- Check
 - During the Auto Check, the display will show “KE” BLANK” “BLANK”.
 - This will take 10 to 30 minutes to complete
 - Upon successful completion the display will show “PASS”.

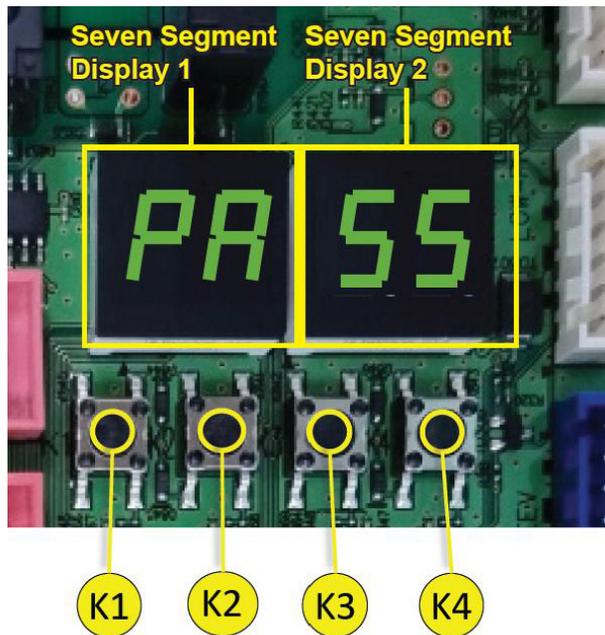
Key	Push Type	Mode	Display				
			SEG 1	SEG 2	SEG 3	SEG 4	
K1	Short	1st	Heating Test Mode	1	1		
		2nd	Defrost Mode ¹⁾	1	3		
		3rd	End Key Operation				
K2	Short	1st	Cooling Test Mode	1	2		
		2nd	Inverter Check	1	4		
		3rd	Pump Down	1	6		
		4th	Not Used/No Function	1	8		
		5th	Inverter Fault Detection (Comp #1) ²⁾	1	A		
		6th	Auto Trial Operation	1	E		
		7th	Auto Check ³⁾ (Installation Commissioning Mode)	1	E		
8th	End Key Operation						
K3	Short	1st	Reset Release Eco Mode				

4. Press the K1 to place the system into standby mode for normal operation. PASS will disappear and 0000 will be displayed for normal operation/standby mode.

"UP" on CONDENSER DISPLAY

100227

3/2026



These photos may not represent your exact system.

5. Failure of Auto Check: An error code (Ex. E190) blinks on the display. Resolve the error by referring to the details on the troubleshooting table in the installation manual about how to troubleshoot for each error code and then perform the Auto Check again.

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MINI-SPLITS ERROR CODES

100227

3/2026

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