

Allied HVAC Distributors

Technical Service Tip (AST 001-15)

RUUD HEAT PUMP – Possible Defrost Sensor Issue

It has recently been brought to Allied HVAC's attention that there has been an increased number of defrost related problems across most of the RUUD Heat Pump model's , the problem manifests itself as a unit that will not go into defrost. The problem we believe is contributed to a faulty defrost coil sensor that when exposed to moisture will read out of range and not allow defrost to initiate. When dry the sensor may read correctly and test properly. At this time we have not been notified of a date range of units that these sensors were supplied in.

The affected sensors are SILVER in color and were only used on the manufacturer's production line, they have not been used or supplied in replacement parts. (Both SILVER and BRASS colored sensors were used on the manufacturer's production line)

The replacement sensors that are available as single parts or come with a replacement defrost board and are BRASS in color and are not affected by the moisture problem.

The replacement part # for sensor only is 47-102710-02

If you are servicing a RUUD Heat Pump that appears to not be defrosting and has the SILVER colored sensor you may wish to check the operation of the sensor before condemning the entire defrost board. Attached is the ohms readings chart for your convenience and it may also be found under the Tech Support tab at www.alliedheatingac.com

If you have any questions please contact me at:

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DEFROST RESISTANCE VS. TEMPERATURE											
Temp	Ohms	Temp	Ohms	Temp	Ohms	Temp	Ohms	Temp	Ohms	Temp	Ohms
-10	118,050	38	27,586	86	8,057	134	2,808	182	1,128	229	518
-9	114,230	39	26,831	87	7,868	135	2,751	183	1,108	230	510
-8	110,540	40	26,099	88	7,685	136	2,696	184	1,089	231	502
-7	106,990	41	25,390	89	7,506	137	2,642	185	1,070	232	494
-6	103,560	42	24,703	90	7,332	138	2,589	186	1,051	233	487
-5	100,260	43	24,036	91	7,163	139	2,538	187	1,033	234	479
-4	97,070	44	23,390	92	6,998	140	2,488	188	1,015	235	472
-3	93,994	45	22,763	93	6,838	140	2,438	189	997	236	465
-2	91,027	46	22,155	94	6,682	142	2,390	190	980	237	458
-1	88,162	47	21,566	95	6,530	143	2,343	191	963	238	451
0	85,398	48	20,994	96	6,381	144	2,297	192	947	239	445
1	82,730	49	20,439	97	6,237	145	2,252	193	931	240	438
2	80,154	50	19,900	98	6,097	146	2,208	194	915	241	431
3	77,668	51	19,377	99	5,960	147	2,166	195	899	242	425
4	75,268	52	18,870	100	5,827	148	2,124	196	884	243	419
5	72,950	53	18,377	101	5,697	149	2,083	197	869	244	412
6	70,712	54	17,899	102	5,570	150	2,042	198	855	245	406
7	68,550	55	17,435	103	5,447	151	2,003	199	841	246	400
8	66,462	56	16,985	104	5,327	152	1,965	200	827	247	395
9	64,444	57	16,546	105	5,209	153	1,927	201	813	248	389
10	62,495	58	16,122	106	5,095	154	1,891	202	799	249	383
11	60,611	59	15,710	107	4,983	155	1,855	203	786	250	378
12	58,791	60	15,309	108	4,875	156	1,820	204	773	251	372
13	57,031	61	14,920	109	4,768	157	1,785	205	761	252	367
14	55,350	62	14,542	110	4,665	158	1,752	206	748	253	361
15	53,685	63	14,175	111	4,564	159	1,719	207	736	254	356
16	52,095	64	13,818	112	4,466	160	1,686	208	724	255	351
17	50,557	65	13,472	113	4,370	161	1,655	209	712	256	346
18	49,070	66	13,135	114	4,276	162	1,624	210	700	257	341
19	47,632	67	12,808	115	4,184	163	1,593	211	689	258	336
20	46,240	68	12,490	116	4,095	164	1,564	212	678	259	332
21	44,894	69	12,181	117	4,008	165	1,535	213	667	260	327
22	43,591	70	11,881	118	3,923	166	1,506	214	656	261	322
23	42,330	71	11,589	119	3,840	167	1,479	215	646	262	318
24	41,110	72	11,305	120	3,759	168	1,451	216	635	263	313
25	39,929	73	11,030	121	3,680	169	1,425	217	625	264	309
26	38,785	74	10,761	122	3,603	170	1,399	218	615	265	305
27	37,678	75	10,501	123	3,527	171	1,374	219	606	266	300
28	36,607	76	10,247	124	3,454	172	1,349	220	596	267	296
29	35,569	77	10,000	125	3,382	173	1,324	221	587	268	292
30	34,565	78	9,759	126	3,312	174	1,301	222	578	269	288
31	33,592	79	9,526	127	3,243	175	1,277	223	569	270	284
32	32,650	80	9,268	128	3,177	176	1,255	224	560	271	280
33	31,738	81	9,077	129	3,111	177	1,232	225	551	272	276
34	30,854	82	8,862	130	3,048	178	1,210	226	542	273	273
35	29,998	83	8,653	131	2,986	179	1,189	227	534	274	269
36	29,168	84	8,449	132	2,925	180	1,168	228	526	275	265
37	28,364	85	8,250	133	2,866	181	1,148				

Affected Sensor Color (Silver Colored)



Replacement and unaffected sensor (Brass colored)

