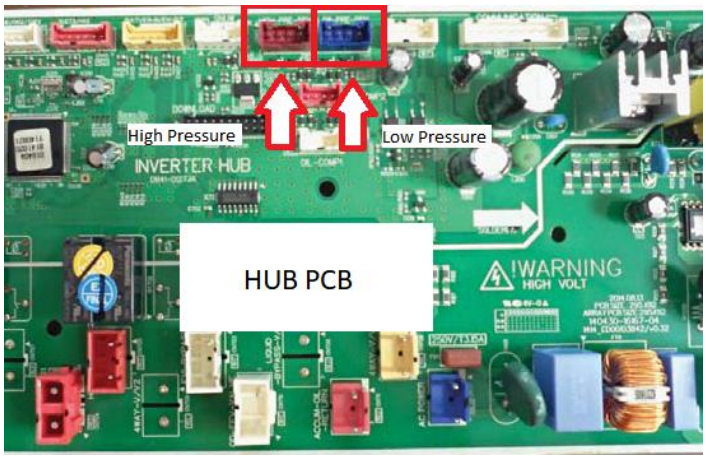
Revision Date: 1/13/2025
Subject: E439 Error Code
Models: DVM, ECO, CHILLER, WATER
Title: Refrigerant Leak Error

Judgement 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.



4. 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.
5. Locate and repair leaks, conduct triple evacuation process and weigh in charge per install manual or DVM pro file.

***Molex connection on circuit board will be in a different location across models.**

***Check wiring diagram to ensure proper location.**

Low Pressure		Low Pressure		Low Pressure		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

Low pressure chart

High Pressure		High Pressure		High Pressure		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

High pressure chart

Saturation Pressure-Temperature Data for R-410A (psig)*

Temp. (°F)	Pressure Liquid	Pressure Vapor	Temp. (°C)	Temp. (°F)	Pressure Liquid	Pressure Vapor	Temp. (°C)	Temp. (°F)	Pressure Liquid	Pressure Vapor	Temp. (°C)	Temp. (°F)	Pressure Liquid	Pressure Vapor	Temp. (°C)
-49	5.5	5.4	-45.0	1	49.7	49.5	-17.2	51	145.8	145.2	10.6	101	323.1	322.1	38.3
-48	6.0	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	40.0
-45	7.7	7.6	-42.8	5	55.2	54.9	-15.0	55	156.5	156.0	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	58.0	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	10.0	-40.6	9	60.9	60.7	-12.8	59	167.8	167.2	15.0	109	361.4	360.4	42.8
-40	10.8	10.7	-40.0	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	12.0	-38.9	12	65.5	65.2	-11.1	62	176.7	176.0	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	179.0	17.2	113	381.8	380.7	45.0
-36	13.4	13.3	-37.8	14	68.6	68.4	-10.0	64	182.7	182.1	17.8	114	387.0	385.9	45.6
-35	14.1	14.0	-37.2	15	70.3	70.0	-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	403.0	401.9	47.2
-32	16.3	16.2	-35.6	18	75.2	74.9	-7.8	68	195.3	194.6	20.0	118	408.4	407.3	47.8
-31	17.1	16.9	-35.0	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	425.0	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	50.0
-27	20.2	20.1	-32.8	23	84.0	83.7	-5.0	73	211.8	211.1	22.8	123	436.4	435.2	50.6
-26	21.0	20.9	-32.2	24	85.8	85.5	-4.4	74	215.2	214.5	23.3	124	442.1	441.0	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	25.0	127	459.8	458.6	52.8
-22	24.5	24.4	-30.0	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	95.0	-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	97.0	-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	-0.6	81	240.2	239.4	27.2	131	484.1	483.0	55.0
-18	28.2	28.1	-27.8	32	101.4	101.1	0.0	82	244.0	243.2	27.8	132	490.3	489.2	55.6
-17	29.2	29.0	-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	30.0	-26.7	34	105.6	105.2	1.1	84	251.6	250.7	28.9	134	503.0	501.9	56.7
-15	31.2	31.0	-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	32.0	-25.6	36	109.9	109.5	2.2	86	259.3	258.5	30.0	136	515.9	514.8	57.8
-13	33.2	33.1	-25.0	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	528.0	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	60.0
-9	37.6	37.4	-22.8	41	121.1	120.7	5.0	91	279.5	278.6	32.8	141	549.3	548.3	60.6
-8	38.7	38.5	-22.2	42	123.4	123.0	5.6	92	283.6	282.7	33.3	142	556.2	555.2	61.1