th.09 — Leaving Condenser Reclaim Thermistor

Criteria for Trip — Tested when the unit is On or Off. This alarm is generated if the temperature measured by the sensor is outside the range of –40 F (–40 C) to 240 F (115.6 C). This alarm is for units with the heat reclaim option only.

Action to be Taken — None

Reset Method — Automatic, the alarm will reset once the thermistor reading is within the expected range.

Possible Causes — If this condition is encountered, check the following items:
- Check the sensor wiring to the heat reclaim board.
- Check for a faulty thermistor.
- Check the board for a faulty channel.
- Confirm unit configuration.

th.10 — OAT Thermistor Failure

Criteria for Trip — If the outdoor air temperature as measured by the thermistor is outside of the range –40 F (–40 C) to 240 F (115.6 C).

Action to be Taken — Unit shuts down under normal conditions or is not allowed to start. Temperature reset based on outdoor air temperature will be disabled.

The OAT sensor controls the cooler heaters. If this sensor fails, the cooler heaters will be energized when the machine stages to 0.

Reset Method — Automatic, the alarm will reset once the thermistor reading is within the expected range and Temperature reset based on outdoor-air temperature will be enabled.

Possible Causes — If this condition is encountered, check the following items:
- Check the sensor wiring to the main base board.
- Check for a faulty thermistor.

For thermistor descriptions, identifiers and connections, see Thermistors on this page.

th.11 — Master/Slave Common Fluid Thermistor

Criteria for Trip — This alarm criterion is checked whether the unit is ON or OFF and has been configured for Dual Chiller Control. The alarm will be triggered if the Dual Chiller Common Fluid temperature as measured by the thermistor is outside of the range –40 F (–40 C) to 240 F (115.6 C).

Action to be Taken — Dual Chiller Control disabled. Units operate as a stand-alone machine.

Reset Method — Automatic, once the thermistor reading is within the expected range. The Dual Chiller algorithm will resume once the alarm is cleared.

Possible Causes — If this condition is encountered, check the following items:
- Check the sensor wiring to the main base board.
- Check for a faulty thermistor.

For thermistor descriptions, identifiers and connections, see Thermistors on this page.

Suction Gas Thermistor

th.12 — Circuit A
th.13 — Circuit B
th.14 — Circuit C

Criteria for Trip — This alarm criterion is checked whether the unit is ON or OFF. If the suction gas temperature as measured by the thermistor is outside of the range –40 F (–40 C) to 240 F (115.6 C), the alarm will be triggered.

Action to be Taken — The affected circuit shuts down normally.

Reset Method — Automatic, once the thermistor reading is within the expected range. The affected circuit will restart once the alarm has cleared.

Possible Causes — If this condition is encountered, check the following items:
- Check the sensor wiring to the EXV board.
- Check the board for a faulty channel.
- Check for a faulty thermistor.

For thermistor descriptions, identifiers and connections, see Thermistors on this page.

Condenser Subcooling Liquid Thermistor

th.18 — Circuit A
th.19 — Circuit B

Criteria for Trip — Tested when the unit is On or Off. If the temperature as measured by the sensor is outside of the range of –40 F (–40 C) to 240 F (115.6 C). This alarm is for units with the heat reclaim option only.

Action to be Taken — The unit will return to the air cooled mode.

Reset Method — Automatic, the alarm will reset once the reading is within the expected range.

Possible Causes — If this condition is encountered, check the following items:
- Check the sensor wiring to the EMM HR.
- Check for a faulty thermistor.
- Confirm unit configuration.

th.21 — Space Temperature Sensor Failure

Criteria for Trip — This alarm criterion is checked whether the unit is ON or OFF and if Space Temperature Reset has been enabled. If the outdoor-air temperature as measured by the thermistor is outside of the range –40 F (–40 C) to 240 F (115.6 C), the alarm will be triggered.

Action to be Taken — Unit operates under normal control. Temperature Reset based on Space Temperature is disabled.

Reset Method — Automatic, once the thermistor reading is within the expected range. The Space Temperature Reset will resume once the alarm has cleared.

Possible Causes — If this condition is encountered, check the following items:
- Check the sensor wiring to the energy management module.
- Check the board for a faulty channel.
- Check for a faulty thermistor.

For thermistor descriptions, identifiers and connections, see Thermistors below.

Sensors — The electronic control uses up to six thermistors to sense temperatures and up to six transducers to sense pressure for controlling chiller operation. These sensors are outlined below.

Thermistors (Tables 45-46B) — Thermistors that are monitoring the chiller's operation include: cooler entering water, cooler leaving water, dual chiller leaving water, compressor suction gas temperature, and outside air thermistors. These thermistors are 5 kΩ at 77 F (25 C) and are identical in temperature versus resistance. The space temperature thermistor is 10 kΩ at 77 F (25 C) and has a different temperature vs. resistance.

COOLER LEAVING FLUID SENSOR — On all sizes, this thermistor is installed in a friction fit well in the leaving water nozzle of the cooler. See Fig. 34 and 35.

COOLER ENTERING FLUID SENSOR — On all sizes, this thermistor is factory-installed in a friction fit well in the entering water nozzle of the cooler.

DUAL CHILLER LWT — On duplex chillers, 30RB315-390, a factory-supplied, field-installed friction fit well and thermistor are installed in the common supply water header of the two modules.

COMPRESSOR RETURN GAS TEMPERATURE — This thermistor is factory-installed in a friction fit well located in the

common suction line for the circuit. There is one thermistor for each circuit.

OUTDOOR AIR TEMPERATURE — This sensor is factory-installed and is attached to the bottom of the condenser mounting rail.

REMOTE SPACE TEMPERATURE — This sensor (part no. 33ZCT55SPT) is a field-installed accessory mounted in the indoor space and is used for water temperature reset. The sensor should be installed as a wall-mounted thermostat would be (in the conditioned space where it will not be subjected to either a cooling or heating source or direct exposure to sunlight, and 4 to 5 ft above the floor).

Space temperature sensor wires are to be connected to terminals in the unit main control box. See Fig. 36. The space temperature sensor includes a terminal block (SEN) and a RJ11 female connector. The RJ11 connector is used access into the Carrier Comfort Network (CCN) at the sensor.

To connect the space temperature sensor (see Fig. 36):

1. Using a 20 AWG twisted pair conductor cable rated for the application, connect one wire of the twisted pair to one SEN terminal and connect the other wire to the other SEN terminal located under the cover of the space temperature sensor.
2. Connect the other ends of the wires to terminals 7 and 8 on TB6 located in the unit control box.

Units on the CCN can be monitored from the space at the sensor through the RJ11 connector, if desired. To wire the RJ11 connector into the CCN:

1. Cut the CCN wire and strip ends of the red (+), white (ground), and black (–) conductors. (If another wire color scheme is used, strip ends of appropriate wires.)
2. Insert and secure the red (+) wire to terminal 5 of the space temperature sensor terminal block.
3. Insert and secure the white (ground) wire to terminal 4 of the space temperature sensor.
4. Insert and secure the black (–) wire to terminal 2 of the space temperature sensor.

IMPORTANT: The cable selected for the RJ11 connector wiring MUST be identical to the CCN communication bus wire used for the entire network. Refer to Table 12 for acceptable wiring.

5. Connect the other end of the communication bus cable to the remainder of the CCN communication bus.

NOTE: The energy management module (EMM) is required for this accessory.

Table 45 — Thermistor Identification

THERMISTOR ID	DESCRIPTION	RESISTANCE AT 77 F (25 C)	CONNECTION POINT
EWT	Entering Water Thermistor	5k Ω	MBB-J6-CH2
LWT	Leaving Water Thermistor	5k Ω	MBB-J6-CH1
OAT	Outdoor Air Thermistor	5k Ω	MBB-J6-CH4
SGTA	Circuit A Suction Gas Thermistor	5k Ω	EXV1-J3-A, THA
SGTB	Circuit B Suction Gas Thermistor	5k Ω	EXV1-J3-B, THB
SGTC	Circuit C Suction Gas Thermistor	5k Ω	EXV2-J3-A, THA
DUAL	Dual Chiller LWT Thermistor	5k Ω	MBB-J6-CH3
SPT	Space Temperature Thermistor	10k Ω	EMM-J6-CH2

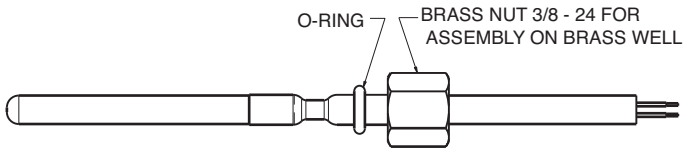


Fig. 34 — 5K Thermistor (P/N 30RB660036)

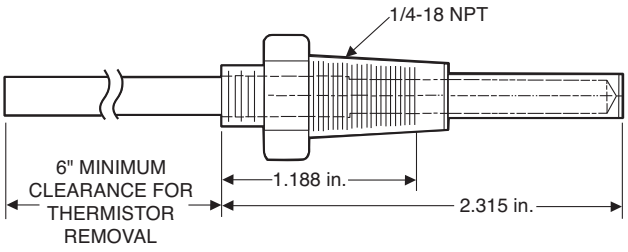


Fig. 35 — Entering and Leaving Dual Water Thermistor Well (P/N 00PPG000008000A)

Table 46A — 5K Thermistor Temperature (°F) vs Resistance

TEMP (F)	RESISTANCE (Ohms)
–25	98,010
–24	94,707
–23	91,522
–22	88,449
–21	85,486
–20	82,627
–19	79,871
–18	77,212
–17	74,648
–16	72,175
–15	69,790
–14	67,490
–13	65,272
–12	63,133
–11	61,070
–10	59,081
–9	57,162
–8	55,311
–7	53,526
–6	51,804
–5	50,143
–4	48,541
–3	46,996
–2	45,505
–1	44,066
0	42,679
1	41,339
2	40,047
3	38,800
4	37,596
5	36,435
6	35,313
7	34,231
8	33,185
9	32,176
10	31,202
11	30,260
12	29,351
13	28,473
14	27,624
15	26,804
16	26,011
17	25,245
18	24,505
19	23,789
20	23,096
21	22,427
22	21,779
23	21,153
24	20,547
25	19,960
26	19,393
27	18,843
28	18,311
29	17,796
30	17,297
31	16,814
32	16,346
33	15,892
34	15,453
35	15,027
36	14,614
37	14,214
38	13,826
39	13,449
40	13,084
41	12,730
42	12,387
43	12,053
44	11,730
45	11,416
46	11,112
47	10,816
48	10,529
49	10,250
50	9,979
51	9,717
52	9,461
53	9,213
54	8,973
55	8,739
56	8,511
57	8,291
58	8,076
59	7,686
60	7,665
61	7,468
62	7,277
63	7,091
64	6,911
65	6,735
66	6,564
67	6,399
68	6,238
69	6,081
70	5,929
71	5,781
72	5,637
73	5,497
74	5,361
75	5,229
76	5,101
77	4,976
78	4,855
79	4,737
80	4,622
81	4,511
82	4,403
83	4,298
84	4,196
85	4,096
86	4,000
87	3,906
88	3,814
89	3,726
90	3,640
91	3,556
92	3,474
93	3,395
94	3,318
95	3,243
96	3,170
97	3,099
98	3,031
99	2,964
100	2,898
101	2,835
102	2,773
103	2,713
104	2,655
105	2,597
106	2,542
107	2,488
108	2,436
109	2,385
110	2,335
111	2,286
112	2,239
113	2,192
114	2,147
115	2,103
116	2,060
117	2,018
118	1,977
119	1,937
120	1,898
121	1,860
122	1,822
123	1,786
124	1,750
125	1,715
126	1,680
127	1,647
128	1,614
129	1,582
130	1,550
131	1,519
132	1,489
133	1,459
134	1,430
135	1,401
136	1,373
137	1,345
138	1,318
139	1,291
140	1,265
141	1,240
142	1,214
143	1,190
144	1,165
145	1,141
146	1,118
147	1,095
148	1,072
149	1,050
150	1,029
151	1,007
152	986
153	965
154	945
155	925
156	906
157	887
158	868
159	850
160	832
161	815
162	798
163	782
164	765
165	750
166	734
167	719
168	705
169	690
170	677
171	663
172	650
173	638
174	626
175	614
176	602
177	591
178	581
179	570
180	561
181	551
182	542
183	533
184	524
185	516
186	508
187	501
188	494
189	487
190	480
191	473
192	467
193	461
194	456
195	450
196	445
197	439
198	434
199	429
200	424
201	419
202	415
203	410
204	405
205	401
206	396
207	391
208	386
209	382
210	377
211	372
212	367
213	361
214	356
215	350
216	344
217	338
218	332
219	325
220	318
221	311
222	304
223	297
224	289
225	282

Table 46B — 5K Thermistor Temperature (°C) vs Resistance/Voltage

TEMP (C)	RESISTANCE (Ohms)
–32	100,260
–31	94,165
–30	88,480
–29	83,170
–28	78,125
–27	73,580
–26	69,250
–25	65,205
–24	61,420
–23	57,875
–22	54,555
–21	51,450
–20	48,536
–19	45,807
–18	43,247
–17	40,845
–16	38,592
–15	38,476
–14	34,489
–13	32,621
–12	30,866
–11	29,216
–10	27,633
–9	26,202
–8	24,827
–7	23,532
–6	22,313
–5	21,163
–4	20,079
–3	19,058
–2	18,094
–1	17,184
0	16,325
1	15,515
2	14,749
3	14,026
4	13,342
5	12,696
6	12,085
7	11,506
8	10,959
9	10,441
10	9,949
11	9,485
12	9,044
13	8,627
14	8,231
15	7,855
16	7,499
17	7,161
18	6,840
19	6,536
20	6,246
21	5,971
22	5,710
23	5,461
24	5,225
25	5,000
26	4,786
27	4,583
28	4,389
29	4,204
30	4,028
31	3,861
32	3,701
33	3,549
34	3,404
35	3,266
36	3,134
37	3,008
38	2,888
39	2,773
40	2,663
41	2,559
42	2,459
43	2,363
44	2,272
45	2,184
46	2,101
47	2,021
48	1,944
49	1,871
50	1,801
51	1,734
52	1,670
53	1,609
54	1,550
55	1,493
56	1,439
57	1,387
58	1,337
59	1,290
60	1,244
61	1,200
62	1,158
63	1,118
64	1,079
65	1,041
66	1,006
67	971
68	938
69	906
70	876
71	836
72	805
73	775
74	747
75	719
76	693
77	669
78	645
79	623
80	602
81	583
82	564
83	547
84	531
85	516
86	502
87	489
88	477
89	466
90	456
91	446
92	436
93	427
94	419
95	410
96	402
97	393
98	385
99	376
100	367
101	357
102	346
103	335
104	324
105	312
106	299
107	285

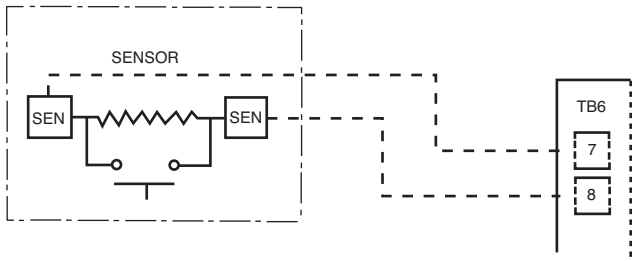


Fig. 36 — Typical Remote Space Temperature Sensor Wiring

Service Test — Main power and control circuit power must be on for Service Test.

The Service Test function is used to verify proper operation of various devices within the chiller, such as condenser fan(s), compressors, minimum load valve solenoid (if installed), cooler pump(s) and remote alarm relay. This is helpful during the start-up procedure to determine if devices are installed correctly. See Fig. 37-41 for 30RB wiring diagrams.

To use the Service Test mode, the Enable/Off/Remote Contact switch must be in the OFF position. Use the display keys to move to the Service Test mode. The items are described in the Service Test table. There are two sub-modes available. ***Service Test→T.REQ*** allows for manual control of the compressors and minimum load control. In this mode the compressors will operate only on command. The capacity control and head pressure control algorithms will be active. The condenser fans will operate along with the EXVs. There must be a load on the chiller of operate for an extended period of time. All circuit safeties will be honored during the test. ***Service Test→QUIC*** allows for test of EXVs, condenser fans, pumps, low ambient head pressure control speed control, crankcase and cooler heaters, and status points (alarm relays, running status and chiller capacity). This mode allows for the testing of non-refrigeration items. If there are no keys pressed for 5 minutes, the active test mode will be disabled.

To enter the Manual Control mode, the Enable/Off/Remote Contact switch must be in the OFF position. Move the LED to the Service Test mode. Press ENTER to access ***TEST***. Press ENTER to access ***T.REQ.*** Press ENTER and the display will show **OFF**. Press ENTER and **OFF** will flash. Enter the password if required. Use either arrow key to change the

T.REQ value to **ON** and press ENTER. Manual Control mode is now active. Press the arrow keys to move to the appropriate item. To activate an item locate the item, press ENTER and the display will show **OFF**. Press ENTER and **OFF** will flash. Use either arrow key to change the value to **ON** and press ENTER. The item should be active. To turn the item off, locate the item, press ENTER and the display will show **ON**. The chiller must be enabled by turning the Enable/Off/Remote Contact switch to Enable. Press ENTER and **ON** will flash. Use either arrow key to change the value to **OFF** and press ENTER. The item should be inactive.

To enter the Quick Test mode, the Enable/Off/Remote Contact switch must be in the OFF position. Move the LED to the Service Test mode. Press ENTER to access ***TEST***. Use the ▼ key until the display reads **QUIC**. Press ENTER to access ***Q.REQ***. Press ENTER and the display will show **OFF**. Press ENTER and **OFF** will flash. Enter the password if required. Use either arrow key to change the ***QUIC*** value to **ON** and press ENTER. Quick Test mode is now active. Follow the same instructions for the Manual Control mode to activate a component.

Example — Test the chilled water pump (see Table 47).

Power must be applied to the unit. Enable/Off/Remote Contact switch must be in the OFF position.

Table 47 — Testing the Chilled Water Pump

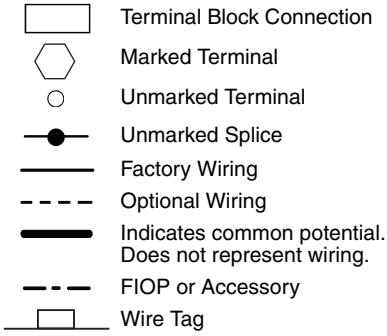
MODE (Red LED)	SUB-MODE	KEYPAD ENTRY	ITEM	DISPLAY EXPANSION	VALUE DESCRIPTION (Units)	COMMENT
SERVICE TEST		ENTER		Service Test Mode		
	TEST	↓		Manual Sequence		
	QUIC	ENTER	Q.REQ			
			PASS WORD			Password may be required
		ENTER			0111	
		ENTER ENTER ENTER ENTER				Each ENTER will lock in the next digit. If 0111 is not the password, use the arrow keys to change the password digit and press ENTER when correct.
		ENTER	Q.REQ			Returns to the original field
		ENTER			OFF	
		ENTER			OFF	OFF will flash
		↓			ON	The Enable/Off/Remote Contact switch must be in the OFF position.
		ESCAPE	Q.REQ			
		↓	EXV.A			
		↓	EXV.B			
		↓	PMP.1	Water Exchanger Pump 1		
		ENTER			OFF	
		ENTER			OFF	OFF will flash
		↓			ON	
		ENTER			ON	Pump 1 will turn on.
		ENTER			ON	ON will flash
		↓			OFF	
		ENTER			OFF	Pump 1 will turn off.

Test the condenser fans, cooler pump(s) and alarm relay by changing the item values from OFF to ON. These discrete outputs are then turned off if there is no keypad activity for 10 minutes. Test the compressor and minimum load valve solenoid (if installed) outputs in a similar manner. The minimum load valve solenoids will be turned off if there is no keypad activity for 10 minutes. Compressors will stay on until the operator turns them off. The Service Test mode will remain enabled for as long as there is one or more compressors running. All safeties are monitored during this test and will turn a compressor, circuit or the machine off if required. Any other mode or sub-mode can be accessed, viewed, or changed during the Manual Control mode only. The ***STAT*** item (***Run Status→VIEW***) will display "0" as long as the Service mode is enabled. The ***TEST*** sub-mode value must be changed back to OFF before the chiller can be switched to Enable or Remote contact for normal operation.

NOTE: There may be up to a one-minute delay before the selected item is energized.

LEGEND FOR FIG. 37-41

ALM R — Alarm Relay
ALT R — Alert Relay
CB — Circuit Breaker
CL-HT — Cooler Heater
CWFS — Chilled Water Flow Switch
DLSV — Discharge Line Soleniod Valve
DPT — Discharge Pressure Transducer
ECA — Entering Condenser
EMM — Energy Management Module
EXV — Electronic Expansion Valve
FIOP — Factory-Installed Option
FM — Fan Motor
HOA — Hand/Off/Auto
HOA-A — Hand/Off/Auto, Auto Setting
LCW — Leaving Condenser Water
LLSV — Liquid Line Soleniod Valve
LWT — Leaving Water Temperature
MLV — Minimum Load Valve
MM — Low Ambient Temperature Head Pressure Control
OAT — Outdoor Air Temperature
PDP — Pumpdown Pressure
PMP — Pump, Chilled Water
PMPI — Chilled Water Pump Interlock
RDY R — Ready Relay
RRB — Reverse Rotation Board
RUN R — Run Relay
SGT — Suction Gas Thermistor
SHD R — Shutdown Relay
SPM — Scroll Protection Module
SPT — Suction Pressure Transducer
TB — Terminal Block
TRAN — Transformer
UPC — Unitary Protocol Controller



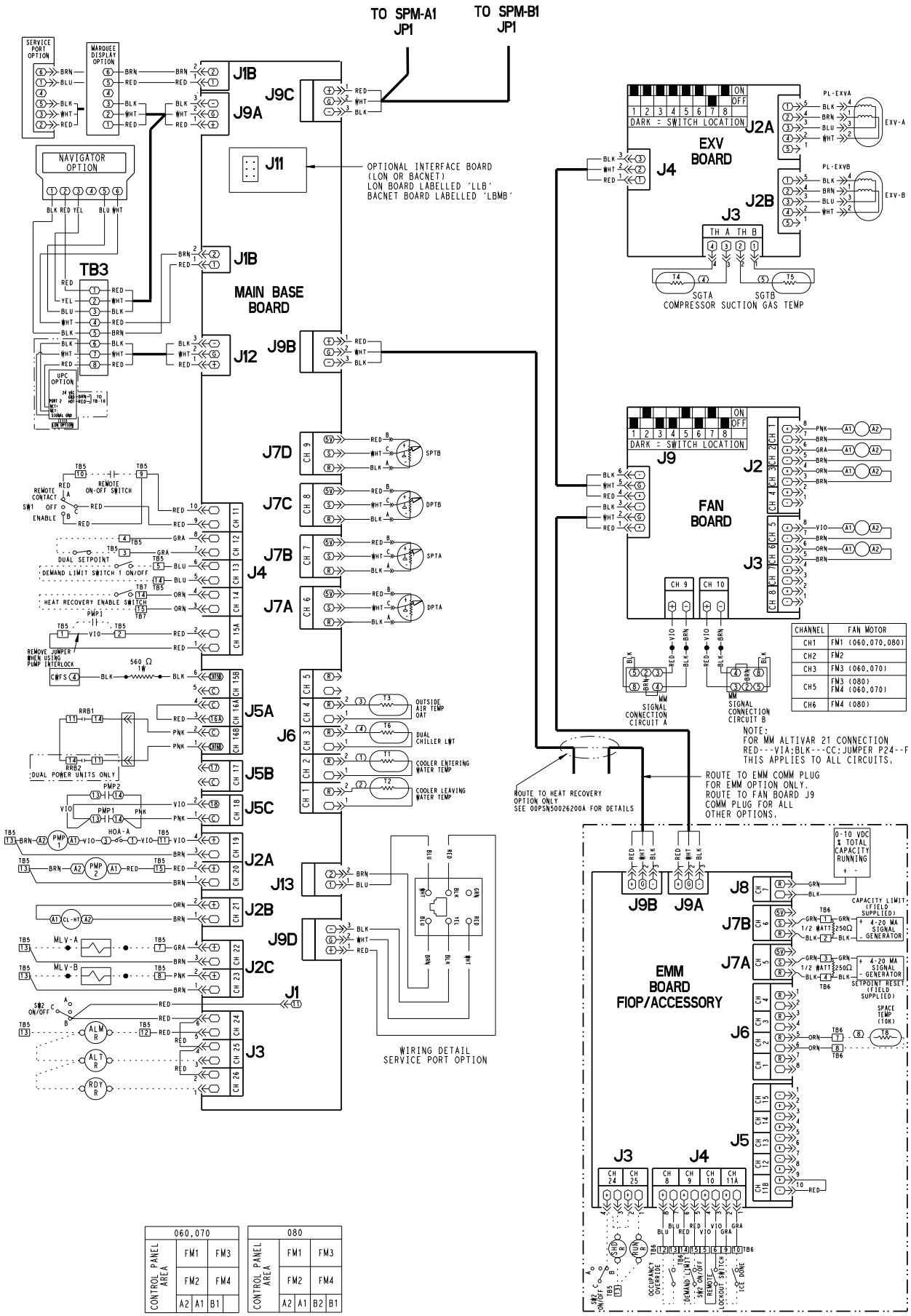


Fig. 37 — Control Schematic, 30RB060-080

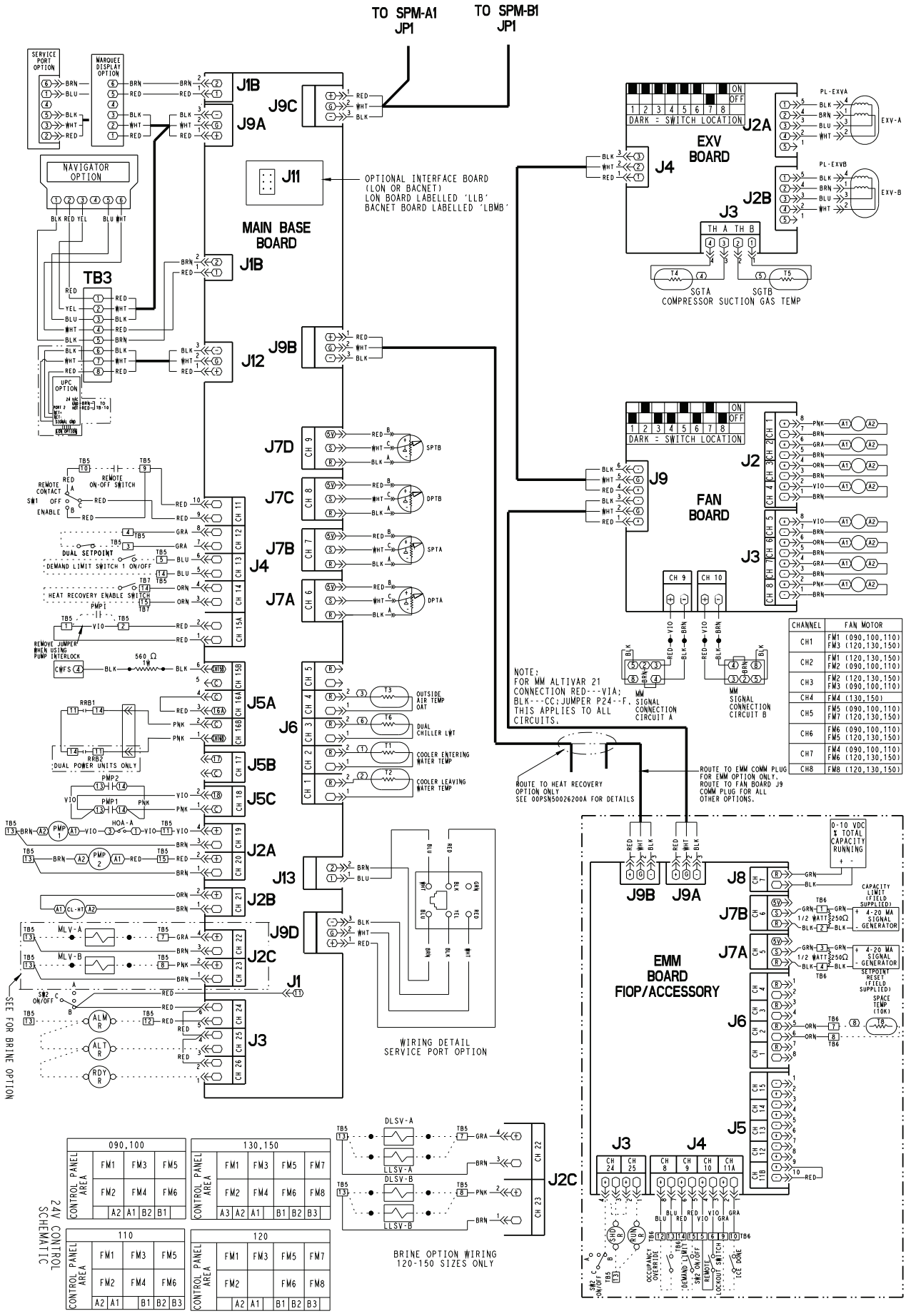


Fig. 38 — Control Schematic, 30RB090-150

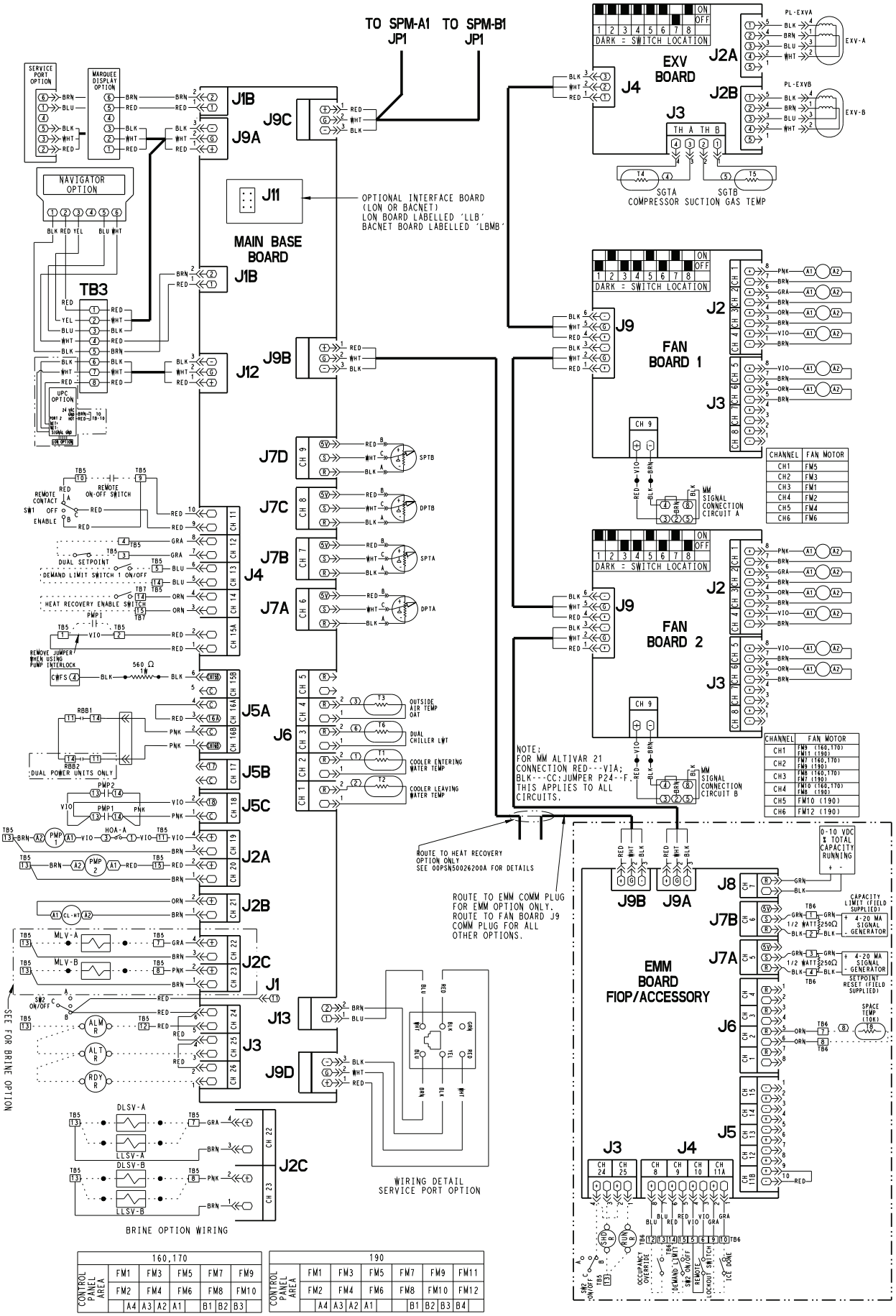


Fig. 39 — Control Schematic, 30RB160-190

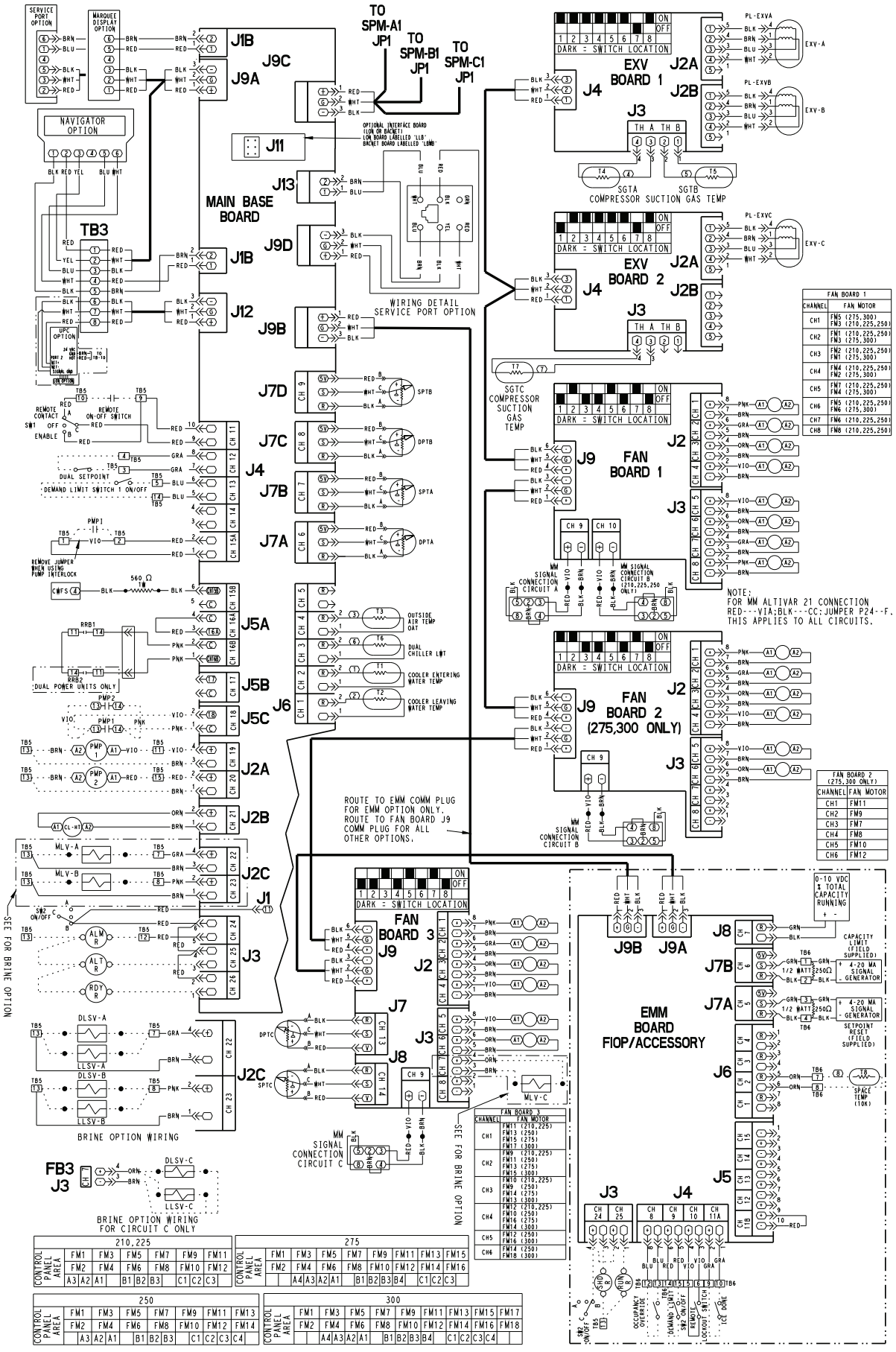


Fig. 40 — Control Schematic, 30RB210-300

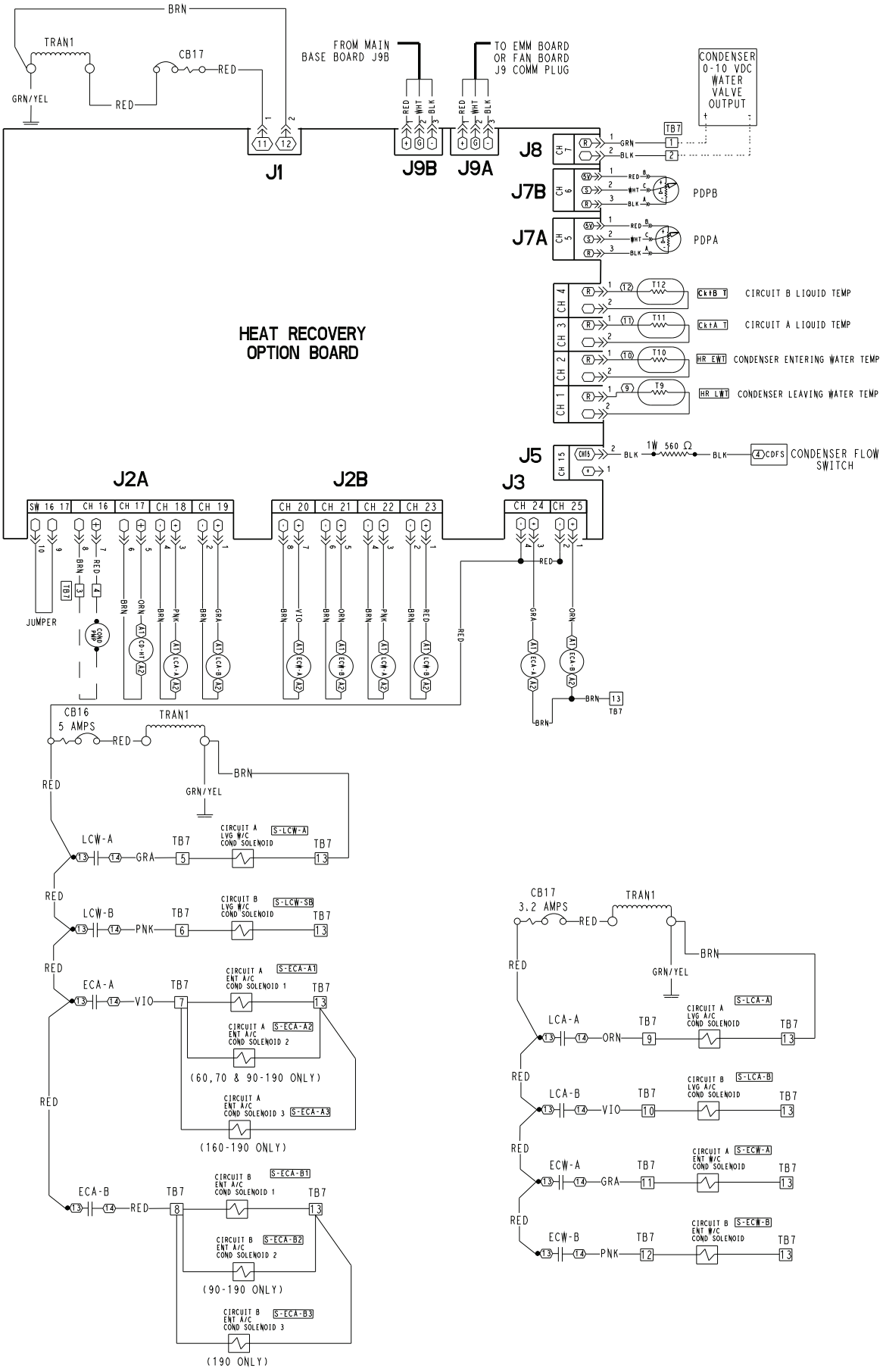


Fig. 41 — Heat Reclaim Control Schematic

APPENDIX A — LOCAL DISPLAY TABLES

MODE — RUN STATUS

ITEM	EXPANSION	UNITS	RANGE	COMMENT	WRITE STATUS	CCN TABLE	CCN POINT	PAGE NO.
VIEW	AUTO VIEW OF RUN STATUS							3,33, 75
→EWT	Entering Fluid Temp	XXXX.X (deg F/deg C)	0-100			STATEGEN	EWT	23
→LWT	Leaving Fluid Temp	XXX.X (deg F/deg C)	0-100			STATEGEN	LWT	23
→SETP	Active Setpoint	XXX.X (deg F/deg C)	0-100			GENUNIT	SP	
→CTPT	Control Point	XXX.X (deg F/deg C)	0-100			GENUNIT	CTRL_PNT	23,44
→STAT	Unit Run Status		0=Off 1=Running 2=Stopping 3=Delay			GENUNIT	STATUS	32,33, 76
→OCC	Occupied		NO/YES			GENUNIT	CHIL_OCC	32
→CTRL	Status Unit Control Typ		0=Local Off 1=Local On 2=CCN 3=Remote			GENUNIT	ctr_type	32
→CAP	Percent Total Capacity	XXX (%)	0-100			GENUNIT	CAP_T	
→CAP.S	Capacity Indicator	XX					over_cap	22
→LIM	Active Demand Limit Val	XXX (%)	0-100			GENUNIT	DEM-LIM	
→STGE	Current Stage	XX					cur_stag	
→ALRM	Alarm State		0=Normal 1=Partial 2=Shutdown			GENUNIT	ALM	
→HC.ST	Heat Cool Status		0=Cooling 1=Heating 2=Standby			GENUNIT	HEATCOOL	23
→RC.ST	Reclaim Select Status		NO/YES			GENUNIT	reclaim_sel	
→TIME	Time of Day	XX.XX	00.00-23.59			N/A	TIME	
→MNTH	Month of Year		1=January 2=February 3=March 4-April 5=May 6=June 7=July 8=August 9=September 10=October 11=November 12=December			N/A	moy	
→DATE	Day of Month	XX	1-31			N/A	dom	
→YEAR	Year of Century	XX	00-99			N/A	yoc	
R.CCN	CCN FOR PRODIALOG							
→CH.SS	CCN Chiller Start Stop		ENBL/DSBL		forcible	GENUNIT	CHIL_S_S	
→HC.SL	Heat Cool Select		0=Cool 1=Heat 2=Auto		forcible	GENUNIT	HC_SEL	68
→C.OCC	Chiller Occupied		NO/YES		forcible	GENUNIT	CHIL_OCC	
→RECL	Reclaim Select		NO/YES		forcible	GENUNIT	RECL_SEL	
→SP.OC	Setpoint Occupied		NO/YES		forcible	GENUNIT	SP_OCC	32
→D.LIM	Active Demand Limit Val	XXX (%)	0-100		forcible	GENUNIT	DEM_LIM	
→CTRL	Control Point	XXX.X (deg F/deg C)	0-100		forcible	GENUNIT	CTRL_PNT	
→EMGY	Emergency Stop		ENBL/DSBL		forcible	GENUNIT	EMSTOP	
RUN	UNIT RUN HOUR AND START							
→HRS.U	Machine Operating Hours	XXXX (hours)	0-999000*		forcible		hr_mach	
→STR.U	Machine Starts	XXXX	0-9999		forcible	STRTHOUR	st_mach	
→HR.P1	Water Pump 1 Run Hours	XXXX (hours)	0-999000*		forcible	FANHOURS	hr_cpum1	
→HR.P2	Water Pump 2 Run Hours	XXXX (hours)	0-999000*		forcible	FANHOURS	hr_cpum2	
→HR.CD	Heat Reclaim Pump Hours	XXXX (hours)			forcible	FANHOURS	hr_hpump	49
HOUR	COMPRESSOR RUN HOURS							
→HR.A1	Compressor A1 Run Hours	XXXX (hours)	0-999000*		forcible	STRTHOUR	hr_cp_a1	
→HR.A2	Compressor A2 Run Hours	XXXX (hours)	0-999000*		forcible	STRTHOUR	hr_cp_a2	
→HR.A3	Compressor A3 Run Hours	XXXX (hours)	0-999000*		forcible	STRTHOUR	hr_cp_a3	
→HR.A4	Compressor A4 Run Hours	XXXX (hours)	0-999000*		forcible	STRTHOUR	hr_cp_a4	
→HR.B1	Compressor B1 Run Hours	XXXX (hours)	0-999000*		forcible	STRTHOUR	hr_cp_b1	
→HR.B2	Compressor B2 Run Hours	XXXX (hours)	0-999000*		forcible	STRTHOUR	hr_cp_b2	
→HR.B3	Compressor B3 Run Hours	XXXX (hours)	0-999000*		forcible	STRTHOUR	hr_cp_b3	
→HR.B4	Compressor B4 Run Hours	XXXX (hours)	0-999000*		forcible	STRTHOUR	hr_cp_b4	
→HR.C1	Compressor C1 Run Hours	XXXX (hours)	0-999000*		forcible	STRTHOUR	hr_cp_c1	
→HR.C2	Compressor C2 Run Hours	XXXX (hours)	0-999000*		forcible	STRTHOUR	hr_cp_c2	
→HR.C3	Compressor C3 Run Hours	XXXX (hours)	0-999000*		forcible	STRTHOUR	hr_cp_c3	
→HR.C4	Compressor C4 Run Hours	XXXX (hours)	0-999000*		forcible	STRTHOUR	hr_cp_c4	
STRT	COMPRESSOR STARTS							
→ST.A1	Compressor A1 Starts	XXXX	0-999000*		forcible	STRTHOUR	st_cp_a1	
→ST.A2	Compressor A2 Starts	XXXX	0-999000*		forcible	STRTHOUR	st_cp_a2	
→ST.A3	Compressor A3 Starts	XXXX	0-999000*		forcible	STRTHOUR	st_cp_a3	
→ST.A4	Compressor A4 Starts	XXXX	0-999000*		forcible	STRTHOUR	st_cp_a4	
→ST.B1	Compressor B1 Starts	XXXX	0-999000*		forcible	STRTHOUR	st_cp_b1	
→ST.B2	Compressor B2 Starts	XXXX	0-999000*		forcible	STRTHOUR	st_cp_b2	
→ST.B3	Compressor B3 Starts	XXXX	0-999000*		forcible	STRTHOUR	st_cp_b3	
→ST.B4	Compressor B4 Starts	XXXX	0-999000*		forcible	STRTHOUR	st_cp_b4	
→ST.C1	Compressor C1 Starts	XXXX	0-999000*		forcible	STRTHOUR	st_cp_c1	
→ST.C2	Compressor C2 Starts	XXXX	0-999000*		forcible	STRTHOUR	st_cp_c2	
→ST.C3	Compressor C3 Starts	XXXX	0-999000*		forcible	STRTHOUR	st_cp_c3	
→ST.C4	Compressor C4 Starts	XXXX	0-999000*		forcible	STRTHOUR	st_cp_c4	

APPENDIX A — LOCAL DISPLAY TABLES (cont)

MODE — RUN STATUS (cont)

ITEM	EXPANSION	UNITS	RANGE	COMMENT	WRITE STATUS	CCN TABLE	CCN POINT	PAGE NO.
FAN	FAN RUN HOURS							
→***FR.A1***	Fan 1 Run Hours Cir A	XXXX (hours)	0-999000*		forcible	FANHOURS	hr_fana1	
→***FR.A2***	Fan 2 Run Hours Cir A	XXXX (hours)	0-999000*		forcible	FANHOURS	hr_fana2	
→***FR.A3***	Fan 3 Run Hours Cir A	XXXX (hours)	0-999000*		forcible	FANHOURS	hr_fana3	
→***FR.A4***	Fan 4 Run Hours Cir A	XXXX (hours)	0-999000*		forcible	FANHOURS	hr_fana4	
→***FR.A5***	Fan 5 Run Hours Cir A	XXXX (hours)	0-999000*		forcible	FANHOURS	hr_fana5	
→***FR.A6***	Fan 6 Run Hours Cir A	XXXX (hours)	0-999000*		forcible	FANHOURS	hr_fana6	
→***FR.B1***	Fan 1 Run Hours Cir B	XXXX (hours)	0-999000*		forcible	FANHOURS	hr_fanb1	
→***FR.B2***	Fan 2 Run Hours Cir B	XXXX (hours)	0-999000*		forcible	FANHOURS	hr_fanb2	
→***FR.B3***	Fan 3 Run Hours Cir B	XXXX (hours)	0-999000*		forcible	FANHOURS	hr_fanb3	
→***FR.B4***	Fan 4 Run Hours Cir B	XXXX (hours)	0-999000*		forcible	FANHOURS	hr_fanb4	
→***FR.B5***	Fan 5 Run Hours Cir B	XXXX (hours)	0-999000*		forcible	FANHOURS	hr_fanb5	
→***FR.B6***	Fan 6 Run Hours Cir B	XXXX (hours)	0-999000*		forcible	FANHOURS	hr_fanb6	
→***FR.C1***	Fan 1 Run Hours Cir C	XXXX (hours)	0-999000*		forcible	FANHOURS	hr_fanc1	
→***FR.C2***	Fan 2 Run Hours Cir C	XXXX (hours)	0-999000*		forcible	FANHOURS	hr_fanc2	
→***FR.C3***	Fan 3 Run Hours Cir C	XXXX (hours)	0-999000*		forcible	FANHOURS	hr_fanc3	
→***FR.C4***	Fan 4 Run Hours Cir C	XXXX (hours)	0-999000*		forcible	FANHOURS	hr_fanc4	
→***FR.C5***	Fan 5 Run Hours Cir C	XXXX (hours)	0-999000*		forcible	FANHOURS	hr_fanc5	
→***FR.C6***	Fan 6 Run Hours Cir C	XXXX (hours)	0-999000*		forcible	FANHOURS	hr_fanc6	
CP.UN	COMPRESSOR DISABLE							
→***A1.UN***	Compressor A1 Disable		NO/YES		forcible	CP_UNABL	un_cp_a1	
→***A2.UN***	Compressor A2 Disable		NO/YES		forcible	CP_UNABL	un_cp_a2	
→***A3.UN***	Compressor A3 Disable		NO/YES		forcible	CP_UNABL	un_cp_a3	
→***A4.UN***	Compressor A4 Disable		NO/YES		forcible	CP_UNABL	un_cp_a4	
→***B1.UN***	Compressor B1 Disable		NO/YES		forcible	CP_UNABL	un_cp_b1	
→***B2.UN***	Compressor B2 Disable		NO/YES		forcible	CP_UNABL	un_cp_b2	
→***B3.UN***	Compressor B3 Disable		NO/YES		forcible	CP_UNABL	un_cp_b3	
→***B4.UN***	Compressor B4 Disable		NO/YES		forcible	CP_UNABL	un_cp_b4	
→***C1.UN***	Compressor C1 Disable		NO/YES		forcible	CP_UNABL	un_cp_c1	
→***C2.UN***	Compressor C2 Disable		NO/YES		forcible	CP_UNABL	un_cp_c2	
→***C3.UN***	Compressor C3 Disable		NO/YES		forcible	CP_UNABL	un_cp_c3	
→***C4.UN***	Compressor C4 Disable		NO/YES		forcible	CP_UNABL	un_cp_c4	
MAIN	PREDICTIVE MAINTENANCE							
→***CHRG***	Refrigerant Charge		NO/YES			SERMAINT	charge_m	
→***WATE***	Water Loop Size		NO/YES			SERMAINT	wloop_m	
→***PMP.1***	Pump 1 (days)	(days)				SERMAINT	cpump1_m	
→***PMP.2***	Pump 2 (days)	(days)				SERMAINT	cpump2_m	
→***PMP.C***	Cond Pump (days)	(days)				SERMAINT	hpump_m	
→***W.FIL***	Water Filter (days)	(days)				SERMAINT	wfilte_m	
VERS	SOFTWARE VERSION NUMBER			Press ENTER and ESCAPE				
→***APPL***	CSA-XX-XXXXXXXXX			simultaneously			PD5_APPL	
→***MARQ***	XXXXXX-XX-XX			to read version			STDU	
→***NAVI***	XXXXXX-XX-XX			information			Navigator	
→***EXV1***	XXXXXX-XX-XX						EXV_BRD1	
→***EXV2***	XXXXXX-XX-XX						EXV_BRD2	
→***AUX1***	XXXXXX-XX-XX						AUX_BRD1	
→***AUX2***	XXXXXX-XX-XX						AUX_BRD2	
→***AUX3***	XXXXXX-XX-XX						AUX_BRD3	
→***AUX4***	XXXXXX-XX-XX						AUX_BRD4	
→***AUX5***	XXXXXX-XX-XX						AUX_BRD5	
→***CPA1***	XXXXXX-XX-XX						SPM_CPA1	
→***CPA2***	XXXXXX-XX-XX						SPM_CPA2	
→***CPA3***	XXXXXX-XX-XX						SPM_CPA3	
→***CPA4***	XXXXXX-XX-XX						SPM_CPA4	
→***CPB1***	XXXXXX-XX-XX						SPM_CPB1	
→***CPB2***	XXXXXX-XX-XX						SPM_CPB2	
→***CPB3***	XXXXXX-XX-XX						SPM_CPB3	
→***CPB4***	XXXXXX-XX-XX						SPM_CPB4	
→***CPC1***	XXXXXX-XX-XX						SPM_CPC1	
→***CPC2***	XXXXXX-XX-XX						SPM_CPC2	
→***CPC3***	XXXXXX-XX-XX						SPM_CPC3	
→***CPC4***	XXXXXX-XX-XX						SPM_CPC4	
→***EMM***	XXXXXX-XX-XX						EMM_NRCP	

*As data in all of these categories can exceed 9999 the following display strategy is used:
From 0-9999 display as 4 digits.
From 9999-99900 display xx.xK
From 99900-999000 display as xxxK.

APPENDIX A — LOCAL DISPLAY TABLES (cont)

MODE — SERVICE TEST

ITEM	EXPANSION	UNITS	RANGE	COMMENT	WRITE STATUS	CCN TABLE	CCN POINT	PAGE NO.
TEST	COMPRESSORS					N/A		
→T.REQ	Manual Sequence		OFF/ON*		forcible	N/A	service_test	51,74
→CP.A1	Compressor A1 Output		OFF/ON		forcible	N/A	comp_serv_a_1	51
→CP.A2	Compressor A2 Output		OFF/ON		forcible	N/A	comp_serv_a_2	51
→CP.A3	Compressor A3 Output		OFF/ON		forcible	N/A	comp_serv_a_3	51
→CP.A4	Compressor A4 Output		OFF/ON		forcible	N/A	comp_serv_a_4	51
→HGB.A	Hot Gas Bypass A Output		OFF/ON		forcible	N/A	hgbp_serv_a	
→CP.B1	Compressor B1 Output		OFF/ON		forcible	N/A	comp_serv_b_1	51
→CP.B2	Compressor B2 Output		OFF/ON		forcible	N/A	comp_serv_b_2	51
→CP.B3	Compressor B3 Output		OFF/ON		forcible	N/A	comp_serv_b_3	51
→CP.B4	Compressor B4 Output		OFF/ON		forcible	N/A	comp_serv_b_4	51
→HGB.B	Hot Gas Bypass B Output		OFF/ON		forcible	N/A	hgbp_serv_b	
→CP.C1	Compressor C1 Output		OFF/ON		forcible	N/A	comp_serv_c_1	51
→CP.C2	Compressor C2 Output		OFF/ON		forcible	N/A	comp_serv_c_2	51
→CP.C3	Compressor C3 Output		OFF/ON		forcible	N/A	comp_serv_c_3	51
→CP.C4	Compressor C4 Output		OFF/ON		forcible	N/A	comp_serv_c_4	51
→HGB.C	Hot Gas Bypass C Output		OFF/ON		forcible	N/A	hgbp_serv_c	
QUIC	QUICK TEST MODE					N/A		51
→Q.REQ	Quick Test Mode		OFF/ON†		forcible	N/A	test_request	75
→EXV.A	Circuit A EXV % Open	XXX (%)	0-100		forcible	N/A	exv_qck_a	50,51
→EXV.B	Circuit B EXV % Open	XXX (%)	0-100		forcible	N/A	exv_qck_b	50,51
→EXV.C	Circuit C EXV % Open	XXX (%)	0-100		forcible	N/A	exv_qck_c	50,51
→FAN.A	Circuit A Fan Stages	X	0-6		forcible	N/A	fan_qck_a	
→FAN.B	Circuit B Fan Stages	X	0-6		forcible	N/A	fan_qck_b	
→FAN.C	Circuit C Fan Stages	X	0-6		forcible	N/A	fan_qck_c	
→SPD.A	Circ A Varifan position	XXX (%)	0-100		forcible	N/A	hd_qck_a	
→SPD.B	Circ B Varifan position	XXX (%)	0-100		forcible	N/A	hd_qck_b	
→SPD.C	Circ C Varifan position	XXX (%)	0-100		forcible	N/A	hd_qck_c	
→FRV.A	Free Cooling Valve A		OPEN/CLSE	Not supported.	forcible	N/A	fr_qck_1a	
→FRP.A	Refrigerant Pump Out A		OFF/ON	Not supported.	forcible	N/A	fr_qck_2a	
→FRV.B	Free Cooling Valve B		OPEN/CLSE	Not supported.	forcible	N/A	fr_qck_1b	
→FRP.B	Refrigerant Pump Out B		OFF/ON	Not supported.	forcible	N/A	fr_qck_2b	
→FRV.C	Free Cooling Valve C		OPEN/CLSE	Not supported.	forcible	N/A	fr_qck_1c	
→FRP.C	Refrigerant Pump Out C		OFF/ON	Not supported.	forcible	N/A	fr_qck_2c	
→RV.A	4 Way Valve Circuit A		OPEN/CLSE	Not supported.	forcible	N/A	rv_qck_a	
→RV.B	4 Way Valve Circuit B		OPEN/CLSE	Not supported.	forcible	N/A	rv_qck_b	
→BOIL	Boiler Command		OFF/ON	Not supported.	forcible	N/A	boiler_qck	
→HR1.A	Air Cond Enter Valve A		OPEN/CLSE		forcible	N/A	hr_ea_qck_a	
→HR2.A	Air Cond Leaving Valv A		OPEN/CLSE		forcible	N/A	hr_la_qck_a	
→HR3.A	Water Cond Enter Valv A		OPEN/CLSE		forcible	N/A	hr_ew_qck_a	
→HR4.A	Water Cond Leav Valve A		OPEN/CLSE		forcible	N/A	hr_lw_qck_a	
→HR1.B	Air Cond Enter Valve B		OPEN/CLSE		forcible	N/A	hr_ea_qck_b	
→HR2.B	Air Cond Leaving Valv B		OPEN/CLSE		forcible	N/A	hr_la_qck_b	
→HR3.B	Water Cond Enter Valv B		OPEN/CLSE		forcible	N/A	hr_ew_qck_b	
→HR4.B	Water Cond Leav Valve B		OPEN/CLSE		forcible	N/A	hr_lw_qck_b	
→PMP.1	Water Exchanger Pump 1		OFF/ON		forcible	N/A	cpump_qck1	
→PMP.2	Water Exchanger Pump 2		OFF/ON		forcible	N/A	cpump_qck2	
→CND.P	Reclaim Condenser Pump		OFF/ON		forcible	N/A	cond_pump_qck	
→CL.HT	Cooler Heater Output		OFF/ON		forcible	N/A	coo_heat_qck	
→CP.HT	Condenser Heater Output		OFF/ON		forcible	N/A	cond_htr_qck	
→CH.A1	Compressor A1 Heater		OFF/ON		forcible	N/A	cp_ht_qck_a1	
→CH.A2	Compressor A2 Heater		OFF/ON		forcible	N/A	cp_ht_qck_a2	
→CH.A3	Compressor A3 Heater		OFF/ON		forcible	N/A	cp_ht_qck_a3	
→CH.A4	Compressor A4 Heater		OFF/ON		forcible	N/A	cp_ht_qck_a4	
→CH.B1	Compressor B1 Heater		OFF/ON		forcible	N/A	cp_ht_qck_b1	
→CH.B2	Compressor B2 Heater		OFF/ON		forcible	N/A	cp_ht_qck_b2	
→CH.B3	Compressor B3 Heater		OFF/ON		forcible	N/A	cp_ht_qck_b3	
→CH.B4	Compressor B4 Heater		OFF/ON		forcible	N/A	cp_ht_qck_b4	
→CH.C1	Compressor C1 Heater		OFF/ON		forcible	N/A	cp_ht_qck_c1	
→CH.C2	Compressor C2 Heater		OFF/ON		forcible	N/A	cp_ht_qck_c2	
→CH.C3	Compressor C3 Heater		OFF/ON		forcible	N/A	cp_ht_qck_c3	
→CH.C4	Compressor C4 Heater		OFF/ON		forcible	N/A	cp_ht_qck_c4	
→HGB.A	Hot Gas Bypass A Output		OFF/ON		forcible	N/A		
→HGB.B	Hot Gas Bypass B Output		OFF/ON		forcible	N/A		
→HGB.C	Hot Gas Bypass C Output		OFF/ON		forcible	N/A		
→Q.RDY	Chiller Ready Status		OFF/ON		forcible	N/A	ready_qck	
→Q.RUN	Chiller Running Status		OFF/ON	EMM	forcible	N/A	running_qck	
→SHUT	Customer Shutdown Stat		OFF/ON	EMM	forcible	N/A	shutdown_qck	
→CATO	Chiller Capacity 0-10v	XX.X (vdc)	0-100	EMM	forcible	N/A	CAPT_010_qcK	
→ALRM	Alarm Relay		OFF/ON		forcible	N/A	alarm_qck	
→ALRT	Alert Relay		OFF/ON		forcible	N/A	alert_qck	
→C.ALM	Critical Alarm Relay		OFF/ON	Not supported.	forcible	N/A	critical_qck	

*Place the Enable/Off/Remote Contact switch to the Off position prior to configuring ***T.REQ*** to ON. Configure the desired item to ON, then place the Enable/Off/Remote Contact switch to the Enable position.

†Place the Enable/Off/Remote Contact switch to the Off position prior to configuring ***Q.REQ*** to ON. The switch should be in the Off position to perform Quick Test.

APPENDIX A — LOCAL DISPLAY TABLES (cont)

MODE — TEMPERATURE

ITEM	EXPANSION	UNITS	RANGE	COMMENT	WRITE STATUS	CCN TABLE	CCN POINT	PAGE NO.
UNIT	ENT AND LEAVE UNIT TEMP							
→***EWT***	Water Exchanger Enter	XXX.X (deg F/deg C)	–45-245 F (–43-118 C)			STATEGEN	EWT	6,46
→***LWT***	Water Exchanger Leaving	XXX.X (deg F/deg C)	–45-245 F (–43-118 C)			STATEGEN	LWT	6,46
→***OAT***	Outside Air Temperature	XXX.X (deg F/deg C)	–45-245 F (–43-118 C)			GENUNIT	OAT	6,46
→***CHWS***	Lead/Lag Leaving Fluid	XXX.X (deg F/deg C)	–45-245 F (–43-118 C)			STATEGEN	CHWS TEMP	6
→***HEWT***	Heat Reclaim Entering	XXX.X (deg F/deg C)				RECLAIM	HR_EWT	16,49
→***HLWT***	Heat Reclaim Leaving	XXX.X (deg F/deg C)				RECLAIM	HR_LWT	16,49
→***SPT***	Optional Space Temp	XXX.X (deg F/deg C)	–45-245 F (–43-118 C)			STATEGEN	SPACETMP	15
CIR.A	TEMPERATURES CIRCUIT A							
→***SCT.A***	Sat Cond Temp Circ A	XXX.X (deg F/deg C)	–45-245 F (–43-118 C)			CIRCA_AN	SCT_A	
→***SST.A***	Sat Suction Temp Circ A	XXX.X (deg F/deg C)	–45-245 F (–43-118 C)			CIRCA_AN	SST_A	
→***SGT.A***	Suction Gas Temp Circ A	XXX.X (deg F/deg C)	–45-245 F (–43-118 C)			CIRCA_AN	SUCT_T_A	8
→***SUP.A***	Superheat Temp Circ A	XXX.X (ΔF/ΔC)				CIRCA_AN	SH_A	
→***HRT.A***	Sub Condenser Gas Tmp A	XXX.X (deg F/deg C)	–45-245 F (–43-118 C)			RECLAIM	hr_subta	16
→***HRS.A***	Sub Cooling Temp A	XXX.X (ΔF/ΔC)				RECLAIM	hr_subca	16
CIR.B	TEMPERATURES CIRCUIT B							
→***SCT.B***	Sat Cond Temp Circ B	XXX.X (deg F/deg C)	–45-245 F (–43-118 C)			CIRCB_AN	SCT_B	
→***SST.B***	Sat Suction Temp Circ B	XXX.X (deg F/deg C)	–45-245 F (–43-118 C)			CIRCB_AN	SST_B	
→***SGT.B***	Suction Gas Temp Circ B	XXX.X (deg F/deg C)	–45-245 F (–43-118 C)			CIRCB_AN	SUCT_T_B	8
→***SUP.B***	Superheat Temp Circ B	XXX.X (ΔF/ΔC)				CIRCB_AN	SH_B	
→***HRT.B***	Sub Condenser Gas Tmp B	XXX.X (deg F/deg C)	–45-245 F (–43-118 C)			RECLAIM	hr_subtb	16
→***HRS.B***	Sub Cooling Temp B	XXX.X (ΔF/ΔC)				RECLAIM	hr_subcb	16
CIR.C	TEMPERATURES CIRCUIT C					CIRCC_AN		
→***SCT.C***	Sat Cond Temp Circ C	XXX.X (deg F/deg C)	–45-245 F (–43-118 C)			CIRCC_AN	SCT_C	
→***SST.C***	Sat Suction Temp Circ C	XXX.X (deg F/deg C)	–45-245 F (–43-118 C)			CIRCC_AN	SST_C	
→***SGT.C***	Suction Gas Temp Circ C	XXX.X (deg F/deg C)	–45-245 F (–43-118 C)			CIRCC_AN	SUCT_T_C	10
→***SUP.C***	Superheat Temp Circ C	XXX.X (ΔF/ΔC)				CIRCC_AN	SH_C	

MODE — PRESSURE

ITEM	EXPANSION	UNITS	RANGE	COMMENT	WRITE STATUS	CCN TABLE	CCN POINT	PAGE NO.
PRC.A	PRESSURE CIRCUIT A							
→***DP.A***	Discharge Pressure Cir A	XXX.X (psig/kPa)				CIRCA_AN	DP_A	6,48
→***SP.A***	Suction Pressure Circ A	XXX.X (psig/kPa)				CIRCA_AN	SP_A	6
→***PD.A***	Pumpdown Pressure Cir A	XXX.X (psig/kPa)				RECLAIM	PD_P_A	16
PRC.B	PRESSURE CIRCUIT B							
→***DP.B***	Discharge Pressure Cir B	XXX.X (psig/kPa)				CIRCB_AN	DP_B	6,48
→***SP.B***	Suction Pressure Circ B	XXX.X (psig/kPa)				CIRCB_AN	SP_B	6
→***PD.B***	Pumpdown Pressure Cir B	XXX.X (psig/kPa)				RECLAIM	PD_P_B	16
PRC.C	PRESSURE CIRCUIT C							
→***DP.C***	Discharge Pressure Cir C	XXX.X (psig/kPa)				CIRCC_AN	DP_C	14,48
→***SP.C***	Suction Pressure Circ C	XXX.X (psig/kPa)				CIRCC_AN	SP_C	14
→***PD.C***	Pumpdown Pressure Cir C	XXX.X (psig/kPa)				RECLAIM	PD_P_C	

APPENDIX A — LOCAL DISPLAY TABLES (cont)

MODE — SET POINTS

ITEM	EXPANSION	UNITS	RANGE	COMMENT	WRITE STATUS	CCN TABLE	CCN POINT	PAGE NO.
COOL	COOLING SETPOINTS							
→***CSP.1***	Cooling Setpoint 1	XXXX.X (deg F/deg C)	–20-70 F (–29-21 C), Default = 44.0		forcible	SETPOINT	csp1	32,33, 44
→***CSP.2***	Cooing Setpoint 2	XXXX.X (deg F/deg C)	–20-70 F (–29-21 C), Default = 44.0		forcible	SETPOINT	csp2	32,33
→***CSP.3***	Ice Setpoint	XXXX.X (deg F/deg C)	–20-70 F (–29-21 C), Default = 44.0		forcible	SETPOINT	ice_sp	32,33, 48
→***CRV1***	Current No Reset Val	XX.X (mA)	0-20, Default = 0		forcible	SETPOINT	v_cr_no	38
→***CRV2***	Current Full Reset Val	XX.X (mA)	0-20, Default = 0		forcible	SETPOINT	v_cr_fu	38
→***CRT1***	Delta T No Reset Temp	XXX.X (ΔF/ΔC)	0-125 F (0-69.4 C), Default = 0		forcible	SETPOINT	dt_cr_no	33
→***CRT2***	Delta T Full Reset Temp	XXX.X (ΔF/ΔC)	0-125 F (0-69.4 C), Default = 0		forcible	SETPOINT	dt_cr_fu	33
→***CRO1***	OAT No Reset Temp	XXX.X (deg F/deg C)	0-125 F (–18-52 C), Default = 14.0		forcible	SETPOINT	oatcr_no	34
→***CRO2***	OAT Full Reset Temp	XXX.X (deg F/deg C)	0-25 F (–18-52 C), Default = 14.0		forcible	SETPOINT	oatcr_fu	34
→***CRS1***	Space T No Reset Temp	XXX.X (deg F/deg C)	0-125 F (–18-52 C), Default = 14.0		forcible	SETPOINT	spacr_no	38
→***CRS2***	Space T Full Reset Temp	XXX.X (deg F/deg C)	0-125 F (–18-52 C), Default = 14.0		forcible	SETPOINT	spacr_fu	38
→***DGRC***	Degrees Cool Reset	XX.X (ΔF/ΔC)	–30-30 F (–16.7-16.7 C), Default = 0		forcible	SETPOINT	cr_deg	33,34, 38
→***CAUT***	Cool Changeover Setpt	XX.X (deg F/deg C)	Default = 75.0	Not supported.	forcible	SETPOINT	cauto_sp	
→***CRMP***	Cool Ramp Loading	X.X	0.2-2.0 F (0.1-1.1 C), Default = 1.0		forcible		cramp_sp	17,23, 46
HEAT	HEATING SETPOINTS							
→***HSP.1***	Heating Setpoint 1	XXX.X (deg F/deg C)	Default = 100	Not supported.	forcible	SETPOINT	HSP.1	
→***HSP.2***	Heating Setpoint 2	XXX.X (deg F/deg C)	Default = 100	Not supported.	forcible	SETPOINT	HSP.2	
→***HRV1***	Current No Reset Val	XX.X (mA)	Default = 0	Not supported.	forcible	SETPOINT	v_hr_no	
→***HRV2***	Current Full Reset Val	XX.X (mA)	Default = 0	Not supported.	forcible	SETPOINT	v_hr_fu	
→***HRT1***	Delta T No Reset Temp	XXX.X (ΔF/ΔC)	Default = 0	Not supported.	forcible	SETPOINT	dt_hr_no	
→***HRT2***	Delta T Full Reset Temp	XXX.X (ΔF/ΔC)	Default = 0	Not supported.	forcible	SETPOINT	dt_hr_fu	
→***HRO1***	OAT No Reset Temp	XXX.X (deg F/deg C)	Default = 14.0	Not supported.	forcible	SETPOINT	oathr_no	
→***HRO2***	OAT Full Reset Temp	XXX.X (deg F/deg C)	Default = 14.0	Not supported.	forcible	SETPOINT	oathr_fu	
→***DGRH***	Degrees Heat Reset	XX.X (ΔF/ΔC)	Default = 0	Not supported.	forcible	SETPOINT	DGRH	
→***HAUT***	Heat Changeover Setpt	XX.X (deg F/deg C)	Default = 64	Not supported.	forcible	SETPOINT	hauto_sp	
→***HRMP***	Heat Ramp Loading	X.X	Default = 1.0	Not supported.	forcible	SETPOINT	hramp_sp	
MISC	MISCELLANEOUS SETPOINTS							
→***DLS1***	Switch Limit Setpoint 1	XXX (%)	0-100, Default = 100		forcible	SETPOINT	lim_sp1	41
→***DLS2***	Switch Limit Setpoint 2	XXX (%)	0-100, Default = 100		forcible	SETPOINT	lim_sp2	41
→***DLS3***	Switch Limit Setpoint 3	XXX (%)	0-100, Default = 100		forcible	SETPOINT	lim_sp3	
→***RSP***	Heat Reclaim Setpoint	XXX.X (deg F/deg C)	Default = 122		forcible	SETPOINT	rsp	49
→***RDB***	Reclaim Deadband	XX.X (ΔF/ΔC)	Default = 9.0		forcible	SETPOINT	hr_deadb	49

MODE — INPUTS

ITEM	EXPANSION	UNITS	RANGE	COMMENT	WRITE STATUS	CCN TABLE	CCN POINT	PAGE NO.
GEN.I	GENERAL INPUTS							
→***ONOF***	On Off Switch		OPEN/CLSE			STATEGEN	ONOF	6
→***LOCK***	Cooler Interlock		OPEN/CLSE			STATEGEN	LOCK_1	6,23
→***DLS1***	Demand Limit Switch 1		OPEN/CLSE			STATEGEN	LIM_SW1	6
→***DLS2***	Demand Limit Switch 2		OPEN/CLSE			STATEGEN	LIM_SW2	15
→***ICE.D***	Ice Done		OFF/ON			STATEGEN	ICE_SW	15,32
→***DUAL***	Dual Setpoint Switch		OFF/ON			STATEGEN	SETP_SW	6
→***ELEC***	Electrical Box Safety		OPEN/CLSE			STATEGEN	ELEC_BOX	6
→***PUMP***	Pump Run Feedback		OFF/ON			STATEGEN	PUMP_DEF	6
→***OCCS***	Occupancy Override Swit		OFF/ON			STATEGEN	OCC_OVSW	15
→***RECL***	Heat Reclaim Switch		OFF/ON			STATEGEN	RECL_SW	49
→***HC.SW***	Heat Cool Switch Status		OFF/ON			STATEGEN	HC_SW	
→***RLOC***	Remote Interlock Switch		OPEN/CLSE			STATEGEN	REM-LOCK	15
→***C.FLO***	Reclaim Cond Flow		OPEN/CLSE			STATEGEN	CONDFLOW	16
→***DMND***	4-20 mA Demand Signal	XXX.X (mA)	4 to 20			STATEGEN	LIM_ANAL	15
→***RSET***	4-20 mA Reset/Setpoint	XXX.X (mA)	4 to 20			STATEGEN	SP_RESET	15

APPENDIX A — LOCAL DISPLAY TABLES (cont)

MODE — OUTPUTS

ITEM	EXPANSION	UNITS	RANGE	COMMENT	WRITE STATUS	CCN TABLE	CCN POINT	PAGE NO.
CIR.A	OUTPUTS CIRCUIT A							
→***CP.A1***	Compressor A1 Relay	OFF/ON				CIRCA_D	CP_A1	8
→***CP.A2***	Compressor A2 Relay	OFF/ON				CIRCA_D	CP_A2	8
→***CP.A3***	Compressor A3 Relay	OFF/ON				CIRCA_D	CP_A3	8
→***CP.A4***	Compressor A4 Relay	OFF/ON				CIRCA_D	CP_A4	8
→***HGB.A***	Hot Gas Bypass Circ A	OFF/ON				CIRCA_D	HGBP_A	6
→***HT.A1***	Comp A1 Heater Relay	OFF/ON				CIRCA_D	cp_a1_ht	8
→***HT.A2***	Comp A2 Heater Relay	OFF/ON				CIRCA_D	cp_a2_ht	8
→***HT.A3***	Comp A3 Heater Relay	OFF/ON				CIRCA_D	cp_a3_ht	8
→***HT.A4***	Comp A4 Heater Relay	OFF/ON				CIRCA_D	cp_a4_ht	8
→***FAN.A***	Circuit A Fan Stages	X	0-6			CIRCA_D	FAN_ST_A	
→***SPD.A***	Circ A Varifan Position	XXX (%)	0-100			CIRCA_AN	hd_pos_a	11
→***EXV.A***	Circuit A EXV % Open	XXX (%)	0-100			CIRCA_AN	EXV_A	8
→***FRP.A***	Refrigerant Pump Out A	OFF/ON		Not supported.		CIRCA_D	FR_PMP_A	
→***FRVA***	Free Cooling Valve A	OPEN/CLSE		Not supported.		CIRCA_D	FR_VLV_A	
→***HR1.A***	Air Cond Enter Valve A	OPEN/CLSE				RECLAIM	hr_ca_a	16
→***HR2.A***	Air Cond Leaving Valv A	OPEN/CLSE				RECLAIM	hr_la_a	16
→***HR3.A***	Water Cond Enter Valv A	OPEN/CLSE				RECLAIM	hr_en_a	16
→***HR4.A***	Water Cond Leav Valve A	OPEN/CLSE				RECLAIM	hr_lw_a	16
→***RV.A***	4 Way Valve Circuit A	OPEN/CLSE		Not supported.		CIRCA_D	RV_A	
CIR.B	OUTPUTS CIRCUIT B							
→***CP.B1***	Compressor B1 Relay	OFF/ON				CIRCB_D	CP_B1	8
→***CP.B2***	Compressor B2 Relay	OFF/ON				CIRCB_D	CP_B2	8
→***CP.B3***	Compressor B3 Relay	OFF/ON				CIRCB_D	CP_B3	8
→***CP.B4***	Compressor B4 Relay	OFF/ON				CIRCB_D	CP_B4	8
→***HGB.B***	Hot Gas Bypass Circ B	OFF/ON				CIRCB_D	HGBP_B	6
→***HT.B1***	Comp B1 Heater Relay	OFF/ON				CIRCB_D	CP_HT_B1	8
→***HT.B2***	Comp B2 Heater Relay	OFF/ON				CIRCB_D	CP_HT_B2	8
→***HT.B3***	Comp B3 Heater Relay	OFF/ON				CIRCB_D	CP_HT_B3	8
→***HT.B4***	Comp B4 Heater Relay	OFF/ON				CIRCB_D	CP_HT_B4	8
→***FAN.B***	Circuit B Fan Stages	X	0-6			CIRCB_D	FAN_ST_B	
→***SPD.B***	Circ B Varifan Position	XXX (%)	0-100			CIRCB_AN	hd_pos_b	11,12
→***EXV.B***	Circuit B EXV % Open	XXX (%)	0-100			CIRCB_AN	EXV_B	8
→***FRP.B***	Refrigerant Pump Out B	OFF/ON		Not supported.		CIRCB_D	FR_PMP_B	
→***FRVB***	Free Cooling Valve B	OPEN/CLSE		Not supported.		CIRCA_D	FR_VLV_B	
→***HR1.B***	Air Cond Enter Valve B	OPEN/CLSE				RECLAIM	hr_ca_b	16
→***HR2.B***	Air Cond Leaving Valv B	OPEN/CLSE				RECLAIM	hr_la_b	16
→***HR3.B***	Water Cond Enter Valv B	OPEN/CLSE				RECLAIM	hr_en_b	16
→***HR4.B***	Water Cond Leav Valve B	OPEN/CLSE				RECLAIM	hr_lw_b	16
→***RV.B***	4 Way Valve Circuit B	OPEN/CLSE		Not supported.		CIRCB_D	RV_B	
CIR.C	OUTPUTS CIRCUIT C							
→***CP.C1***	Compressor C1 Relay	OFF/ON				CIRCC_D	CP_C1	8
→***CP.C2***	Compressor C2 Relay	OFF/ON				CIRCC_D	CP_C2	8
→***CP.C3***	Compressor C3 Relay	OFF/ON				CIRCC_D	CP_C3	8
→***CP.C4***	Compressor C4 Relay	OFF/ON				CIRCC_D	CP_C4	8
→***HGB.C***	Hot Gas Bypass Circ C	OFF/ON				CIRCC_D	HGBP_C	14
→***HT.C1***	Comp C1 Heater Relay	OFF/ON				CIRCC_D	cp_c1_ht	8
→***HT.C2***	Comp C2 Heater Relay	OFF/ON				CIRCC_D	cp_c2_ht	8
→***HT.C3***	Comp C3 Heater Relay	OFF/ON				CIRCC_D	cp_c3_ht	8
→***HT.C4***	Comp C4 Heater Relay	OFF/ON				CIRCC_D	cp_c4_ht	8
→***FAN.C***	Circuit C Fan Stages	X	0-6			CIRCC_D	FAN_ST_C	
→***SPD.C***	Circ C Varifan Position	XXX (%)	0-100			CIRCC_AN	hd_pos_c	14
→***EXV.C***	Circuit C EXV % Open	XXX (%)	0-100			CIRCC_AN	EXV_C	10
→***FRP.C***	Refrigerant Pump Out C	OFF/ON		Not supported.		CIRCC_D	FR_PMP_C	
→***FRVC***	Free Cooling Valve C	OPEN/CLSE		Not supported.		CIRCC_D	FR_VLV_C	
GEN.O	GENERAL OUTPUTS							
→***PMP.1***	Water Exchanger Pump 1	OFF/ON				STATEGEN	CPUMP_1	6
→***PMP.2***	Water Exchanger Pump 2	OFF/ON				STATEGEN	CPUMP_2	6
→***CND.P***	Reclaim Condenser Pump	OFF/ON				STATEGEN	COND_PUMP	16
→***CO.HT***	Cooler Heater Output	OFF/ON				STATEGEN	COOLHEAT	6
→***CN.HT***	Condenser Heater Output	OFF/ON				RECLAIM	cond_htr	16
→***REDY***	Chiller Ready Status	OFF/ON			forcible	RECLAIM	READY	6
→***RUN***	Chiller Running Status	OFF/ON			forcible	STATEGEN	RUNNING	15
→***SHUT***	Customer Shutdown Stat	OFF/ON			forcible	STATEGEN	SHUTDOWN	15
→***CATO***	Chiller Capacity 0-10 v	XX.X			forcible	STATEGEN	CAPT_010	15
→***ALRM***	Alarm Relay	OFF/ON				STATEGEN	ALARM	6
→***ALRT***	Alert Relay	OFF/ON				STATEGEN	ALERT	6
→***BOIL***	Boiler Command	OFF/ON		Not supported.		STATEGEN	BOILER	
→***C.ALM***	Critical Alarm Relay	OFF/ON			forcible	STATEGEN	critical_qck	

APPENDIX A — LOCAL DISPLAY TABLES (cont)

MODE — CONFIGURATION

ITEM	EXPANSION	UNITS	RANGE	COMMENT	WRITE STATUS	DEFAULT	CCN TABLE	CCN POINT	PAGE NO.
DISP	DISPLAY CONFIGURATION								
→***TEST***	Test Display LED's		OFF/ON			OFF	N/A	display_test	
→***METR***	Metric Display		US/METR			US	DISPCONF	DISPUNIT	
→***LANG***	Language Selection		0=English 1=Espanol 2=Francais 3=Portugues 4=Translated			0	DISPCONF	LANGUAGE	
UNIT	UNIT CONFIGURATION								
→***TYPE***	Unit Type		1=Air Cooled 2=Heat Pump	Heat pump not supported		1	FACTORY	unit_typ	
→***TONS***	Unit Size	XXX (tons)	56 to 300 (nominal size — refer to Table 1 for unit modular combinations)				FACTORY	unitsize	66
→***VAR.A***	Nb Fan on Varifan Cir A	X	0-6			0: No low ambient temperature head pressure control 1:low ambient temperature head pressure control	FACTORY	varfan_a	
→***VAR.B***	Nb Fan on Varifan Cir B	X	0-6			0: No low ambient temperature head pressure control 1: low ambient temperature head pressure control	FACTORY	varfan_b	
→***VAR.C***	Nb Fan on Varifan Cir C	X	0-6			0: No low ambient temperature head pressure control 1: low ambient temperature head pressure control	FACTORY	varfan_c	
→***HGBP***	Hot Gas Bypass Control		0=Unused 1=Startup Only 2=Close Ctrl 3=High Ambient	1 is default for med. temp. brine units (***FLUD***=2)		0	FACTORY	hgbp_sel	17, 20-23
→***60HZ***	60 Hz Frequency		NO/YES			YES	FACTORY	freq_60H	
→***RECL***	Heat Reclaim Select		NO/YES			NO	FACTORY	recl_opt	49
→***EHS***	Electrical Heater Stage		0-4	Not supported		0	FACTORY	ehs_sel	
→***EMM***	EMM Module Installed		NO/YES			NO	FACTORY	emm_nrcp	65
→***PAS.E***	Password Enable Password Protection Must Be Disabled to Change Password		DSBL/ENBL			ENBL	FACTORY	pass_enb	
→***PASS***	Password	XXX	1 to 0150			0111	FACTORY	fac_pass	
→***FREE***	Free Cooling Select		NO/YES	Not supported.		NO	FACTORY	freecool	
→***PD4.D***	Pro_Dialog User Display		NO/YES	Must be set to NO		NO	FACTORY	pd4_disp	
→***BOIL***	Boiler Command Select		OFF/ON	Not supported.		OFF	FACTORY	boil_sel	
→***VLT.S***	VLT Fan Drive Select		NO/YES	Not supported.		NO	FACTORY	Vh_sel	
→***RPM.F***	VLT Fan Drive RPM	XXXX	0 to 1200	Not supported.		0	FACTORY	Vh_rpm	
→***MCHX***	MCHX Exchanger Select		NO/YES			NO	FACTORY	mchx_sel	
SERV	SERVICE CONFIGURATION								
→***FLUD***	Cooler Fluid Type		1=Water 2=Brine 3=Low Brine	Low Brine is not supported.		1	SERVICE1	flui_typ	17, 22-24 33,66, 67,69
→***MOP***	EXV MOP Setpoint	XX.X (deg F/deg C)	40-60 F (4.4-15.6 C)			50	SERVICE1	mop_sp	67
→***HP.TH***	High Pressure Threshold	XXX.X (psi/kPa)	500-640 psi (3447 to 4412 kPa)			609	SERVICE1	hp_th	23,48
→***SHP.A***	Cir A Superheat Setp	XX.X (ΔF/ΔC)	3-14 F (1.7-7.8 C)			9.0	SERVICE1	sh_sp_a	67,69
→***SHP.B***	Cir B Superheat Setp	XX.X (ΔF/ΔC)	3-14 F (1.7-7.8 C)			9.0	SERVICE1	sh_sp_b	67,69
→***SHP.C***	Cir C Superheat Setp	XX.X (ΔF/ΔC)	3-14 F (1.7-7.8 C)			9.0	SERVICE1	sh_sp_c	67,69
→***HTR***	Cooler Heater DT Setp	XX.X (ΔF/ΔC)	0.5-9 F (0.3-5.0 C)			2.0 (Number of degrees added to brine freeze set point to enable cooler heater.)	SERVICE1	heatersp	51
→***EWTO***	Entering Water Control		NO/YES			NO	SERVICE1	ewt_opt	33
→***AU.SM***	Auto Start When SM Lost		NO/YES			NO	SERVICE1	auto_sm	68
→***BOTH***	HSM Both Command Select		NO/YES			NO	USER	both_sel	
→***LLWT***	Brine Min. Fluid Temp.	XX	–20-38 F				USER	Mini_Lwt	
→***LOSP***	Brine Freeze Setpoint	XX.X (deg F/deg C)	–4-50 F (–20-10 C)			34.0	SERVICE1	lowestsp	23,24, 33,51, 66,69
→***HD.PG***	Varifan Proportion Gain	XX.X	–10-10			2.0	SERVICE1	hd_pg	
→***HD.DG***	Varifan Derivative Gain	XX.X	–10-10			0.4	SERVICE1	hd_dg	
→***HD.IG***	Varifan Integral Gain	XX.X	–10-10			0.2	SERVICE1	hd_ig	
→***HR.MI***	Reclaim Water Valve Min	XXX.X (%)				20	SERVICE1	min_3w	
→***HR.MA***	Reclaim Water Valve Max	XXX.X (%)				100	SERVICE1	max_3w	
→***AVFA***	Attach Drive to Fan A		NO/YES	Not supported.		NO	SERVICE3	set_drva	
→***AVFB***	Attach Drive to Fan B		NO/YES	Not supported.		NO	SERVICE3	set_drvb	
→***AVFC***	Attach Drive to Fan C		NO/YES	Not supported.		NO	SERVICE3	set_drvc	

APPENDIX A — LOCAL DISPLAY TABLES (cont)

MODE — CONFIGURATION (cont)

ITEM	EXPANSION	UNITS	RANGE	COMMENT	DEFAULT	CCN TABLE	CCN POINT	PAGE NO.
OPTN	UNIT OPTIONS 2 CONTROLS							
→***CCNA***	CCN Address	XXX	1-239		1	N/A	CCNA	46
→***CCNB***	CCN Bus Number	XXX	0-239		0	N/A	CCNB	46
→***BAUD***	CCN Baud Rate		1=2400 2=4800 3=9600 4=19200 5=38400		3	N/A	BAUD	
→***LOAD***	Loading Sequence Select		0=Equal 1=Staged		0	USER	lead_cir	20
→***LLCS***	Lead/Lag Circuit Select		0=Automatic 1=Cir A Leads 2=Cir B Leads 3=Cir C Leads		0	USER	seq_typ	20,21
→***RL.S***	Ramp Load Select		ENBL/DSBL		DSBL	USER	ramp_sel	17,23,
→***DELY***	Minutes Off Time	XX (Minutes)	1 to 15		1	USER	off_on_d	17,31, 68
→***ICE.M***	Ice Mode Enable		ENBL/DSBL		DSBL	USER	ice_cnfg	32,33
→***PUMP***	Cooler Pumps Sequence		0=No Pump 1=1 Pump Only 2=2 Pumps Auto 3=PMP 1 Manual 4=PMP 2 Manual		0	USER	pump_seq	31,44
→***ROT.P***	Pump Rotation Delay	XXXX (hours)	24 to 3000		48	USER	pump_del	47
→***PM.PS***	Periodic Pump Start		NO-YES		NO	USER	pump_per	32
→***P.SBY***	Stop Pump In Standby		NO-YES		NO	USER	pump_sby	
→***P.LOC***	Flow Checked if Pmp Off		NO-YES		YES	USER	pump_loc	32
→***LS.ST***	Night Low Noise Start	XX.XX	00.00-23.59		00.00	USER	nh_start	
→***LS.ND***	Night Low Noise End	XX.XX	00-00-23.59		00.00	USER	nh_end	
→***LS.LT***	Low Noise Capacity Lim	XXX (%)	0-100		100	USER	nh_limit	
→***OA.TH***	Heat Mode OAT Threshold	XX.X (deg F/deg C)		Not supported.	5 F	USER	heat_th	
→***FREE***	Free Cooling OAT Limit	XX.X (deg F/deg C)		Not supported.	32.0	USER	free_oat	
→***BO.TH***	Boiler OAT Threshold	XX.X (deg F/deg C)	5-32 F (–15-0 C)	Not supported.	14	USER	boil_th	
→***EHST***	Elec Stag OAT Threshold	XX.XX (deg F/deg C)	23 -70 F (–5-21 C)	Not supported.	41	USER	ehs_th	
→***EHSB***	Last Heat Elec Backup		NO-YES	Not supported.	NO	USER	ehs_back	
→***E.DEF***	Quick EHS in Defrost		NO-YES	Not supported.	NO	USER	ehs_defr	
→***EHSP***	Elec Heating Pulldown	XX (min)		Not supported.	0	USER	ehs_pull	
→***AUTO***	Auto Changeover Select		NO-YES	Not supported.	NO	USER	auto_sel	
RSET	RESET, COOL AND HEAT TEMP							
→***CRST***	Cooling Reset Type		0=No Reset 1=Out Air Temp 2=Delta T Temp 3=4-20 mA Input 4=Space Temp		0	USER	cr_sel	33,34, 38,46
→***HRST***	Heating Reset Type		0=No Reset 1=Out Air Temp 2=Delta T Temp 3=4-20 mA Input	Not supported.	0	USER	hr_sel	
→***DMDC***	Demand Limit Select		0=None 1=Switch 2=4-20 mA Input		0	USER	lim_sel	41
→***DMMX***	mA for 100% Demand Lim	XX.X (mA)			0.0	USER	lim_mx	41
→***DMZE***	mA for 0% Demand Limit	XX.X (mA)			0.0	USER	lim_ze	41
→***MSSL***	Master/Slave Select		0=Disable 1=Master 2=Slave		0	MST_SLV	ms_sel	46,66, 68
→***SLVA***	Slave Address	XXX	1-236		2	MST_SLV	slv_addr	
→***LLBL***	Lead/Lag Balance Select		ENBL/DSBL		DSBL	MST_SLV	ll_bal	17,45, 46
→***LLBD***	Lead/Lag Balance Delta	XXX (hours)	40-400		168	MST_SLV	ll_bal_d	17,45, 46
→***LLDY***	Lag Start Delay	XX (minutes)	2-30		10	MST_SLV	lsrt_tim	17,45
→***LAGP***	Lag Unit Pump Select		0=Off if Unit stopped 1=On if Unit stopped		0	MST_SLV	lag_pump	17,20, 45
→***LPUL***	Lead Pulldown Time	XX (minutes)	0-60		0	MST_SLV	lead_pul	17,45

APPENDIX A — LOCAL DISPLAY TABLES (cont)

MODE — TIMECLOCK

ITEM	EXPANSION	UNITS	RANGE	COMMENT	WRITE STATUS	CCN TABLE	CCN POINT	PAGE NO.
TIME	TIME OF DAY							
→HH.MM	Hour and Minute	XX.XX	00.00-23.59		forcible*	N/A	HH.MM	
DATE	MONTH DATE DAY AND YEAR							
→MNTH	Month of Year		1=January 2=February 3=March 4=April 5=May 6=June 7=July 8=August 9=September 10=October 11=November 12=December		forcible*	N/A	MNTH	
→DOM	Day of Month	XX	1-31		forcible*	N/A	DOM	
→DAY	Day of Week		1=Monday 2=Tuesday 3=Wednesday 4=Thursday 5=Friday 6=Saturday 7=Sunday		forcible*	N/A	DAY	
→YEAR	Year of Century	XX	00-99		forcible*	N/A	YEAR	
SCH1	TIME SCHEDULE 1							32,33
→PER.1	Period 1 Occ/Unocc Sel							
→PER.1→OCC.1	Occupied Time	XX.XX	00.00-23.59		forcible	OCC1P01S	OCCTOD1	
→PER.1→UNO.1	Unoccupied Time	XX.XX	00.00-23.59		forcible	OCC1P01S	UNOCTOD1	
→PER.1→MON.1	Monday Select		NO/YES		forcible	OCC1P01S	DOW1	
→PER.1→TUE.1	Tuesday Select		NO/YES		forcible	OCC1P01S	DOW1	
→PER.1→WED.1	Wednesday Select		NO/YES		forcible	OCC1P01S	DOW1	
→PER.1→THU.1	Thursday Select		NO/YES		forcible	OCC1P01S	DOW1	
→PER.1→FRI.1	Friday Select		NO/YES		forcible	OCC1P01S	DOW1	
→PER.1→SAT.1	Saturday Select		NO/YES		forcible	OCC1P01S	DOW1	
→PER.1→SUN.1	Sunday Select		NO/YES		forcible	OCC1P01S	DOW1	
→PER.1→HOL.1	Holiday Select		NO/YES		forcible	OCC1P01S	DOW1	
→PER.2	Period 2 Occ/Unocc Sel					OCC1P01S		
→PER.2→OCC.2	Occupied Time	XX.XX	00.00-23.59		forcible	OCC1P01S	OCCTOD2	
→PER.2→UNO.2	Unoccupied Time	XX.XX	00.00-23.59		forcible	OCC1P01S	UNOCTOD2	
→PER.2→MON.2	Monday Select		NO/YES		forcible	OCC1P01S	DOW2	
→PER.2→TUE.2	Tuesday Select		NO/YES		forcible	OCC1P01S	DOW2	
→PER.2→WED.2	Wednesday Select		NO/YES		forcible	OCC1P01S	DOW2	
→PER.2→THU.2	Thursday Select		NO/YES		forcible	OCC1P01S	DOW2	
→PER.2→FRI.2	Friday Select		NO/YES		forcible	OCC1P01S	DOW2	
→PER.2→SAT.2	Saturday Select		NO/YES		forcible	OCC1P01S	DOW2	
→PER.2→SUN.2	Sunday Select		NO/YES		forcible	OCC1P01S	DOW2	
→PER.2→HOL.2	Holiday Select		NO/YES		forcible	OCC1P01S	DOW2	
→PER.3	Period 3 Occ/Unocc Sel					OCC1P01S		
→PER.3→OCC.3	Occupied Time	XX.XX	00.00-23.59		forcible	OCC1P01S	OCCTOD3	
→PER.3→UNO.3	Unoccupied Time	XX.XX	00.00-23.59		forcible	OCC1P01S	UNOCTOD3	
→PER.3→MON.3	Monday Select		NO/YES		forcible	OCC1P01S	DOW3	
→PER.3→TUE.3	Tuesday Select		NO/YES		forcible	OCC1P01S	DOW3	
→PER.3→WED.3	Wednesday Select		NO/YES		forcible	OCC1P01S	DOW3	
→PER.3→THU.3	Thursday Select		NO/YES		forcible	OCC1P01S	DOW3	
→PER.3→FRI.3	Friday Select		NO/YES		forcible	OCC1P01S	DOW3	
→PER.3→SAT.3	Saturday Select		NO/YES		forcible	OCC1P01S	DOW3	
→PER.3→SUN.3	Sunday Select		NO/YES		forcible	OCC1P01S	DOW3	
→PER.3→HOL.3	Holiday Select		NO/YES		forcible	OCC1P01S	DOW3	
→PER.4	Period 4 Occ/Unocc Sel							
→PER.4→OCC.4	Occupied Time	XX.XX	00.00-23.59		forcible	OCC1P01S	OCCTOD4	
→PER.4→UNO.4	Unoccupied Time	XX.XX	00.00-23.59		forcible	OCC1P01S	UNOCTOD4	
→PER.4→MON.4	Monday Select		NO/YES		forcible	OCC1P01S	DOW4	
→PER.4→TUE.4	Tuesday Select		NO/YES		forcible	OCC1P01S	DOW4	
→PER.4→WED.4	Wednesday Select		NO/YES		forcible	OCC1P01S	DOW4	
→PER.4→THU.4	Thursday Select		NO/YES		forcible	OCC1P01S	DOW4	
→PER.4→FRI.4	Friday Select		NO/YES		forcible	OCC1P01S	DOW4	
→PER.4→SAT.4	Saturday Select		NO/YES		forcible	OCC1P01S	DOW4	
→PER.4→SUN.4	Sunday Select		NO/YES		forcible	OCC1P01S	DOW4	
→PER.4→HOL.4	Holiday Select		NO/YES		forcible	OCC1P01S	DOW4	
→PER.5	Period 5 Occ/Unocc Sel							
→PER.5→OCC.5	Occupied Time	XX.XX	00.00-23.59		forcible	OCC1P01S	OCCTOD5	
→PER.5→UNO.5	Unoccupied Time	XX.XX	00.00-23.59		forcible	OCC1P01S	UNOCTOD5	
→PER.5→MON.5	Monday Select		NO/YES		forcible	OCC1P01S	DOW5	
→PER.5→TUE.5	Tuesday Select		NO/YES		forcible	OCC1P01S	DOW5	
→PER.5→WED.5	Wednesday Select		NO/YES		forcible	OCC1P01S	DOW5	
→PER.5→THU.5	Thursday Select		NO/YES		forcible	OCC1P01S	DOW5	
→PER.5→FRI.5	Friday Select		NO/YES		forcible	OCC1P01S	DOW5	
→PER.5→SAT.5	Saturday Select		NO/YES		forcible	OCC1P01S	DOW5	
→PER.5→SUN.5	Sunday Select		NO/YES		forcible	OCC1P01S	DOW5	
→PER.5→HOL.5	Holiday Select		NO/YES		forcible	OCC1P01S	DOW5	
→PER.6	Period 6 Occ/Unocc Sel							
→PER.6→OCC.6	Occupied Time	XX.XX	00.00-23.59		forcible	OCC1P01S	OCCTOD6	
→PER.6→UNO.6	Unoccupied Time	XX.XX	00.00-23.59		forcible	OCC1P01S	UNOCTOD6	
→PER.6→MON.6	Monday Select		NO/YES		forcible	OCC1P01S	DOW6	
→PER.6→TUE.6	Tuesday Select		NO/YES		forcible	OCC1P01S	DOW6	
→PER.6→WED.6	Wednesday Select		NO/YES		forcible	OCC1P01S	DOW6	
→PER.6→THU.6	Thursday Select		NO/YES		forcible	OCC1P01S	DOW6	
→PER.6→FRI.6	Friday Select		NO/YES		forcible	OCC1P01S	DOW6	
→PER.6→SAT.6	Saturday Select		NO/YES		forcible	OCC1P01S	DOW6	
→PER.6→SUN.6	Sunday Select		NO/YES		forcible	OCC1P01S	DOW6	
→PER.6→HOL.6	Holiday Select		NO/YES		forcible	OCC1P01S	DOW6	

*Password protected.

APPENDIX A — LOCAL DISPLAY TABLES (cont)

MODE — TIMECLOCK (cont)

ITEM	EXPANSION	UNITS	RANGE	COMMENT	WRITE STATUS	CCN TABLE	CCN POINT	PAGE NO.
SCH1	TIME SCHEDULE 1							
→PER.7	Period 7 Occ/Unocc Sel							
→PER.7→OCC.7	Occupied Time	XX.XX	00.00-23.59		forcible	OCCP01S	OCCTOD7	
→PER.7→UNO.7	Unoccupied Time	XX.XX	00.00-23.59		forcible	OCCP01S	UNOCTOD7	
→PER.7→MON.7	Monday Select		NO/YES		forcible	OCCP01S	DOW7	
→PER.7→TUE.7	Tuesday Select		NO/YES		forcible	OCCP01S	DOW7	
→PER.7→WED.7	Wednesday Select		NO/YES		forcible	OCCP01S	DOW7	
→PER.7→THU.7	Thursday Select		NO/YES		forcible	OCCP01S	DOW7	
→PER.7→FRI.7	Friday Select		NO/YES		forcible	OCCP01S	DOW7	
→PER.7→SAT.7	Saturday Select		NO/YES		forcible	OCCP01S	DOW7	
→PER.7→SUN.7	Sunday Select		NO/YES		forcible	OCCP01S	DOW7	
→PER.7→HOL.7	Holiday Select		NO/YES		forcible	OCCP01S	DOW7	
→PER.8	Period 8 Occ/Unocc Sel					OCCP01S		
→PER.8→OCC.8	Occupied Time	XX.XX	00.00-23.59		forcible	OCCP01S	OCCTOD8	
→PER.8→UNO.8	Unoccupied Time	XX.XX	00.00-23.59		forcible	OCCP01S	UNOCTOD8	
→PER.8→MON.8	Monday Select		NO/YES		forcible	OCCP01S	DOW8	
→PER.8→TUE.8	Tuesday Select		NO/YES		forcible	OCCP01S	DOW8	
→PER.8→WED.8	Wednesday Select		NO/YES		forcible	OCCP01S	DOW8	
→PER.8→THU.8	Thursday Select		NO/YES		forcible	OCCP01S	DOW8	
→PER.8→FRI.8	Friday Select		NO/YES		forcible	OCCP01S	DOW8	
→PER.8→SAT.8	Saturday Select		NO/YES		forcible	OCCP01S	DOW8	
→PER.8→SUN.8	Sunday Select		NO/YES		forcible	OCCP01S	DOW8	
→PER.8→HOL.8	Holiday Select		NO/YES		forcible	OCCP01S	DOW8	
SCH2	TIME SCHEDULE 2							32,33
→PER.1	Period 1 Occ/Unocc Sel							
→PER.1→OCC.1	Occupied Time	XX.XX	00.00-23.59		forcible	OCC2P02S	OCCTOD1	
→PER.1→UNO.1	Unoccupied Time	XX.XX	00.00-23.59		forcible	OCC2P02S	UNOCTOD1	
→PER.1→MON.1	Monday Select		NO/YES		forcible	OCC2P02S	DOW1	
→PER.1→TUE.1	Tuesday Select		NO/YES		forcible	OCC2P02S	DOW1	
→PER.1→WED.1	Wednesday Select		NO/YES		forcible	OCC2P02S	DOW1	
→PER.1→THU.1	Thursday Select		NO/YES		forcible	OCC2P02S	DOW1	
→PER.1→FRI.1	Friday Select		NO/YES		forcible	OCC2P02S	DOW1	
→PER.1→SAT.1	Saturday Select		NO/YES		forcible	OCC2P02S	DOW1	
→PER.1→SUN.1	Sunday Select		NO/YES		forcible	OCC2P02S	DOW1	
→PER.1→HOL.1	Holiday Select		NO/YES		forcible	OCC2P02S	DOW1	
→PER.2	Period 2 Occ/Unocc Sel							
→PER.2→OCC.2	Occupied Time	XX.XX	00.00-23.59		forcible	OCC2P02S	OCCTOD	
→PER.2→UNO.2	Unoccupied Time	XX.XX	00.00-23.59		forcible	OCC2P02S	UNOCTOD2	
→PER.2→MON.2	Monday Select		NO/YES		forcible	OCC2P02S	DOW2	
→PER.2→TUE.2	Tuesday Select		NO/YES		forcible	OCC2P02S	DOW2	
→PER.2→WED.2	Wednesday Select		NO/YES		forcible	OCC2P02S	DOW2	
→PER.2→THU.2	Thursday Select		NO/YES		forcible	OCC2P02S	DOW2	
→PER.2→FRI.2	Friday Select		NO/YES		forcible	OCC2P02S	DOW2	
→PER.2→SAT.2	Saturday Select		NO/YES		forcible	OCC2P02S	DOW2	
→PER.2→SUN.2	Sunday Select		NO/YES		forcible	OCC2P02S	DOW2	
→PER.2→HOL.2	Holiday Select		NO/YES		forcible	OCC2P02S	DOW2	
→PER.3	Period 3 Occ/Unocc Sel							
→PER.3→OCC.3	Occupied Time	XX.XX	00.00-23.59		forcible	OCC2P02S	OCCTOD	
→PER.3→UNO.3	Unoccupied Time	XX.XX	00.00-23.59		forcible	OCC2P02S	UNOCTOD3	
→PER.3→MON.3	Monday Select		NO/YES		forcible	OCC2P02S	DOW3	
→PER.3→TUE.3	Tuesday Select		NO/YES		forcible	OCC2P02S	DOW3	
→PER.3→WED.3	Wednesday Select		NO/YES		forcible	OCC2P02S	DOW3	
→PER.3→THU.3	Thursday Select		NO/YES		forcible	OCC2P02S	DOW3	
→PER.3→FRI.3	Friday Select		NO/YES		forcible	OCC2P02S	DOW3	
→PER.3→SAT.3	Saturday Select		NO/YES		forcible	OCC2P02S	DOW3	
→PER.3→SUN.3	Sunday Select		NO/YES		forcible	OCC2P02S	DOW3	
→PER.3→HOL.3	Holiday Select		NO/YES		forcible	OCC2P02S	DOW3	
→PER.4	Period 4 Occ/Unocc Sel							
→PER.4→OCC.4	Occupied Time	XX.XX	00.00-23.59		forcible	OCC2P02S	OCCTOD4	
→PER.4→UNO.4	Unoccupied Time	XX.XX	00.00-23.59		forcible	OCC2P02S	UNOCTOD4	
→PER.4→MON.4	Monday Select		NO/YES		forcible	OCC2P02S	DOW4	
→PER.4→TUE.4	Tuesday Select		NO/YES		forcible	OCC2P02S	DOW4	
→PER.4→WED.4	Wednesday Select		NO/YES		forcible	OCC2P02S	DOW4	
→PER.4→THU.4	Thursday Select		NO/YES		forcible	OCC2P02S	DOW4	
→PER.4→FRI.4	Friday Select		NO/YES		forcible	OCC2P02S	DOW4	
→PER.4→SAT.4	Saturday Select		NO/YES		forcible	OCC2P02S	DOW4	
→PER.4→SUN.4	Sunday Select		NO/YES		forcible	OCC2P02S	DOW4	
→PER.4→HOL.4	Holiday Select		NO/YES		forcible	OCC2P02S	DOW4	
→PER.5	Period 5 Occ/Unocc Sel							
→PER.5→OCC.5	Occupied Time	XX.XX	00.00-23.59		forcible	OCC2P02S	OCCTOD5	
→PER.5→UNO.5	Unoccupied Time	XX.XX	00.00-23.59		forcible	OCC2P02S	UNOCTOD5	
→PER.5→MON.5	Monday Select		NO/YES		forcible	OCC2P02S	DOW5	
→PER.5→TUE.5	Tuesday Select		NO/YES		forcible	OCC2P02S	DOW5	
→PER.5→WED.5	Wednesday Select		NO/YES		forcible	OCC2P02S	DOW5	
→PER.5→THU.5	Thursday Select		NO/YES		forcible	OCC2P02S	DOW5	
→PER.5→FRI.5	Friday Select		NO/YES		forcible	OCC2P02S	DOW5	
→PER.5→SAT.5	Saturday Select		NO/YES		forcible	OCC2P02S	DOW5	
→PER.5→SUN.5	Sunday Select		NO/YES		forcible	OCC2P02S	DOW5	
→PER.5→HOL.5	Holiday Select		NO/YES		forcible	OCC2P02S	DOW5	
→PER.6	Period 6 Occ/Unocc Sel							
→PER.6→OCC.6	Occupied Time	XX.XX	00.00-23.59		forcible	OCC2P02S	OCCTOD6	
→PER.6→UNO.6	Unoccupied Time	XX.XX	00.00-23.59		forcible	OCC2P02S	UNOCTOD6	
→PER.6→MON.6	Monday Select		NO/YES		forcible	OCC2P02S	DOW6	
→PER.6→TUE.6	Tuesday Select		NO/YES		forcible	OCC2P02S	DOW6	
→PER.6→WED.6	Wednesday Select		NO/YES		forcible	OCC2P02S	DOW6	
→PER.6→THU.6	Thursday Select		NO/YES		forcible	OCC2P02S	DOW6	
→PER.6→FRI.6	Friday Select		NO/YES		forcible	OCC2P02S	DOW6	
→PER.6→SAT.6	Saturday Select		NO/YES		forcible	OCC2P02S	DOW6	
→PER.6→SUN.6	Sunday Select		NO/YES		forcible	OCC2P02S	DOW6	
→PER.6→HOL.6	Holiday Select		NO/YES		forcible	OCC2P02S	DOW6	

APPENDIX A — LOCAL DISPLAY TABLES (cont)

MODE — TIMECLOCK (cont)

ITEM	EXPANSION	UNITS	RANGE	COMMENT	WRITE STATUS	CCN TABLE	CCN POINT	PAGE NO.
→***PER.7***	Period 7 Occ/Unocc Sel							
→***PER.7***→***OCC.7***	Occupied Time	XX.XX	00.00-23.59		forcible	OCC2P02S	OCCTOD7	
→***PER.7***→***UNO.7***	Unoccupied Time	XX.XX	00.00-23.59		forcible		UNOCTOD7	
→***PER.7***→***MON.7***	Monday Select		NO/YES		forcible		DOW7	
→***PER.7***→***TUE.7***	Tuesday Select		NO/YES		forcible		DOW7	
→***PER.7***→***WED.7***	Wednesday Select		NO/YES		forcible		DOW7	
→***PER.7***→***THU.7***	Thursday Select		NO/YES		forcible		DOW7	
→***PER.7***→***FRI.7***	Friday Select		NO/YES		forcible		DOW7	
→***PER.7***→***SAT.7***	Saturday Select		NO/YES		forcible		DOW7	
→***PER.7***→***SUN.7***	Sunday Select		NO/YES		forcible		DOW7	
→***PER.7***→***HOL.7***	Holiday Select		NO/YES		forcible		DOW7	
→***PER.8***	Period 8 Occ/Unocc Sel							
→***PER.8***→***OCC.8***	Occupied Time	XX.XX	00.00-23.59		forcible		OCCTOD8	
→***PER.8***→***UNO.8***	Unoccupied Time	XX.XX	00.00-23.59		forcible		UNOCTOD8	
→***PER.8***→***MON.8***	Monday Select		NO/YES		forcible		DOW8	
→***PER.8***→***TUE.8***	Tuesday Select		NO/YES		forcible		DOW8	
→***PER.8***→***WED.8***	Wednesday Select		NO/YES		forcible		DOW8	
→***PER.8***→***THU.8***	Thursday Select		NO/YES		forcible		DOW8	
→***PER.8***→***FRI.8***	Friday Select		NO/YES		forcible		DOW8	
→***PER.8***→***SAT.8***	Saturday Select		NO/YES		forcible		DOW8	
→***PER.8***→***SUN.8***	Sunday Select		NO/YES		forcible		DOW8	
→***PER.8***→***HOL.8***	Holiday Select		NO/YES		forcible		DOW8	
HOLI	HOLIDAYS CONFIGURATION							
→***HOL.1***	Holidays Config 1							
→***HOL.1***→***MON.1***	Holiday Start Month		1=January 2=February 3=March 4=April 5=May 6=June 7=July 8=August 9=September 10=October 11=November 12=December		forcible	HOLDY_01	HOL_MON	
→***HOL.1***→***DAY.1***	Holiday Start Day	XX	1 to 31		forcible	HOLDY_01	HOL_DAY	
→***HOL.1***→***DUR.1***	Holiday Duration in Day	XX	1 to 99		forcible	HOLDY_01	HOL_LEN	
→***HOL.1***→***HOL.2***	Holidays Config 2							
→***HOL.1***→***MON.2***	Holiday Start Month		See HOL.1→MON.1		forcible	HOLDY_02	HOL_MON	
→***HOL.2***→***DAY.2***	Holiday Start Day		See HOL.1→DAY.1		forcible	HOLDY_02	HOL_DAY	
→***HOL.2***→***DUR.2***	Holiday Duration in Day		See HOL.1→DUR.1		forcible	HOLDY_02	HOL_LEN	
→***HOL.9***	Holidays Config 9							
→***HOL.9***→***MON.9***	Holiday Start Month		See HOL.1→MON.1		forcible	HOLDY_09	HOL_MON	
→***HOL.9***→***DAY.9***	Holiday Start Day		See HOL.1→DAY.1		forcible	HOLDY_09	HOL_DAY	
→***HOL.9***→***DUR.9***	Holiday Duration in Days		See HOL.1→DUR.1		forcible	HOLDY_09	HOL_LEN	
→***HOL.10***→***HO.10***	Holidays Config 10							
→***HOL.10***→***MO.10***	Holiday Start Month		See HOL.1→MON.1		forcible	HOLDY_09		
→***HOL.10***→***DA.10***	Holiday Start Day		See HOL.1→DAY.1		forcible	HOLDY_09		
→***HOL.10***→***DU.10***	Holiday Duration in Days		See HOL.1→DUR.1		forcible	HOLDY_09		
→***HOL.16***→***HO.16***	Holidays Config 16							
→***HOL.16***→***MO.16***	Holiday Start Month		See HOL.1→MON.1		forcible	HOLDY_16		
→***HOL.16***→***DA.16***	Holiday Start Day		See HOL.1→DAY.1		forcible			
→***HOL.16***→***DU.16***	Holiday Duration in Days		See HOL.1→DUR.1		forcible			
MCFG	SERVICE MAINTENANCE CONFIG							70
→***AL.SV***	Service Warning Select		NO/YES		forcible*	MAINTCFG	s_alert	
→***CHRG***	Refrigerant Charge		NO/YES		forcible*	MAINTCFG	charge_a	
→***WATE***	Water Loop Size		NO/YES		forcible*	MAINTCFG	wloop_c	
→***PMP.1***	Pump 1 (days)	XXXX (days)	0-65,500		forcible†	MAINTCFG	pump1_c	
→***PMP.2***	Pump 2 (days)	XXXX (days)	0-65,500		forcible†	MAINTCFG	pump2_c	
→***PMP.C***	Cond Pump (days)	XXXX (days)	0-65,500		forcible†	MAINTCFG	hpump_c	
→***W.FIL***	Water Filter (days)	XXXX (days)			forcible†	MAINTCFG	wfilte_c	43
→***RS.SV***	Servicing Alert Reset		0=Default 1=Refrigerant Charge 2=Water loop size 3=Not used 4=Pump 1 5=Pump 2 6=Reclaim Pump (not used) 7=Water filter 8=Reset all		forcible†	SERMAINT	s_reset	70

*Default=NO.
†Default=0.

APPENDIX A — LOCAL DISPLAY TABLES (cont)

MODE — OPERATING MODES

ITEM	EXPANSION	UNITS	RANGE	COMMENT	WRITE STATUS	CCN TABLE	CCN POINT	PAGE NO.
SLCT	OPERATING TYPE CONTROL							
→OPER	Operating Control Type		0=Switch Ctrl 1=Time Sched 2=CCN Control	Default = 0	forcible	N/A	N/A	32,46
→SP.SE	Setpoint Select		0=Setpoint Occ 1=Setpoint1 2=Setpoint2 3=4-20mA Setp 4=Dual Setp Sw	Default = 0	forcible	N/A	N/A	32,33, 41
→HC.SE	Heat Cool Select		0=Cooling 1=Heating 2=Auto Chgover 3=Heat Cool Sw	Default = 0 1-3 not supported.	forcible	GENUNIT	HC_SEL	32,33
→RL.SE	Reclaim Select		0=No 1=Yes 2=Switch Ctrl	Default = 0 1 = CCN control	forcible	GENUNIT	RECL_SET	49
MODE	MODES CONTROLLING UNIT							
→MD01	Startup Delay in Effect		OFF/ON			MODES	MODE_01	46
→MD02	Second Setpoint in Use		OFF/ON			MODES	MODE_02	46
→MD03	Reset in Effect		OFF/ON			MODES	MODE_03	46
→MD04	Demand Limit Active		OFF/ON			MODES	MODE_04	46
→MD05	Ramp Loading Active		OFF/ON			MODES	MODE_05	46
→MD06	Cooler Heater Active		OFF/ON			MODES	MODE_06	46
→MD07	Water Pumps Rotation		OFF/ON			MODES	MODE_07	47
→MD08	Pump Periodic Start		OFF/ON			MODES	MODE_08	47
→MD09	Night Low Noise Active		OFF/ON			MODES	MODE_09	47
→MD10	System Manager Active		OFF/ON			MODES	MODE_10	47
→MD11	Mast Slave Ctrl Active		OFF/ON			MODES	MODE_11	47
→MD12	Auto Changeover Active		OFF/ON	Not supported.		MODES	MODE_12	47
→MD13	Free Cooling Active		OFF/ON	Not supported.		MODES	MODE_13	47
→MD14	Reclaim Active		OFF/ON			MODES	MODE_14	47
→MD15	Electric Heat Active		OFF/ON	Not supported.		MODES	MODE_15	47
→MD16	Heating Low EWT Lockout		OFF/ON	Not supported.		MODES	MODE_16	47
→MD17	Boiler Active		OFF/ON	Not supported.		MODES	MODE_17	47
→MD18	Ice Mode in Effect		OFF/ON			MODES	MODE_18	47
→MD19	Defrost Active on Cir A		OFF/ON	Not supported.		MODES	MODE_19	48
→MD20	Defrost Active on Cir B		OFF/ON	Not supported.		MODES	MODE_20	48
→MD21	Low Suction Circuit A		OFF/ON			MODES	MODE_21	48
→MD22	Low Suction Circuit B		OFF/ON			MODES	MODE_22	48
→MD23	Low Suction Circuit C		OFF/ON			MODES	MODE_23	48
→MD24	High DGT Circuit A		OFF/ON			MODES	MODE_24	48
→MD25	High DGT Circuit B		OFF/ON			MODES	MODE_25	48
→MD26	High DGT Circuit C		OFF/ON			MODES	MODE_26	48
→MD27	High Pres Override Cir A		OFF/ON			MODES	MODE_27	48
→MD28	High Pres Override Cir B		OFF/ON			MODES	MODE_28	48
→MD29	High Pres OVerride Cir C		OFF/ON			MODES	MODE_29	48
→MD30	Low Superheat Circuit A		OFF/ON			MODES	MODE_30	48
→MD31	Low Superheat Circuit B		OFF/ON			MODES	MODE_31	48
→MD32	Low Superheat Circuit C		OFF/ON			MODES	MODE_32	48

NOTE: See operating modes starting on page 46.

MODE — ALARMS

ITEM	EXPANSION*	UNITS	RANGE	COMMENT	WRITE STATUS	CCN TABLE	CCN POINT	PAGE NO.
R.ALM	RESET ALL CURRENT ALRM				forcible	N/A	N/A	57
ALRM†	CURRENTLY ACTIVE ALARM							57
	Current Alarm 1					GENUNIT	alarm_1	57
	Current Alarm 2					GENUNIT	alarm_2	57
	Current Alarm 3					GENUNIT	alarm_3	57
	Current Alarm 4					GENUNIT	alarm_4	57
	Current Alarm 5					GENUNIT	alarm_5	57
H.ALM*	ALARM HISTORY							
	Alarm History #1					ALRMHIST	alm_history_01	
	Alarm History #2					ALRMHIST	alm_history_02	
						ALRMHIST		
	Alarm History #29					ALRMHIST	alm_history_29	
	Alarm History #30					ALRMHIST	alm_history_30	

*Expanded display will be actual alarm expansion.
†Up to five current alarms will be displayed.
**History of thirty past alarms will be displayed.

APPENDIX B — CCN TABLES

STATUS DISPLAY TABLES

TABLE	DISPLAY NAME	RANGE	UNITS	POINT NAME	WRITE STATUS
CIRCA_AN					
	Percent Total Capacity	0 - 100	%	CAPA_T	
	Discharge Pressure	nnn.n	PSI	DP_A	
	Suction Pressure	nnn.n	PSI	SP_A	
	Crank Heater Current Cp1	nnn.n	AMPS	cpa1_cur	
	Crank Heater Current Cp2	nnn.n	AMPS	cpa2_cur	
	Crank Heater Current Cp3	nnn.n	AMPS	cpa3_cur	
	Crank Heater Current Cp4	nnn.n	AMPS	cpa4_cur	
	Motor Thermistor Comp 1	nnnn	OHMS	cpa1_tmp	
	Motor Thermistor Comp 2	nnnn	OHMS	cpa2_tmp	
	Motor Thermistor Comp 3	nnnn	OHMS	cpa3_tmp	
	Motor Thermistor Comp 4	nnnn	OHMS	cpa4_tmp	
	Saturated Condensing Tmp	±nnn.n	°F	SCT_A	
	Saturated Suction Temp	±nnn.n	°F	SST_A	
	Suction Gas Temperature	±nnn.n	°F	SUCT_T_A	
	Suction Superheat Temp	±nnn.n	^F	SH_A	
	EXV Position	0 - 100	%	EXV_A	
	Head Press Actuator Pos	0 - 100	%	hd_pos_a	
CIRCA_D					
	Compressor 1 Output	On/Off		CP_A1	
	Compressor 2 Output	On/Off		CP_A2	
	Compressor 3 Output	On/Off		CP_A3	
	Compressor 4 Output	On/Off		CP_A4	
	Compressor 1 Heater Out	On/Off		cp_a1_ht	
	Compressor 2 Heater Out	On/Off		cp_a2_ht	
	Compressor 3 Heater Out	On/Off		cp_a3_ht	
	Compressor 4 Heater Out	On/Off		cp_a4_ht	
	Hot Gas Bypass Output	On/Off		HGBP_V_A	
	Fan Output DO # 1	On/Off		fan_a1	
	Fan Output DO # 2	On/Off		fan_a2	
	Fan Output DO # 3	On/Off		fan_a3	
	Fan Output DO # 4	On/Off		fan_a4	
	Fan Output DO # 5	On/Off		fan_a5	
	Fan Output DO # 6	On/Off		fan_a6	
	Fan Staging Number	0-6		FAN_ST_A	
	4 Way Refrigerant Valve	On/Off		RV_A	
CIRCB_AN					
	Percent Total Capacity	0 - 100	%	CAPB_T	
	Discharge Pressure	nnn.n	PSI	DP_B	
	Suction Pressure	nnn.n	PSI	SP_B	
	Crank Heater Current Cp1	nnn.n	AMPS	cpb1_cur	
	Crank Heater Current Cp2	nnn.n	AMPS	cpb2_cur	
	Crank Heater Current Cp3	nnn.n	AMPS	cpb3_cur	
	Crank Heater Current Cp4	nnn.n	AMPS	cpb4_cur	
	Motor Thermistor Comp 1	nnnn	OHMS	cpb1_tmp	
	Motor Thermistor Comp 2	nnnn	OHMS	cpb2_tmp	
	Motor Thermistor Comp 3	nnnn	OHMS	cpb3_tmp	
	Motor Thermistor Comp 4	nnnn	OHMS	cpb4_tmp	
	Saturated Condensing Tmp	±nnn.n	°F	SCT_B	
	Saturated Suction Temp	±nnn.n	°F	SST_B	
	Suction Gas Temperature	±nnn.n	°F	SUCT_T_B	
	Suction Superheat Temp	±nnn.n	^F	SH_B	
	EXV Position	0-100	%	EXV_B	
	Head Press Actuator Pos	0-100	%	hd_pos_b	
CIRCB_D					
	Compressor 1 Output	On/Off		CP_B1	
	Compressor 2 Output	On/Off		CP_B2	
	Compressor 3 Output	On/Off		CP_B3	
	Compressor 4 Output	On/Off		CP_B4	
	Compressor 1 Heater Out	On/Off		cp_b1_ht	
	Compressor 2 Heater Out	On/Off		cp_b2_ht	
	Compressor 3 Heater Out	On/Off		cp_b3_ht	
	Compressor 4 Heater Out	On/Off		cp_b4_ht	
	Hot Gas Bypass Output	On/Off		HGBP_V_B	
	Fan Output DO # 1	On/Off		fan_b1	
	Fan Output DO # 2	On/Off		fan_b2	
	Fan Output DO # 3	On/Off		fan_b3	
	Fan Output DO # 4	On/Off		fan_b4	
	Fan Output DO # 5	On/Off		fan_b5	
	Fan Output DO # 6	On/Off		fan_b6	
	Fan Staging Number	0-6		FAN_ST_B	
	4 Way Refrigerant Valve	On/Off		RV_B	

APPENDIX B — CCN TABLES (cont)

STATUS DISPLAY TABLES (cont)

TABLE	DISPLAY NAME	RANGE	UNITS	POINT NAME	WRITE STATUS
CIRCC_AN					
	Percent Total Capacity	0-100	%	CAPC_T	
	Discharge Pressure	nnn.n	PSI	DP_C	
	Suction Pressure	nnn.n	PSI	SP_C	
	Crank Heater Current Cp1	nnn.n	AMPS	cpc1_cur	
	Crank Heater Current Cp2	nnn.n	AMPS	cpc2_cur	
	Crank Heater Current Cp3	nnn.n	AMPS	cpc3_cur	
	Crank Heater Current Cp4	nnn.n	AMPS	cpc4_cur	
	Motor Thermistor Comp 1	nnnn	OHMS	cpc1_tmp	
	Motor Thermistor Comp 2	nnnn	OHMS	cpc2_tmp	
	Motor Thermistor Comp 3	nnnn	OHMS	cpc3_tmp	
	Motor Thermistor Comp 4	nnnn	OHMS	cpc4_tmp	
	Saturated Condensing Tmp	±nnn.n	°F	SCT_C	
	Saturated Suction Temp	±nnn.n	°F	SST_C	
	Suction Gas Temperature	±nnn.n	°F	SUCT_T_C	
	Suction Superheat Temp	±nnn.n	^F	SH_C	
	EXV Position	0-100	%	EXV_C	
	Head Press Actuator Pos	0-100	%	hd_pos_c	
CIRCC_D					
	Compressor 1 Output	On/Off		CP_C1	
	Compressor 2 Output	On/Off		CP_C2	
	Compressor 3 Output	On/Off		CP_C3	
	Compressor 4 Output	On/Off		CP_C4	
	Compressor 1 Heater Out	On/Off		cp_c1_ht	
	Compressor 2 Heater Out	On/Off		cp_c2_ht	
	Compressor 3 Heater Out	On/Off		cp_c3_ht	
	Compressor 4 Heater Out	On/Off		cp_c4_ht	
	Hot Gas Bypass Output	On/Off		HGBP_V_C	
	Fan Output DO # 1	On/Off		fan_c1	
	Fan Output DO # 2	On/Off		fan_c2	
	Fan Output DO # 3	On/Off		fan_c3	
	Fan Output DO # 4	On/Off		fan_c4	
	Fan Output DO # 5	On/Off		fan_c5	
	Fan Output DO # 6	On/Off		fan_c6	
	Fan Staging Number	0-6		FAN_ST_C	
FANHOURS	FAN Operating Hours				
	Circuit A Fan #1 Hours	nnnnn	hours	hr_fana1	
	Circuit A Fan #2 Hours	nnnnn	hours	hr_fana2	
	Circuit A Fan #3 Hours	nnnnn	hours	hr_fana3	
	Circuit A Fan #4 Hours	nnnnn	hours	hr_fana4	
	Circuit A Fan #5 Hours	nnnnn	hours	hr_fana5	
	Circuit A Fan #6 Hours	nnnnn	hours	hr_fana6	
	Circuit B Fan #1 Hours	nnnnn	hours	hr_fanb1	
	Circuit B Fan #2 Hours	nnnnn	hours	hr_fanb2	
	Circuit B Fan #3 Hours	nnnnn	hours	hr_fanb3	
	Circuit B Fan #4 Hours	nnnnn	hours	hr_fanb4	
	Circuit B Fan #5 Hours	nnnnn	hours	hr_fanb5	
	Circuit B Fan #6 Hours	nnnnn	hours	hr_fanb6	
	Circuit C Fan #1 Hours	nnnnn	hours	hr_fanc1	
	Circuit C Fan #2 Hours	nnnnn	hours	hr_fanc2	
	Circuit C Fan #3 Hours	nnnnn	hours	hr_fanc3	
	Circuit C Fan #4 Hours	nnnnn	hours	hr_fanc4	
	Circuit C Fan #5 Hours	nnnnn	hours	hr_fanc5	
	Circuit C Fan #6 Hours	nnnnn	hours	hr_fanc6	
	WATER PUMPS				
	Water Pump #1 Hours	nnnnn	hours	hr_cpum1	
	Water Pump #2 Hours	nnnnn	hours	hr_cpum2	
	Heat Reclaim Pump Hours	nnnnn	hours	hr_hpump	
	FREE COOLING PUMPS				
	Circuit A Pump Hours	nnnnn	hours	hr_fcp_a	
	Circuit B Pump Hours	nnnnn	hours	hr_fcp_b	
	Circuit C Pump Hours	nnnnn	hours	hr_fcp_c	

APPENDIX B — CCN TABLES (cont)

STATUS DISPLAY TABLES (cont)

TABLE	DISPLAY NAME	RANGE	UNITS	POINT NAME	WRITE STATUS
FREECOOL	GENERAL PARAMETER				
	Free Cooling Disable?	Yes/No		FC_SW	
	LWT-OAT Delta	nnn.n	^F	fc_delta	
	Current Cooling Power	nnn	KW	cool_pwr	
	Estimated FreeCool Power	nnn	KW	fc_pwr	
	Next session allowed in	nn	min	fc_next	
	Cooling/FreeCool Timeout	nn	min	fc_tmout	
	Free Cool Conditions OK?	Yes/No		fc_ready	
	Free Cool Request ?	Yes/No		fc_reqst	
	Valve Actuator Heaters ?	On/Off		FC_HTR	
	CIRCUIT A				
	Free Cooling Active	Yes/No		fc_on_a	
	Fan Staging Number	1-6		FAN_ST_A	
	3 Way Valve Position	nnn	%	fc_vlv_a	
	3 Way Valve Status	text*		FC_VLV_A	
	Refrigerant Pump Out	On/Off		fc_pmp_a	
	Pump Inlet Pressure	nnn	PSI	fc_inp_a	
	Pump Outlet Pressure	nnn	PSI	fc_oup_a	
	Pump Differential Pressure	nnn	PSI	fc_dp_a	
	CIRCUIT B				
	Free Cooling Active	Yes/No		fc_on_b	
	Fan Staging Number	1-6		FAN_ST_B	
	3 Way Valve Position	nnn	%	fc_vlv_b	
	3 Way Valve Status	text*		FC_VLV_B	
	Refrigerant Pump Out	On/Off		fc_pmp_b	
	Pump Inlet Pressure	nnn	PSI	fc_inp_b	
	Pump Outlet Pressure	nnn	PSI	fc_oup_b	
	Pump Differential Pressure	nnn	PSI	fc_dp_b	

* Text reflects status of valve “Closed,” “Closing,” “Opened,” “Opening,” “Stopped,” or “Failed.”

APPENDIX B — CCN TABLES (cont)

STATUS DISPLAY TABLES (cont)

TABLE	DISPLAY NAME	RANGE	UNITS	POINT NAME	WRITE STATUS
GENUNIT	GENERAL PARAMETER				
	Control Type	Local CCN Remote		ctr_type	
	Run Status	0 = Off 1 = Running 2 = Stopping 3 = Delay 4 = Tripout 5 = Ready 6 = Override 7 = Defrost 8 = Run Test 9 = Test		STATUS	
	CCN Chiller Start/Stop	Enable/Disable		CHIL_S_S	forcible
	Chiller Occupied?	Yes/No		CHIL_OCC	forcible
	Minutes Left for Start	0-15	min	min_left	
	Heat/Cool Status	0 = Cool, 1 = Heat 2 = Stand-by 3 = Both		HEATCOOL	
	Heat/Cool Select (0=Cool, 1=Heat, 2= Auto)	0 = Cool 1 = Heat 2 = Auto		HC_SEL	forcible
	Heat Reclaim Select	Yes/No		RECL_SEL	forcible
	Free Cooling Disable	Yes/No		FC_DSBLE	
	Alarm State	0 Normal 1 Partial 2 Shutdown		ALM	
	Current Alarm 1	nnnnn		alarm_1	
	Current Alarm 2	nnnnn		alarm_2	
	Current Alarm 3	nnnnn		alarm_3	
	Current Alarm 4	nnnnn		alarm_4	
	Current Alarm 5	nnnnn		alarm_5	
	Percent Total Capacity	nnn	%	CAP_T	
	Active Demand Limit Val	nnn	%	DEM_LIM	forcible
	Lag Capacity Limit Value	nnn	%	LAG_LIM	
	Current Setpoint	±nnn.n	°F	SP	
	Setpoint Occupied	Yes/No		SP_OCC	forcible
	Setpoint Control	Setpt 1 Setpt 2 Ice_sp 4-20mA Auto		sp_ctrl	
	Control Point	±nnn.n	°F	CTRL_PNT	forcible
	Controlled Water Temp	±nnn.n	°F	CTRL_WT	
	External Temperature	±nnn.n	°F	OAT	
	Emergency Stop	Enable/Disable		EMSTOP	forcible
MODES	OPERATING MODES				
	Startup Delay in Effect	Yes/No		Mode_01	
	Second Setpoint in Use	Yes/No		Mode_02	
	Reset in Effect	Yes/No		Mode_03	
	Demand Limit Active	Yes/No		Mode_04	
	Ramp Loading Active	Yes/No		Mode_05	
	Cooler Heater Active	Yes/No		Mode_06	
	Cooler Pumps Rotation	Yes/No		Mode_07	
	Pump Periodic Start	Yes/No		Mode_08	
	Night Low Noise Active	Yes/No		Mode_09	
	System Manager Active	Yes/No		Mode_10	
	Master Slave Active	Yes/No		Mode_11	
	Auto Changeover Active	Yes/No		Mode_12	
	Free Cooling Active	Yes/No		Mode_13	
	Reclaim Active	Yes/No		Mode_14	
	Electric Heat Active	Yes/No		Mode_15	
	Heating Low EWT Lockout	Yes/No		Mode_16	
	Boiler Active	Yes/No		Mode_17	
	Ice Mode in Effect	Yes/No		Mode_18	
	Defrost Active On Cir A	Yes/No		Mode_19	
	Defrost Active On Cir B	Yes/No		Mode_20	
	Low Suction Circuit A	Yes/No		Mode_21	
	Low Suction Circuit B	Yes/No		Mode_22	
	Low Suction Circuit C	Yes/No		Mode_23	
	High DGT Circuit A	Yes/No		Mode_24	
	High DGT Circuit B	Yes/No		Mode_25	
	High DGT Circuit C	Yes/No		Mode_26	
	High Pres Override Cir A	Yes/No		Mode_27	
	High Pres Override Cir B	Yes/No		Mode_28	
	High Pres Override Cir C	Yes/No		Mode_29	
	Low Superheat Circuit A	Yes/No		Mode_30	
	Low Superheat Circuit B	Yes/No		Mode_31	
	Low Superheat Circuit C	Yes/No		Mode_32	

APPENDIX B — CCN TABLES (cont)

STATUS DISPLAY TABLES (cont)

TABLE	DISPLAY NAME	RANGE	UNITS	POINT NAME	WRITE STATUS
RECLAIM	Heat Reclaim Select	Yes/no		RECL_SEL	
	Reclaim Condenser Pump	On/Off		CONDPUMP	
	Reclaim Condenser Flow	On/Off		condflow	
	Reclaim Condenser Heater	On/Off		cond_htr	
	Reclaim Entering Fluid	±nnn.n	°F	HR_EWT	
	Reclaim Leaving Fluid	±nnn.n	°F	HR_LWT	
	Reclaim Fluid Setpoint	±nnn.n	°F	RSP	forcible
	Reclaim Valve Position	±nnn.n	%	hr_v_pos	
	HEAT RECLAIM CIRCUIT A				
	Reclaim Status Circuit A	n		hrstat_a	
	Pumpdown Pressure Cir A	±nnn.n	psi	PD_P_A	
	Sub Condenser Temp Cir A	±nnn.n	°F	hr_subta	
	Pumdown Saturated Tmp A	±nnn.n	°F	hr_sat_a	
	Subcooling Temperature A	±nnn.n	^F	hr_subca	
	Air Cond Entering Valv A	On/Off		hr_ea_a	
	Water Cond Enter Valve A	On/Off		hr_ew_a	
	Air Cond Leaving Valve A	On/Off		hr_la_a	
	Water Cond Leaving Val A	On/Off		hr_lw_a	
	HEAT RECLAIM CIRCUIT B				
	Reclaim Status Circuit B	n		hrstat_b	
	Pumpdown Pressure Cir B	±nnn.n	psi	PD_P_B	
	Sub Condenser Temp Cir B	±nnn.n	°F	hr_subtb	
	Pumdown Saturated Tmp B	±nnn.n	°F	hr_sat_b	
	Subcooling Temperature B	±nnn.n	^F	hr_subcb	
	Air Cond Entering Valv B	On/Off		hr_ea_b	
	Water Cond Enter Valve B	On/Off		hr_ew_b	
	Air Cond Leaving Valve B	On/Off		hr_la_b	
	Water Cond Leaving Val B	On/Off		hr_lw_b	
STATEGEN	UNIT DISCRETE IN				
	On/Off – Remote Switch	Open/Close		ONOFF_SW	
	Remote Heat/Cool Switch	Open/Close		HC_SW	
	Current Control	Off, On Cool, On Heat, On Auto		on_ctrl	
	Remote Reclaim Switch	Open/Close		RECL_SW	
	Free Cooling Disable Sw.	Open/close		FC_SW	
	Remote Setpoint Switch	Open/Close		SETP_SW	
	Limit Switch 1 Status	Open/Close		LIM_SW1	
	Limit Switch 2 Status	Open/Close		LIM_SW2	
	Occupied Override Switch	Open/Close		OCC_OVSW	
	Ice Done Storage Switch	Open/Close		ICE_SW	
	Interlock Status	Open/Close		LOCK_1	
	Pump Run Status	Open/Close		PUMP_DEF	
	Remote Interlock Status	Open/Close		REM_ LOCK	
	Electrical Box Safety	Open/Close		ELEC_BOX	
	UNIT DISCRETE OUT				
	Electrical Heat Stage	0-4/Off		EHS_STEP	
	Boiler Command	On/Off		BOILER	
	Water Pump #1 Command	On/Off		CPUMP_1	forcible
	Water Pump #2 Command	On/Off		CPUMP_2	forcible
	Rotate Pumps Now	Yes/No		ROT_PUMP	forcible
	Reclaim Condenser Pump	On/Off		COND_PMP	forcible
	Cooler Heater Command	On/Off		COOLHEAT	
	Shutdown Indicator State	On/Off		SHUTDOWN	
	Alarm Relay Status	On/Off		ALARMOUT	
	Alert Relay Status	On/Off		ALERT	
	Ready or Running Status	On/Off		READY	
	Running Status	On/Off		RUNNING	
	Critical Alarm Status	On/Off		CRITICAL	
	UNIT ANALOG				
	Water Exchanger Entering	±nnn.n	°F	EWT	
	Water Exchanger Leaving	±nnn.n	°F	LWT	
	Optional Space Temp	±nnn.n	°F	SPACETMP	
	CHWS Temperature	±nnn.n	°F	CHWSTEMP	
	Reset /Setpoint 4-20mA In	±nn.n	ma	SP_RESET	
	Limit 4-20mA Signal	±nn.n	ma	LIM_ANAL	
	Chiller Capacity Signal	±nn.n	volts	CAPT_010	

APPENDIX B — CCN TABLES (cont)

STATUS DISPLAY TABLES (cont)

TABLE	DISPLAY NAME	RANGE	UNITS	POINT NAME	WRITE STATUS
STRTHOUR	Machine Operating Hours	nnnnn	hours	HR_MACH	
	Machine Starts Number	nnnnn		st_mach	
	Compressor A1 Hours	nnnnn	hours	HR_CP_A1	
	Compressor A2 Hours	nnnnn	hours	HR_CP_A2	
	Compressor A3 Hours	nnnnn	hours	HR_CP_A3	
	Compressor A4 Hours	nnnnn	hours	HR_CP_A4	
	Compressor A1 Starts	nnnnn		st_cp_a1	
	Compressor A2 Starts	nnnnn		st_cp_a2	
	Compressor A3 Starts	nnnnn		st_cp_a3	
	Compressor A4 Starts	nnnnn		st_cp_a4	
	Compressor B1 Hours	nnnnn	hours	HR_CP_B1	
	Compressor B2 Hours	nnnnn	hours	HR_CP_B2	
	Compressor B3 Hours	nnnnn	hours	HR_CP_B3	
	Compressor B4 Hours	nnnnn	hours	HR_CP_B4	
	Compressor B1 Starts	nnnnn		st_cp_b1	
	Compressor B2 Starts	nnnnn		st_cp_b2	
	Compressor B3 Starts	nnnnn		st_cp_b3	
	Compressor B4 Starts	nnnnn		st_cp_b4	
	Compressor C1 Hours	nnnnn	hours	HR_CP_C1	
	Compressor C2 Hours	nnnnn	hours	HR_CP_C2	
	Compressor C3 Hours	nnnnn	hours	HR_CP_C3	
	Compressor C4 Hours	nnnnn	hours	HR_CP_C4	
	Compressor C1 Starts	nnnnn		st_cp_c1	
	Compressor C2 Starts	nnnnn		st_cp_c2	
	Compressor C4 Starts	nnnnn		st_cp_c3	
	Compressor C4 Starts	nnnnn		st_cp_c4	
	CYCLES				
	Starts Max During 1 Hour	nn		st_cp_mx	
	Starts/hr From Last 24 h	nn		st_cp_av	
	Circuit A Defrost Number	nnnnn		nb_def_a	
	Circuit B Defrost Number	nnnnn		nb_def_b	

CONFIGURATION DISPLAY TABLES

TABLE	DISPLAY NAME	RANGE	DEFAULT	UNITS	POINT NAME
ALARMDEF/ ALARMS01	Alarm Routing Control	0 or 1 for each position	00000000		ALRM_CNT
	Alarm Equipment Priority	0-7	4		EQP_TYP
	Comm Failure Retry Time	1-240	10	min	RETRY_TM
	Realarm Time	1-255	30	min	RE_ALARM
	Alarm System Name	8 chars	PRO_RBRQ		ALRM_NAM
BRODEFS/ BRODCASTS	Activate	0=Unused 1=Broadcast time, date, holiday flag and OAT (as like existing pro_dialog control). 2=For Standalone chiller. Daylight savings time & holiday determination will be done without broadcasting through the bus.	2	—	Ccnbroad
	OAT Broadcast				
	Bus #	0 to 239	0		Oatbusnm
	Element #	0 to 239	0		Oatlocad
	DAYLIGHT SAVINGS SELECT	Disable/Enable	Disable		dayl_sel
	ENTERING				
	Month	1 to 12	3		Startmon
	Day of week* (1=Monday)	1 to 7	7		Startdow
	Week Number of Month†	1 to 5	5		Startwom
	LEAVING				
	Month	1 to 12	10		Stopmon
	Day of week* (1=Monday)	1 to 7	7		Stopdow
	Week Number of Month†	1 to 5	5		stopwom

*Day of week where daylight savings time will occur in the morning (at 2:00 am). In the default setting, daylight savings time occurs on Sunday (7) morning, 1 hour shall be added when entering and 1 hour subtracted when leaving.

†Date once selected (from 1) shall occur in the week number entered. 1: If day of week selected is 7 (Sunday) time change will occur the first Sunday (week number 1) in the month. 5: If day of week selected is 7 (Sunday) time change will occur the last Sunday of the month (week number 4 or 5).

APPENDIX B — CCN TABLES (cont)

CONFIGURATION DISPLAY TABLES (cont)

TABLE	DISPLAY NAME	RANGE	DEFAULT	UNITS	POINT NAME
!CtrID / PD5_RBRQ:	Device Name	8 chars			
	Description	24 chars	PRO-DIALOG 5 30RB&30RQ		
	Location	24 chars			
	Software Part Number	16 chars	CSA-SR-20C460301		
	Model Number	20 chars			
	Serial Number	12 chars			
	Reference Number	24 chars			

TABLE	DISPLAY NAME	RANGE	DEFAULT	UNITS	POINT NAME
DISPCONF	Metric Display on STDU	Yes/No	No		DISPUNIT
	Language Selection 0=English 1=Espanol 2=Francais 3=Portugues 4=English2	0=English 1=Espanol 2=Francais 3=Portugues 4=English2	0		LANGUAGE
FACTORY	Unit Type	1 (Cooling Only), 2 (not supported)	1		unit_typ
	Unit Capacity*	56 to 500	Unit Dependent	tons	unitsize
	NB Fans on Varifan Cir A†	0 to 6	0		varfan_a
	NB Fans on Varifan Cir B†	0 to 6	0		varfan_b
	NB Fans on Varifan Cir C†	0 to 6	0		varfan_c
	Air Cooled Reclaim Sel	Yes/No	No		recl_opt
	Free Cooling Select	Yes/No	No		free_opt
	Electrical Heat Stages	0 to 4	0		ehs_sel
	Boiler Command Select	Yes/No	No		boil_sel
	Power Frequence 60HZ Sel	Yes/No	Yes		freq_60H
	Energy Management Module	Yes/No	No		emm_nrcp
	Hot Gas Bypass Select	0-Hot gas bypass valve (not used) 1=Used for Startup only 2=Close Control 3=High Ambient (if High pressure mode is active, close control shall be active)	0		hgbp_sel
	Pro_dialog Display Selec	No=Use *Comfort*Link™ display as user interface (factory installed) Yes=Use Pro_dialog synopsis as user interface (not supported)	No (Must be set to No for *Comfort*Link display)		pd4_disp
	Factory Password	0 to 150	111		fac_pass
	High Static Fan Control	Not Supported	No		hsta_fan
	MCHX Exchanger Select	Yes/No	Unit Dependent		mchx_sel
	VLT Fan Drive Select	Not Supported	0		vlt_sel
	VLT Fan Drive RPM	Not Supported	0		vlt_rpm
	Desuperheater Select	Not Supported	No		desuper
	Dual Speed Fan Select	Not Supported	No		dual_fan

* Enter unit size. This item allows the controls to determine capacity of each compressor and the total number of fans on each circuit based on a compressor arrangement array (can be viewed in table FACTORY2). It is not necessary to enter compressor capacity and number of fans on each circuit. See the Unit Compressor Configuration table below as a reference.

† Number of fans controlled directly by a variable speed fan actuator using 0 to 10 vdc signal. This will enable the controls to determine the remaining discrete fan staging outputs from the total fans on each circuit. Configure to 1 for low ambient head pressure control.

UNIT COMPRESSOR CAPACITY (%) CONFIGURATION

30RB UNIT SIZE	POINT NAME (FACTORY2 TABLE)											
	cap_a1	cap_a2	cap_a3	cap_a4	cap_b1	cap_b2	cap_b3	cap_b4	cap_c1	cap_c2	cap_c3	cap_c4
060	20	20	0	0	20	0	0	0	0	0	0	0
070	25	25	0	0	20	0	0	0	0	0	0	0
080	20	20	0	0	20	20	0	0	0	0	0	0
090	25	25	0	0	20	20	0	0	0	0	0	0
100	25	25	0	0	25	25	0	0	0	0	0	0
110	25	25	0	0	20	20	20	0	0	0	0	0
120	25	25	0	0	25	25	25	0	0	0	0	0
130	25	25	25	0	20	20	20	0	0	0	0	0
150	25	25	25	0	25	25	25	0	0	0	0	0
160	25	25	25	25	20	20	20	0	0	0	0	0
170	25	25	25	25	25	25	25	0	0	0	0	0
190	25	25	25	25	25	25	25	25	0	0	0	0
210	25	25	25	0	20	20	20	0	25	25	25	0
225	25	25	25	0	25	25	25	0	25	25	25	0
250	25	25	25	0	25	25	25	0	25	25	25	25
275	25	25	25	25	25	25	25	25	25	25	25	0
300	25	25	25	25	25	25	25	25	25	25	25	25

APPENDIX B — CCN TABLES (cont)

CONFIGURATION DISPLAY TABLES (cont)

TABLE	DISPLAY NAME	RANGE	DEFAULT	UNITS	POINT NAME
FACTORY2	Compressor A1 Capacity	0 to 99	0		cap_a1
	Compressor A2 Capacity	0 to 99	0		cap_a2
	Compressor A3 Capacity	0 to 99	0		cap_a3
	Compressor A4 Capacity	0 to 99	0		cap_a4
	Compressor B1 Capacity	0 to 99	0		cap_b1
	Compressor B2 Capacity	0 to 99	0		cap_b2
	Compressor B3 Capacity	0 to 99	0		cap_b3
	Compressor B4 Capacity	0 to 99	0		cap_b4
	Compressor C1 Capacity	0 to 99	0		cap_c1
	Compressor C2 Capacity	0 to 99	0		cap_c2
	Compressor C3 Capacity	0 to 99	0		cap_c3
	Compressor C4 Capacity	0 to 99	0		cap_c4
	Circuit A Total Fans NB	0 to 6	0		nb_fan_a
	Circuit B Total Fans NB	0 to 6	0		nb_fan_b
	Circuit C Total Fans NB	0 to 6	0		nb_fan_c
	EXV A Maximum Steps Numb	0/15000	0=EXV not used		exva_max
	EXV B Maximum Steps Numb	0/15000	0		exvb_max
	EXV C Maximum Steps Numb	0/15000	0		exvc_max

NOTES:
1. Compressor capacity will be automatically be determined if unit size entered in FACTORY1 table matches the values in the unit compressor configuration table.
2. Total number of fans includes fans controlled by a variable speed fan. This value will be automatically populated if unit size entered in FACTORY1 table matches the values in the unit compressor configuration table.

TABLE	DISPLAY NAME	RANGE	DEFAULT	UNITS	POINT NAME
HOLIDAY/ HOLDY01S to HOLDY16S	Holiday Start Month	0-12	0		HOL_MON
	Start Day	0-31	0		HOL_DAY
	Duration (days)	0-99	0		HOL_LEN
MST_SLV	MASTER SLAVE CONTROL				
	Master/Slave Select 0=Disable 1=Master 2=Slave	0=Disable 1=Master 2=Slave	0		ms_sel
	Master Control Type 1=Local Control 2=Remote Control 3=CCN Control	1=Local Control 2=Remote Control 3=CCN Control	1		ms_ctrl
	Slave Address	1 to 236	2		slv_addr
	Lag Start Timer	2 to 30	10	min	lstr_tim
	Lead/Lag Balance	Yes/No	No		ll_bal
	Lead/Lag Balance Delta	40 to 400	168	hours	ll_bal_d
	Lag Unit Pump Control 0=Stop if Unit Stops 1=Run if Unit Stops	0=Stop if Unit Stops 1=Run if Unit Stops	0		lag_pump
	Lead Pulldown Time	0 to 60	0	min	lead_pul
OCCDEFCS/ OCCPC01S and OCCPC02S	Timed Override Hours	0-4	0		OVR_EXT
	Period 1 DOW (MTWTFSSH)	0/1	11111111		DOW1
	Occupied From	00:00-24:00	00:00		OCCTOD1
	Occupied To	00:00-24:00	24:00		UNOCTOD1
	Period 2 DOW (MTWTFSSH)	0/1	11111111		DOW2
	Occupied From	00:00-24:00	00:00		OCCTOD2
	Occupied To	00:00-24:00	00:00		UNOCTOD2
	Period 3 DOW (MTWTFSSH)	0/1	00000000		DOW3
	Occupied From	00:00-24:00	00:00		OCCTOD3
	Occupied To	00:00-24:00	00:00		UNOCTOD3
	Period 4 DOW (MTWTFSSH)	0/1	00000000		DOW4
	Occupied From	00:00-24:00	00:00		OCCTOD4
	Occupied To	00:00-24:00	00:00		UNOCTOD4
	Period 5 DOW (MTWTFSSH)	0/1	00000000		DOW5
	Occupied From	00:00-24:00	00:00		OCCTOD5
	Occupied To	00:00-24:00	00:00		UNOCTOD5
	Period 6 DOW (MTWTFSSH)	0/1	00000000		DOW6
	Occupied From	00:00-24:00	00:00		OCCTOD6
	Occupied To	00:00-24:00	00:00		UNOCTOD6
	Period 7 DOW (MTWTFSSH)	0/1	00000000		DOW7
	Occupied From	00:00-24:00	00:00		OCCTOD7
	Occupied To	00:00-24:00	00:00		UNOCTOD7
	Period 8 DOW (MTWTFSSH)	0/1	00000000		DOW8
	Occupied From	00:00-24:00	00:00		OCCTOD8
	Occupied To	00:00-24:00	00:00		UNOCTOD8

APPENDIX B — CCN TABLES (cont)

CONFIGURATION DISPLAY TABLES (cont)

TABLE	DISPLAY NAME	RANGE	DEFAULT	UNITS	POINT NAME
USER	Circuit Loading Sequence 0=Auto,1=A Lead 2=B Lead, 3 =C Lead	0-3 0=Auto, 1=A Lead 2=B Lead, 3 =C Lead	0		lead_cir
	Staged Loading Sequence	No/Yes	No		seq_typ
	Ramp Loading Select	No/Yes	No		ramp_sel
	Unit Off to On Delay	1-15	1	Min	off_on_d
	Cooler Pumps Sequence 0=No Pump 1=One Pump Only 2=Two Pumps Auto 3=Pump#1 Manual 4=Pump#2 Manual	0-4 0=No Pump 1=One Pump Only 2=Two Pumps Auto 3=Pump#1 Manual 4=Pump#2 Manual	0		pump_seq
	Pump Auto Rotation Delay	24-3000	48	hours	pump_del
	Pump Sticking Protection	No/Yes	No		pump_per
	Stop Pump During Standby	No/Yes	No		pump_sby
	Flow Checked if Pump Off	No/Yes	Yes		pump_loc
	Auto Changeover Select	No/Yes	No		auto_sel
	Cooling Reset Select	0-4	0		cr_sel
	Heating Reset Select 1 =OAT, 0=None 2=Delta T, 3=4-20mA Control 4=Space Temp	0-4 1 =OAT, 0=None 2=Delta T, 3=4-20mA Control 4=Space Temp	0		hr_sel
	Demand Limit Type Select 0=None 1=Switch Control 2=4-20mA Control	0-2 0=None 1=Switch Control 2=4-20mA Control	0		lim_sel
	mA For 100% Demand Limit	0-20	0	ma	lim_mx
	mA For 0% Demand Limit	0-20	0	ma	lim_ze
	Heating OAT Threshold	-4-32	5	°F	heat_th
	Boiler OAT Threshold	5-59	14	°F	boil_th
	Free Cooling	-4-37.4	32	°F	free_oat
	OAT Threshold	-4-37.4	32.0	°F	free_th
	Full Load Timeout	5-60	15	min	fc_tmout
	Pre_Cooling Selected	No/Yes	No		pre_cool
	HSM Both Commande Select	No/Yes	No		both_sel
	Elec Stage OAT Threshold	23-70	41	°F	ehs_th
	1 Elec Stage for backup	No/Yes	No		ehs_back
	Electrical Pulldown Time	0-60	0	min	ehs_pull
	Quick EHS for Defrost	No/Yes	No		ehs_defr
	Night control				
	Start Hour	00:00-24:00	00:00		nh_start
	End Hour	00:00-24:00	00:00		nh_end
	Capacity Limit	0-100	100	%	nh_cnfg
	Ice Mode Enable	No/Yes	No		ice_cnfg
	Menu Description Select	No/Yes	Yes		menu_des
	Pass For All User Config	No/Yes	No		all_pass

NOTES:
1. Flow checked if pump off needed when a command is sent to the primary pump to prevent cooler from freezing in winter conditions. Command will set the cooler flow switch to closed while the controls stop the cooler pump. The controls may then generate an alarm. If this decision is active, the cooler flow switch is not checked when the cooler pump is stopped.
2. If cooling reset select set point has been selected the set point based on 4 to 20 mA input signal through *Comfort*Link™ controls, then a 4 to 20 mA reset function shall be ignored. Configuration 3 (4-20mA Control) and 4 (Space Temperature) shall require an Energy Management Module.
3. Configuration 2 (4-20mA Control) shall require an Energy Management Module. Configuration 1 Switch Demand limit provides 3 step demand limit if an Energy Management Module is present. Otherwise, only one step is allowed.

APPENDIX B — CCN TABLES (cont)

SETPOINT DISPLAY TABLES

TABLE	DISPLAY NAME	RANGE	DEFAULT	UNITS	POINT NAME
SETPOINT	COOLING				
	Cooling Setpoint 1	–20.0-78.8	44.0	°F	csp1
	Cooling Setpoint 2	–20.0-78.8	44.0	°F	csp2
	Cooling Ice Setpoinp	–20.0-32.0	44.0	°F	ice_sp
	OAT No Reset Value	14-125	14.0	°F	oatcr_no
	OAT Full Reset Value	14-125	14.0	°F	oatcr_fu
	Delta T No Reset Value	0-25	0.0	^F	dt_cr_no
	Delta T Full Reset Value	0-25	0.0	^F	dt_cr_fu
	Current No Reset Value	0-20	0.0	ma	v_cr_no
	Current Full Reset Value	0-20	0.0	ma	v_cr_fu
	Space T No Reset Value	14-125	14.0	°F	spacr_no
	Space T Full Reset Value	14-125	14.0	°F	spacr_fu
	Cooling Reset Deg. Value	–30-30	0.0	^F	cr_deg
	Cooling Ramp Loading	0.2-2.0	1.0	^F	cramp_sp
	HEATING				
	Heating Setpoint 1	68.0-122.0	100.0	°F	hsp1
	Heating Setpoint 2	68.0-122.0	100.0	°F	hsp2
	OAT No Reset Value	14-125	14.0	°F	oathr_no
	OAT Full Reset Value	14-125	14.0	°F	oathr_fu
	Delta T No Reset Value	0-25	0.0	^F	dt_hr_no
	Delta T Full Reset Value	0- 25	0.0	^F	dt_hr_fu
	Current No Reset Value	0-20	0.0	ma	v_hr_no
	Current Full Reset Value	0-20	0.0	ma	v_hr_fu
	Heating Reset Deg. Value	–30-30	0.0	^F	hr_deg
	Heating Ramp Loading	0.2-2.0	1.0	^F	hramp_sp
	AUTO CHANGEOVER				
	Cool Changeover Setpt	39-122	75.0	°F	cauto_sp
	Heat Changeover Setpt	32-115	64.0	°F	hauto_sp
	MISCELLANEOUS				
	Switch Limit Setpoint 1	0-100	100	%	lim_sp1
	Switch Limit Setpoint 2	0-100	100	%	lim_sp2
	Switch Limit Setpoint 3	0-100	100	%	lim_sp3
	Reclaim Setpoint	95.0-122.0	122.0	°F	rsp
	Reclaim Deadband	5-27	9.0	^F	hr_deadb
	Head Setpoint	40.0-122.0	95.0	°F	head_stp
	Fan Max Speed	0-100	100	%	fan_smax

MAINTENANCE DISPLAY TABLES

TABLE	DISPLAY NAME	RANGE	UNITS	POINT NAME	WRITE STATUS
DEFROSTM	CIR A DEFROST CONTROL				
	Exchanger Frost Factor	0-100	%	frost_a	
	Next Sequence Allowed in	nnn	min	def_se_a	
	Defrost Active?	True/False		mode[19]	
	Defrost Temperature	±nnn.n	°F	DEFRT_A	
	Defrost Duration	nnn	min	defr_dua	
	Fan Sequence Started	n		def_fa_a	
	Override State	nn		over_d_a	
	Mean SST Calculation	±nnn.n	°F	sst_dm_a	
	Delta: OAT - Mean SST	±nnn.n	^F	delt_a	
	Reference Delta	±nnn.n	^F	delt_r_a	
	Delta - Reference Delta	±nnn.n	°F	delt_v_a	
	Frost Integrator Gain	n.n		fr_int_a	
	Defrost Fan Start Cal A	0.00	psi	def_ca_a	
	Defrost Fan Offset Cal A	0.00	psi	def_of_a	
	CIR B DEFROST CONTROL				
	Exchanger Frost Factor	0-100	%	frost_b	
	Next Sequence Allowed in	nnn	min	def_se_b	
	Defrost Active?	True/False		mode[20]	
	Defrost Temperature	±nnn.n	°F	DEFRT_B	
	Defrost Duration	nnn	min	defr_dub	
	Fan Sequence Started?	n		def_fa_b	
	Override State	nn		over_d_b	
	Mean SST calculation	±nnn.n	°F	sst_dm_b	
	Delta: OAT - Mean SST	±nnn.n	^F	delt_b	
	Reference Delta	±nnn.n	^F	delt_r_b	
	Delta - Reference Delta	±nnn.n	^F	delt_v_b	
	Frost Integrator Gain	n.n		fr_int_b	
	Defrost Fan Start Cal B	0.00	psi	def_ca_b	
	Defrost Fan Offset Cal B	0.00	psi	def_of_b	

NOTES: Tables for display only. Forcing shall not be supported on this maintenance screen.

APPENDIX B — CCN TABLES (cont)
MAINTENANCE DISPLAY TABLES (cont)

TABLE	DISPLAY NAME	RANGE	UNITS	POINT NAME	WRITE STATUS
FANCTRL	Cir A SCT Control Point		°F	sct_sp_a	
	Cir A SCT Candidate		°F	sct_fu_a	
	Cir A Fan Drive Power		kW	drva_pwr	
	Cir A Fan Drive Version			drva_ver	
	Cir B SCT Control Point		°F	sct_sp_b	
	Cir B SCT Candidate		°F	sct_fu_b	
	Cir B Fan Drive Power		kW	drvb_pwr	
	Cir B Fan Drive Version			drvb_ver	
	Cir C SCT Control Point		°F	sct_sp_c	
	Cir C SCT Candidate		°F	sct_fu_c	
	Cir C Fan Drive Power		kW	drvc_pwr	
	Cir C Fan Drive Version			drvc_ver	
LAST_POR	Power On 1: day-mon-year	nnnnnn		date_on1	
	Power On 1: hour-minute	nnnn		time_on1	
	PowerDown 1:day-mon-year	nnnnnn		date_of1	
	PowerDown 1:hour-minute	nnnn		time_of1	
	Power On 2: day-mon-year	nnnnnn		date_on2	
	Power On 2: hour-minute	nnnn		time_on2	
	PowerDown 2:day-mon-year	nnnnnn		date_of2	
	PowerDown 2:hour-minute	nnnn		time_of2	
	Power On 3: day-mon-year	nnnnnn		date_on3	
	Power On 3: hour-minute	nnnn		time_on3	
	PowerDown 3:day-mon-year	nnnnnn		date_of3	
	PowerDown 3:hour-minute	nnnn		time_of3	
	Power On 4: day-mon-year	nnnnnn		date_on4	
	Power On 4: hour-minute	nnnn		time_on4	
	PowerDown 4:day-mon-year	nnnnnn		date_of4	
	PowerDown 4:hour-minute	nnnn		time_of4	
	Power On 5: day-mon-year	nnnnnn		date_on5	
	Power On 5: hour-minute	nnnn		time_on5	
	PowerDown 5:day-mon-year	nnnnnn		date_of5	
	PowerDown 5:hour-minute	nnnn		time_of5	
LOADFACT					
	Average Ctrl Water Temp	±nnn.n	°F	ctrl_avg	
	Differential Water Temp	±nnn.n	°F	diff_wt	
	Water Delta T	±nnn.n	^F	delta_t	
	Control Point	±nnn.n	°F	CTRL_PNT	
	Reset Amount	±nnn.n	^F	reset	
	Controlled Temp Error	±nnn.n	^F	tp_error	
	Actual Capacity	nnn	%	cap_t	
	Actual Capacity Limit	nnn	%	cap_lim	
	Current Z Multiplier Val	±n.n		zm	
	Load/Unload Factor	±nnn.n	%	smz	
	Active Stage Number	nn		cur_stag	
	Active Capacity Override	nn		over_cap	
	EXV Position Limit Cir A	nnn.n	%	exvlim_a	
	SH Setpoint Circuit A	nn.n	^F	sh_sp_a	
	Cooler Exchange DT Cir A	nn.n	^F	pinch_a	
	Cooler Pinch Ctl Point A	nn.n	^F	pinch_spa	
	EXV Override Circuit A	nn		ov_exv_a	
	EXV Position Limit Cir B	nnn.n	%	exvlim_b	
	SH Setpoint Circuit B	nn.n	^F	sh_sp_b	
	Cooler Exchange DT Cir B	nn.n	^F	pinch_b	
	Cooler Pinch Ctl Point B	nn.n	^F	pinch_spb	
	EXV Override Circuit B	nn		ov_exv_b	
	EXV Position Limit Cir C	nnn.n	%	exvlim_c	
	SH Setpoint Circuit C	nn.n	^F	sh_sp_c	
	Cooler Exchange DT Cir C	nn.n	^F	pinch_c	
	Cooler Pinch Ctl Point C	nn.n	^F	pinch_spc	
	EXV Override Circuit C	nn		ov_exv_c	
	EHS Ctrl Override	nn		over_ehs	
	Requested Electric Stage	nn		eh_stage	
	Electrical Pulldown?	True/False		Ehspulld	
	Required Cooling Power			req_pow	
	Free Cool Override Cir A			ov_fc_a	
	Free Cool Override Cir B			ov_fc_b	

APPENDIX B — CCN TABLES (cont)

MAINTENANCE DISPLAY TABLES (cont)

TABLE	DISPLAY NAME	RANGE	UNITS	POINT NAME	WRITE STATUS
MSTSLAVE	MASTER/SLAVE CONTROL				
	Unit is Master or Slave	Disable/Master/Slave		mstslv	
	Master Control Type*	Local/Remote/CCN		ms_ctrl	
	Master/Slave Ctrl Active	True/False		ms_activ	
	Lead Unit is the	Master/Slave		lead_sel	
	Slave Chiller State†	0/1/2/3/4/5		slv_stat	
	Slave Chiller Total Cap	0-100	%	slv_capt	
	Lag Start Delay**	1-30	min	l_strt_d	
	Lead/Lag Hours Delta*	±nnnnn	hours	ll_hr_d	
	Lead/Lag Changeover?**	Yes/No		ll_chang	
	Lead Pulldown?	Yes/No		ll_pull	
	Master/Slave Error	nn		ms_error	
	Max Available Capacity?††	True/False		cap_max	

*Always CCN for the slave chiller.
†Slave chiller chillstat value.
**This decision is consistent for Master chiller only. It shall be set by default to 0 for the slave chiller.
††This item is true when chiller has loaded its total available capacity tonnage.

TABLE	DISPLAY NAME	RANGE	UNITS	POINT NAME	WRITE STATUS
OCCDEFCM/ OCC1PO1S OCC2PO2S	Current Mode (1=occup.)	0/1		MODE	
	Current Occp Period #	1 to 8		PER_NO	
	Timed-Override in Effect	Yes/No		OVERLAST	
	Timed-Override Duration	0-4	hours	OVR_HRS	
	Current Occupied Time	00:00-23:59		STRTTIME	
	Current Unoccupied Time	00:00-23:59		ENDTIME	
	Next Occupied Day	Mon-Sun		NXTOCDAY	
	Next Occupied Time	00:00-23:59		NXTOCTIM	
	Next Unoccupied Day	Mon-Sun		NXTUNDAY	
	Next Unoccupied Time	00:00-23:59		NXTUNTIM	
	Prev Unoccupied Day	Mon-Sun		PRVUNDAY	
	Prev Unoccupied Time	00:00-23:59		PRVUNTIM	

TABLE	DISPLAY NAME	RANGE	UNITS	POINT NAME	WRITE STATUS
PR_LIMIT	Discharge A Temp Average	±nnn.n	°F	sdt_m_a	
	Discharge A Temp Rate	±nnn.n	^F	sdt_mr_a	
	Discharge A Gas Limit	±nnn.n	°F	sdtlim_a	
	Suction A Temp Average	±nnn.n	°F	sst_m_a	
	Discharge A Tp Average 2	±nnn.n	^F	sdt_m2_a	
	Discharge A Temp Limit2	±nnn.n	^F	sdtlim2a	
	Discharge B Temp Average	±nnn.n	°F	sdt_m_b	
	Discharge B Temp Rate	±nnn.n	^F	sdt_mr_b	
	Discharge B Gas Limit	±nnn.n	°F	sdtlim_b	
	Suction B Temp Average	±nnn.n	°F	sst_m_b	
	Discharge C Temp Average	±nnn.n	°F	sdt_m_c	
	Discharge C Temp Rate	±nnn.n	^F	sdt_mr_c	
	Discharge C Gas Limit	±nnn.n	°F	sdtlim_c	
	Suction C Temp Average	±nnn.n	°F	sst_m_c	

NOTE: Table for display only. Used for Cooling and Heat Pump Compressor Envelope.

TABLE	DISPLAY NAME	RANGE	UNITS	POINT NAME	WRITE STATUS
SERMAINT	Reset Maintenance Alert 1 to 6: reset individually 7: reset all	nn		S_RESET	forcible
	OPERATION WARNINGS				
	1 — Refrigerant Charge	Normal/Low/Disable		charge_m	
	2 — Water Loop Size	Normal/Low/Disable		wloop_m	
	GENERAL SERVICING DELAYS				
	3 — Pump 1 (days)	0-1000/Alert/Disable		cpump1_m	
	4 — Pump 2 (days)	0-1000/Alert/Disable		cpump2_m	
	5 — Reclaim Pump (days)	0-1000/Alert/Disable		hpump_m	
	6 — Water Filter (days)	0-1000/Alert/Disable		wfilte_m	

APPENDIX B — CCN TABLES (cont)

SERVICE DISPLAY TABLES

TABLE	DISPLAY NAME	RANGE	DEFAULT	UNITS	POINT NAME	WRITE STATUS
CP_UNABL	Compressor A1 Disable	No/Yes	No		un_cp_a1	
	Compressor A2 Disable	No/Yes	No		un_cp_a2	
	Compressor A3 Disable	No/Yes	No		un_cp_a3	
	Compressor A4 Disable	No/Yes	No		un_cp_a4	
	Compressor B1 Disable	No/Yes	No		un_cp_b1	
	Compressor B2 Disable	No/Yes	No		un_cp_b2	
	Compressor B3 Disable	No/Yes	No		un_cp_b3	
	Compressor B4 Disable	No/Yes	No		un_cp_b4	
	Compressor C1 Disable	No/Yes	No		un_cp_c1	
	Compressor C2 Disable	No/Yes	No		un_cp_c2	
	Compressor C3 Disable	No/Yes	No		un_cp_c3	
	Compressor C4 Disable	No/Yes	No		un_cp_c4	

NOTES:
1. Table used to disable compressors for maintenance purposes. The capacity control will consider that these compressors (once set to YES) are failed manually (no alarm will appear).
2. All data will be re-initialized to “NO” at Power on reset on units using pro_dialog display. For *Comfort*Link™ display, data shall be saved.

TABLE	DISPLAY NAME	RANGE	DEFAULT	UNITS	POINT NAME	WRITE STATUS
MAINTCFG	MAINTENANCE CONFIG					
	Servicing Alert	Enable/Disable	Disable		s_alert	
	Refrigerant Charge Ctrl	Enable/Disable	Disable		charge_c	
	Water Loop Control	Enable/Disable	Disable		wloop_c	
	CPump 1 Ctl Delay (days)	0-1000	0		cpump1_c	
	CPump 2 Ctl Delay (days)	0-1000	0		cpump2_c	
	HPump Ctrl Delay (days)	0-1000	0		hpump_c	
	Water Filter Ctrl (days)	0-1000	0		wfilte_c	

TABLE	DISPLAY NAME	RANGE	DEFAULT	UNITS	POINT NAME	WRITE STATUS
SERVICE1	Cooler Fluid Type	1-3	1		flui_typ	
	Entering Fluid Control	Yes/No	No		ewt_opt	
	Prop PID Gain Varifan	–20.0-20.0	2.0		hd_pg	
	Int PID Gain Varifan	–5.0-5.0	0.2		hd_ig	
	Deri PID Gain Varifan	–20.0-20.0	0.4		hd_dg	
	EXV A Superheat Setpoint	2.5-54.0	9.0	^F	sh_sp_a	
	EXV B Superheat Setpoint	2.5-54.0	9.0	^F	sh_sp_b	
	EXV C Superheat Setpoint	2.5-54.0	9.0	^F	sh_sp_c	
	EXV MOP Setpoint	30.8-50.0	50.0	°F	mop_sp	
	High Pressure Threshold	500-640	609	psi	hp_th	
	Cooler Heater Delta Spt	1-6	2	^F	heatersp	
	Brine Freeze Setpoint	–20-34	34	°F	lowestsp	
	Minimum LWT Setpoint		38	°F	mini_lwt	
	Auto Start When SM Lost	Enable/Disable	Disable		auto_sm	
	Auto Z Multiplier Setpt	4-10	6		zm_spt	
	Maximum Z Multiplier	1.0-6.0	6.0		hc_zm	
	Recl Valve Min Position	0-50	20	%	min_3w	
	Recl Valve Max Position	20-100	100	%	max_3w	
	User Password	0-150	11	N/A	use_pass	
	Service Password	0-150	88	N/A	ser_pass	
	SPM Board Configuration	0 or 1 for each digit	00001010		spm_conf	
	Maximum Ducted Fan Speed	0-100	100	%	fan_max	

NOTE: This table shall be downloadable at any time. However, modified value shall not be used by tasks until the unit is in OFF state. This shall not apply to the Varifan gains that shall be modified at any time and used immediately by the head pressure control tasks even if the unit is in operation.

APPENDIX B — CCN TABLES (cont)

SERVICE DISPLAY TABLES (cont)

TABLE	DISPLAY NAME	RANGE	UNITS	POINT NAME	WRITE STATUS
UPDHRFAN	TABLE TO BE USED FOR RUN TIMES & START UPDATE IN CASE OF CONTROL RETROFIT				
	FAN Operating Hours				
	Circuit A Fan #1 Hours	nnnnn	hours	hr_fana1	
	Circuit A Fan #2 Hours	nnnnn	hours	hr_fana2	
	Circuit A Fan #3 Hours	nnnnn	hours	hr_fana3	
	Circuit A Fan #4 Hours	nnnnn	hours	hr_fana4	
	Circuit A Fan #5 Hours	nnnnn	hours	hr_fana5	
	Circuit A Fan #6 Hours	nnnnn	hours	hr_fana6	
	Circuit B Fan #1 Hours	nnnnn	hours	hr_fanb1	
	Circuit B Fan #2 Hours	nnnnn	hours	hr_fanb2	
	Circuit B Fan #3 Hours	nnnnn	hours	hr_fanb3	
	Circuit B Fan #4 Hours	nnnnn	hours	hr_fanb4	
	Circuit B Fan #5 Hours	nnnnn	hours	hr_fanb5	
	Circuit B Fan #6 Hours	nnnnn	hours	hr_fanb6	
	Circuit C Fan #1 Hours	nnnnn	hours	hr_fanc1	
	Circuit C Fan #2 Hours	nnnnn	hours	hr_fanc2	
	Circuit C Fan #3 Hours	nnnnn	hours	hr_fanc3	
	Circuit C Fan #4 Hours	nnnnn	hours	hr_fanc4	
	Circuit C Fan #5 Hours	nnnnn	hours	hr_fanc5	
	Circuit C Fan #6 Hours	nnnnn	hours	hr_fanc6	
	WATER PUMP				
	WATER PUMP #1 Hours	nnnnn	hours	hr_cpum1	
	WATER PUMP #2 Hours	nnnnn	hours	hr_cpum2	
	Heat Reclaim Pump Hours	nnnnn	hours	hr_hpump	
	FREE COOLING PUMPS				
	Free Cool A Pump Hours	nnnnn	hours	hr_fcp_a	
	Free Cool B Pump Hours	nnnnn	hours	hr_fcp_b	
	Free Cool C Pump Hours	nnnnn	hours	hr_fcp_c	

NOTE: This table shall be used for purposes of transplanting the devices on time in the event of a module hardware failure or software upgrade via downloading. It shall be usable only if all items are still null. Afterwards, its access shall be denied.

TABLE	DISPLAY NAME	RANGE	UNITS	POINT NAME	WRITE STATUS
UPDTHOUR	TABLE TO BE USED FOR RUN TIMES UPDATE IN CASE OF CONTROL RETROFIT				
	Machine Operating Hours	nnnnn	hours	hr_mach	
	Machine Starts	nnnnn		st_mach	
	Compressor A1 Hours	nnnnn	hours	hr_cp_a1	
	Compressor A2 Hours	nnnnn	hours	hr_cp_a2	
	Compressor A3 Hours	nnnnn	hours	hr_cp_a3	
	Compressor A4 Hours	nnnnn	hours	hr_cp_a4	
	Compressor A1 Starts	nnnnn		st_cp_a1	
	Compressor A2 Starts	nnnnn		st_cp_a2	
	Compressor A3 Starts	nnnnn		st_cp_a3	
	Compressor A4 Starts	nnnnn		st_cp_a4	
	Compressor B1 Hours	nnnnn	hours	hr_cp_b1	
	Compressor B2 Hours	nnnnn	hours	hr_cp_b2	
	Compressor B3 Hours	nnnnn	hours	hr_cp_b3	
	Compressor B4 Hours	nnnnn	hours	hr_cp_b4	
	Compressor B1 Starts	nnnnn		st_cp_b1	
	Compressor B2 Starts	nnnnn		st_cp_b2	
	Compressor B3 Starts	nnnnn		st_cp_b3	
	Compressor B4 Starts	nnnnn		st_cp_b4	
	Compressor C1 Hours	nnnnn	hours	hr_cp_c1	
	Compressor C2 Hours	nnnnn	hours	hr_cp_c2	
	Compressor C3 Hours	nnnnn	hours	hr_cp_c3	
	Compressor C4 Hours	nnnnn	hours	hr_cp_c4	
	Compressor C1 Starts	nnnnn		st_cp_c1	
	Compressor C2 Starts	nnnnn		st_cp_c2	
	Compressor C3 Starts	nnnnn		st_cp_c3	
	Compressor C4 Starts	nnnnn		st_cp_c4	
	Circuit A Defrost Number	nnnnn		nb_def_a	
	Circuit B Defrost Number	nnnnn		nb_def_b	

NOTE: This table shall be used for purposes of transplanting the devices on time in the event of a module hardware failure or software upgrade via downloading. It shall be usable only if all items are still null. Afterwards, its access shall be denied.

APPENDIX C — CCN ALARM DESCRIPTION

ALARM CODE	ALARM TEXT DESCRIPTION AND CCN MESSAGE
	Thermistor Failure
th-01	Water exchanger Entering Fluid Thermistor
th-02	Water exchanger Leaving Fluid Thermistor
th-03	Circuit A Defrost Thermistor
th-04	Circuit B Defrost Thermistor
th-08	Reclaim Condenser Entering Thermistor
th-09	Reclaim Condenser Leaving Thermistor
th-10	OAT Thermistor
th-11	MASTER/Slave Common Fluid Thermistor
th-12	Circuit A Suction Gas Thermistor
th-13	Circuit B Suction Gas Thermistor
th-14	Circuit C Suction Gas Thermistor
th-18	Circuit A Condenser Subcooling Liquid Thermistor
th-19	Circuit B Condenser Subcooling Liquid Thermistor
th-21	Space Temperature Thermistor
	Pressure Transducer Failure
Pr-01	Circuit A Discharge Transducer
Pr-02	Circuit B Discharge Transducer
Pr-03	Circuit C Discharge Transducer
Pr-04	Circuit A Suction Transducer
Pr-05	Circuit B Suction Transducer
Pr-06	Circuit C Suction Transducer
Pr-07	Circuit A Reclaim Pumpdown Pressure Transducer
Pr-08	Circuit B Reclaim Pumpdown Pressure Transducer
	Communication with Slave Board Failure
Co-A1	Loss of communication with Compressor Board A1
Co-A2	Loss of communication with Compressor Board A2
Co-A3	Loss of communication with Compressor Board A3
Co-A4	Loss of communication with Compressor Board A4
Co-B1	Loss of communication with Compressor Board B1
Co-B2	Loss of communication with Compressor Board B2
Co-B3	Loss of communication with Compressor Board B3
Co-B4	Loss of communication with Compressor Board B4
Co-C1	Loss of communication with Compressor Board C1
Co-C2	Loss of communication with Compressor Board C2
Co-C3	Loss of communication with Compressor Board C3
Co-C4	Loss of communication with Compressor Board C4
Co-E1	Loss of communication with EXV Board Number 1
Co-E2	Loss of communication with EXV Board Number 2
Co-F1	Loss of communication with Fan Board Number 1
Co-F2	Loss of communication with Fan Board Number 2
Co-F3	Loss of communication with Fan Board Number 3
Co-O1	Loss of communication with Free Cooling Board
Co-O2	Loss of communication with Electrical Heaters Board
Co-O3	Loss of communication with Energy Management NRCP2 Board
Co-O4	Loss of communication with Heat Reclaim Board
Ct-01	Circuit A Welded Contactor Failure
Ct-02	Circuit B Welded Contactor Failure
Ct-03	Circuit C Welded Contactor Failure

APPENDIX C — CCN ALARM DESCRIPTION (cont)

ALARM CODE	ALARM TEXT DESCRIPTION AND CCN MESSAGE
	Process Failure
FC-n0	No factory configuration
FC-01	Illegal factory configuration Number #1 to nn
MC-nn	Master chiller configuration error Number #1 to nn
P-01	Water Exchanger Freeze Protection
P-05	Circuit A Low Suction Temperature
P-06	Circuit B Low Suction Temperature
P-07	Circuit C Low Suction Temperature
P-08	Circuit A High Superheat
P-09	Circuit B High Superheat
P-10	Circuit C High Superheat
P-11	Circuit A Low Superheat
P-12	Circuit B Low Superheat
P-13	Circuit C Low Superheat
P-14	Cooler Interlock Failure
P-15	Condenser Flow Switch Failure
P-16	Compressor A1 Not Started or Pressure Increase not established
P-17	Compressor A2 Not Started or Pressure Increase not established
P-18	Compressor A3 Not Started or Pressure Increase not established
P-19	Compressor A4 Not Started or Pressure Increase not established
P-20	Compressor B1 Not Started or Pressure Increase not established
P-21	Compressor B2 Not Started or Pressure Increase not established
P-22	Compressor B3 Not Started or Pressure Increase not established
P-23	Compressor B4 Not Started or Pressure Increase not established
P-24	Compressor C1 Not Started or Pressure Increase not established
P-25	Compressor C2 Not Started or Pressure Increase not established
P-26	Compressor C3 Not Started or Pressure Increase not established
P-27	Compressor C4 Not Started or Pressure Increase not established
P-28	Electrical Box Thermostat or Power Reverse Phase Detection
P-29	Loss of communication with System Manager
P-30	Master/Slave communication Failure
P-31	Unit is in CCN emergency stop
P-32	Water pump #1 default
P-33	Water pump #2 default
P-34	Circuit A Reclaim Operation Failure
P-35	Circuit B Reclaim Operation Failure
P-37	Circuit A — Repeated high discharge gas overrides
P-38	Circuit B — Repeated high discharge gas overrides
P-39	Circuit C — Repeated high discharge gas overrides
P-40	Circuit A — Repeated low suction temp overrides
P-41	Circuit B — Repeated low suction temp overrides
P-42	Circuit C — Repeated low suction temp overrides
P-43	Low entering water temperature in heating
P-97	Water Exchanger Temperature Sensors Swapped

APPENDIX C — CCN ALARM DESCRIPTION (cont)

ALARM CODE	ALARM TEXT DESCRIPTION AND CCN MESSAGE
	Service Failure
Sr-nn	Service maintenance alert Number # nn (see Table 44)
	Compressor Failure
A1-01	Compressor A1 Motor Temperature Too High
A1-02	Compressor A1 Crankcase Heater Failure
A1-03	Compressor A1 High Pressure Switch
A1-04	Compressor A1 Motor Temperature Sensor PTC Out Of Range
A1-05	Compressor A1 Power Reset
A1-06	Compressor A1 Low Control Voltage Alert
A2-01	Compressor A2 Motor Temperature Too High
A2-02	Compressor A2 Crankcase Heater Failure
A2-03	Compressor A2 High Pressure Switch
A2-04	Compressor A2 Motor Temperature Sensor PTC Out Of Range
A2-05	Compressor A2 Power Reset
A2-06	Compressor A2 Low Control Voltage Alert
A3-01	Compressor A3 Motor Temperature Too High
A3-02	Compressor A3 Crankcase Heater Failure
A3-03	Compressor A3 High Pressure Switch
A3-04	Compressor A3 Motor Temperature Sensor PTC Out Of Range
A3-05	Compressor A3 Power Reset
A3-06	Compressor A3 Low Control Voltage Alert
A4-01	Compressor A4 Motor Temperature Too High
A4-02	Compressor A4 Crankcase Heater Failure
A4-03	Compressor A4 High Pressure Switch
A4-04	Compressor A4 Motor Temperature Sensor PTC Out Of Range
A4-05	Compressor A4 Power Reset
A4-06	Compressor A4 Low Control Voltage Alert
B1-01	Compressor B1 Motor Temperature Too High
B1-02	Compressor B1 Crankcase Heater Failure
B1-03	Compressor B1 High Pressure Switch
B1-04	Compressor B1 Motor Temperature Sensor PTC Out Of Range
B1-05	Compressor B1 Power Reset
B1-06	Compressor B1 Low Control Voltage Alert
B2-01	Compressor B2 Motor Temperature Too High
B2-02	Compressor B2 Crankcase Heater Failure
B2-03	Compressor B2 High Pressure Switch
B2-04	Compressor B2 Motor Temperature Sensor PTC Out Of Range
B2-05	Compressor B2 Power Reset
B2-06	Compressor B2 Low Control Voltage Alert
B3-01	Compressor B3 Motor Temperature Too High
B3-02	Compressor B3 Crankcase Heater Failure
B3-03	Compressor B3 High Pressure Switch
B3-04	Compressor B3 Motor Temperature Sensor PTC Out Of Range
B3-05	Compressor B3 Power Reset
B3-06	Compressor B3 Low Control Voltage Alert
B4-01	Compressor B4 Motor Temperature Too High
B4-02	Compressor B4 Crankcase Heater Failure
B4-03	Compressor B4 High Pressure Switch
B4-04	Compressor B4 Motor Temperature Sensor PTC Out Of Range
B4-05	Compressor B4 Power Reset
B4-06	Compressor B4 Low Control Voltage Alert

APPENDIX C — CCN ALARM DESCRIPTION (cont)

ALARM CODE	ALARM TEXT DESCRIPTION AND CCN MESSAGE
	Compressor Failure
C1-01	Compressor C1 Motor Temperature Too High
C1-02	Compressor C1 Crankcase Heater Failure
C1-03	Compressor C1 High Pressure Switch
C1-04	Compressor C1 Motor Temperature Sensor PTC Out Of Range
C1-05	Compressor C1 Power Reset
C1-06	Compressor C1 Low Control Voltage Alert
C2-01	Compressor C2 Motor Temperature Too High
C2-02	Compressor C2 Crankcase Heater Failure
C2-03	Compressor C2 High Pressure Switch
C2-04	Compressor C2 Motor Temperature Sensor PTC Out Of Range
C2-05	Compressor C2 Power Reset
C2-06	Compressor C2 Low Control Voltage Alert
C3-01	Compressor C3 Motor Temperature Too High
C3-02	Compressor C3 Crankcase Heater Failure
C3-03	Compressor C3 High Pressure Switch
C3-04	Compressor C3 Motor Temperature Sensor PTC Out Of Range
C3-05	Compressor C3 Power Reset
C3-06	Compressor C3 Low Control Voltage Alert
C4-01	Compressor C4 Motor Temperature Too High
C4-02	Compressor C4 Crankcase Heater Failure
C4-03	Compressor C4 High Pressure Switch
C4-04	Compressor C4 Motor Temperature Sensor PTC Out Of Range
C4-05	Compressor C4 Power Reset
C4-06	Compressor C4 Low Control Voltage Alert

APPENDIX D — R-410A PRESSURE VS. TEMPERATURE CHART

PSIG	°F	°C	PSIG	°F	°C	PSIG	°F	°C	PSIG	°F	°C	PSIG	°F	°C	PSIG	°F	°C
12	–37.7	–38.7	**114**	37.8	3.2	**216**	74.3	23.5	**318**	100.2	37.9	**420**	120.7	49.3	**522**	137.6	58.7
14	–34.7	–37.1	**116**	38.7	3.7	**218**	74.9	23.8	**320**	100.7	38.2	**422**	121.0	49.4	**524**	137.9	58.8
16	–32.0	–35.6	**118**	39.5	4.2	**220**	75.5	24.2	**322**	101.1	38.4	**424**	121.4	49.7	**526**	138.3	59.1
18	–29.4	–34.1	**120**	40.5	4.7	**222**	76.1	24.5	**324**	101.6	38.7	**426**	121.7	49.8	**528**	138.6	59.2
20	–26.9	–32.7	**122**	41.3	5.2	**224**	76.7	24.8	**326**	102.0	38.9	**428**	122.1	50.1	**530**	138.9	59.4
22	–24.5	–31.4	**124**	42.2	5.7	**226**	77.2	25.1	**328**	102.4	39.1	**430**	122.5	50.3	**532**	139.2	59.6
24	–22.2	–30.1	**126**	43.0	6.1	**228**	77.8	25.4	**330**	102.9	39.4	**432**	122.8	50.4	**534**	139.5	59.7
26	–20.0	–28.9	**128**	43.8	6.6	**230**	78.4	25.8	**332**	103.3	39.6	**434**	123.2	50.7	**536**	139.8	59.9
28	–17.9	–27.7	**130**	44.7	7.1	**232**	78.9	26.1	**334**	103.7	39.8	**436**	123.5	50.8	**538**	140.1	60.1
30	–15.8	–26.6	**132**	45.5	7.5	**234**	79.5	26.4	**336**	104.2	40.1	**438**	123.9	51.1	**540**	140.4	60.2
32	–13.8	–25.4	**134**	46.3	7.9	**236**	80.0	26.7	**338**	104.6	40.3	**440**	124.2	51.2	**544**	141.0	60.6
34	–11.9	–24.4	**136**	47.1	8.4	**238**	80.6	27.0	**340**	105.1	40.6	**442**	124.6	51.4	**548**	141.6	60.9
36	–10.1	–23.4	**138**	47.9	8.8	**240**	81.1	27.3	**342**	105.4	40.8	**444**	124.9	51.6	**552**	142.1	61.2
38	–8.3	–22.4	**140**	48.7	9.3	**242**	81.6	27.6	**344**	105.8	41.0	**446**	125.3	51.8	**556**	142.7	61.5
40	–6.5	–21.4	**142**	49.5	9.7	**244**	82.2	27.9	**346**	106.3	41.3	**448**	125.6	52.0	**560**	143.3	61.8
42	–4.5	–20.3	**144**	50.3	10.2	**246**	82.7	28.2	**348**	106.6	41.4	**450**	126.0	52.2	**564**	143.9	62.2
44	–3.2	–19.6	**146**	51.1	10.6	**248**	83.3	28.5	**350**	107.1	41.7	**452**	126.3	52.4	**568**	144.5	62.5
46	–1.6	–18.7	**148**	51.8	11.0	**250**	83.8	28.8	**352**	107.5	41.9	**454**	126.6	52.6	**572**	145.0	62.8
48	0.0	–17.8	**150**	52.5	11.4	**252**	84.3	29.1	**354**	107.9	42.2	**456**	127.0	52.8	**576**	145.6	63.1
50	1.5	–16.9	**152**	53.3	11.8	**254**	84.8	29.3	**356**	108.3	42.4	**458**	127.3	52.9	**580**	146.2	63.4
52	3.0	–16.1	**154**	54.0	12.2	**256**	85.4	29.7	**358**	108.8	42.7	**460**	127.7	53.2	**584**	146.7	63.7
54	4.5	–15.3	**156**	54.8	12.7	**258**	85.9	29.9	**360**	109.2	42.9	**462**	128.0	53.3	**588**	147.3	64.1
56	5.9	–14.5	**158**	55.5	13.1	**260**	86.4	30.2	**362**	109.6	43.1	**464**	128.3	53.5	**592**	147.9	64.4
58	7.3	–13.7	**160**	56.2	13.4	**262**	86.9	30.5	**364**	110.0	43.3	**466**	128.7	53.7	**596**	148.4	64.7
60	8.6	–13.0	**162**	57.0	13.9	**264**	87.4	30.8	**366**	110.4	43.6	**468**	129.0	53.9	**600**	149.0	65.0
62	10.0	–12.2	**164**	57.7	14.3	**266**	87.9	31.1	**368**	110.8	43.8	**470**	129.3	54.1	**604**	149.5	65.3
64	11.3	–11.5	**166**	58.4	14.7	**268**	88.4	31.3	**370**	111.2	44.0	**472**	129.7	54.3	**608**	150.1	65.6
66	12.6	–10.8	**168**	59.0	15.0	**270**	88.9	31.6	**372**	111.6	44.2	**474**	130.0	54.4	**612**	150.6	65.9
68	13.8	–10.1	**170**	59.8	15.4	**272**	89.4	31.9	**374**	112.0	44.4	**476**	130.3	54.6	**616**	151.2	66.2
70	15.1	–9.4	**172**	60.5	15.8	**274**	89.9	32.2	**376**	112.4	44.7	**478**	130.7	54.8	**620**	151.7	66.5
72	16.3	–8.7	**174**	61.1	16.2	**276**	90.4	32.4	**378**	112.6	44.8	**480**	131.0	55.0	**624**	152.3	66.8
74	17.5	–8.1	**176**	61.8	16.6	**278**	90.9	32.7	**380**	113.1	45.1	**482**	131.3	55.2	**628**	152.8	67.1
76	18.7	–7.4	**178**	62.5	16.9	**280**	91.4	33.0	**382**	113.5	45.3	**484**	131.6	55.3	**632**	153.4	67.4
78	19.8	–6.8	**180**	63.1	17.3	**282**	91.9	33.3	**384**	113.9	45.5	**486**	132.0	55.6	**636**	153.9	67.7
80	21.0	–6.1	**182**	63.8	17.7	**284**	92.4	33.6	**386**	114.3	45.7	**488**	132.3	55.7	**640**	154.5	68.1
82	22.1	–5.5	**184**	64.5	18.1	**286**	92.8	33.8	**388**	114.7	45.9	**490**	132.6	55.9	**644**	155.0	68.3
84	23.2	–4.9	**186**	65.1	18.4	**288**	93.3	34.1	**390**	115.0	46.1	**492**	132.9	56.1	**648**	155.5	68.6
86	24.3	–4.3	**188**	65.8	18.8	**290**	93.8	34.3	**392**	115.5	46.4	**494**	133.3	56.3	**652**	156.1	68.9
88	25.4	–3.7	**190**	66.4	19.1	**292**	94.3	34.6	**394**	115.8	46.6	**496**	133.6	56.4	**656**	156.6	69.2
90	26.4	–3.1	**192**	67.0	19.4	**294**	94.8	34.9	**396**	116.2	46.8	**498**	133.9	56.6	**660**	157.1	69.5
92	27.4	–2.6	**194**	67.7	19.8	**296**	95.2	35.1	**398**	116.6	47.0	**500**	134.0	56.7	**664**	157.7	69.8
94	28.5	–1.9	**196**	68.3	20.2	**298**	95.7	35.4	**400**	117.0	47.2	**502**	134.5	56.9	**668**	158.2	70.1
96	29.5	–1.4	**198**	68.9	20.5	**300**	96.2	35.7	**402**	117.3	47.4	**504**	134.8	57.1	**672**	158.7	70.4
98	30.5	–0.8	**200**	69.5	20.8	**302**	96.6	35.9	**404**	117.7	47.6	**506**	135.2	57.3	**676**	159.2	70.7
100	31.2	–0.4	**202**	70.1	21.2	**304**	97.1	36.2	**406**	118.1	47.8	**508**	135.5	57.5	**680**	159.8	71.0
102	32.2	0.1	**204**	70.7	21.5	**306**	97.5	36.4	**408**	118.5	48.1	**510**	135.8	57.7	**684**	160.3	71.3
104	33.2	0.7	**206**	71.4	21.9	**308**	98.0	36.7	**410**	118.8	48.2	**512**	136.1	57.8	**688**	160.8	71.6
106	34.1	1.2	**208**	72.0	22.2	**310**	98.4	36.9	**412**	119.2	48.4	**514**	136.4	58.0	**692**	161.3	71.8
108	35.1	1.7	**210**	72.6	22.6	**312**	98.9	37.2	**414**	119.6	48.7	**516**	136.7	58.2	**696**	161.8	72.1
110	35.5	1.9	**212**	73.2	22.9	**314**	99.3	37.4	**416**	119.9	48.8	**518**	137.0	58.3			
112	36.9	2.7	**214**	73.8	23.2	**316**	99.7	37.6	**418**	120.3	49.1	**520**	137.3	58.5			

APPENDIX E — MAINTENANCE SUMMARY AND LOG SHEETS

30RB Maintenance Interval Requirements

WEEKLY	
Compressor	Check Oil Level.
Condenser	Check condenser coils for debris, clean as necessary.
	Periodic clean water rinse, especially in coastal and industrial applications.
Controls	Review Alarm/Alert History.
MONTHLY	
Cooler	Inspect water pumps.
Controls	Check accuracy of thermistors, replace if greater than ±2° F (1.2° C) variance from calibrated thermometer.
	Check accuracy of transducers, replace if greater than ±5 psi (34.47 kPa) variance.
Refrigerant System	Check refrigerant charge level.
	Check moisture indicating sight glass for possible refrigerant loss and presence of moisture.
	Perform leak test.
QUARTERLY	
Compressor	Check crankcase heater operation.
Controls	Check chilled water flow switch operation.
Condenser	Check all condenser fans for proper operation.
Refrigerant System	Check all refrigerant joints and valves for refrigerant leaks, repair as necessary.
Hydronic System	Inspect pump seal, if equipped with a hydronic pump package.
	Lubricate pump motor as required.
Starter	Inspect all contactors.
ANNUALLY	
Cooler	Check to be sure that the proper concentration of antifreeze is present in the chilled water loop, if applicable.
	Verify that the chilled water loop is properly treated.
	Check chilled water strainers, clean as necessary.
	Check cooler heater operation, if equipped.
Condenser	Check condition of condenser fan blades and that they are securely fastened to the motor shaft.
Controls	Perform Service Test to confirm operation of all components.
	Check all electrical connections, tighten as necessary.
	Inspect all contactors and relays, replace as necessary.
Refrigerant System	Check refrigerant filter driers for excessive pressure drop, replace as necessary.
Hydronic System	Check pump heater operation if equipped.

NOTE: Equipment failures caused by lack of adherence to the Maintenance Interval Requirements are not covered under warranty.

APPENDIX E — MAINTENANCE SUMMARY AND LOG SHEETS

30RB Weekly Maintenance Log

Plant _____

Machine Model No. _____

DATE	OIL LEVEL	CHECK CONDENSER COIL	CHECK ALARMS / FAULTS	OPERATOR INITIALS	REMARKS

NOTE: Equipment failures caused by lack of adherence to the Maintenance Interval Requirements are not covered under warranty.

APPENDIX E — MAINTENANCE SUMMARY AND LOG SHEETS

30RB Maintenance Log for Monthly, Quarterly, and Annual Checks

Month			1	2	3	4	5	6	7	8	9	10	11	12
Date			/ /	/ /	/ /	/ /	/ /	/ /	/ /	/ /	/ /	/ /	/ /	/ /
Operator														

UNIT SECTION	ACTION	UNIT	ENTRY											
Compressor	Check Oil Level	yes/no												
	Check Crankcase Heater Operation	yes/no												
	Send Oil Sample Out for Analysis	yes/no												
Cooler	Check Cooler Heater Operation	yes/no												
	Check Chiller Water Loop	yes/no												
	Check Chilled Water Strainers	yes/no												
	Record Water Pressure Differential (PSI)	PSI												
	Inspect Water Pumps	yes/no												
Condenser	Inspect and Clean All Coils	yes/no												
	Check all Condesnoer Fans for Proper Operation	yes/no												
	Check Condition of Consenser Fan Blades	yes/no												
Controls	General Cleaning and Tightening Connections	yes/no												
	Check Chilled Water Flow Switch Operation	yes/no												
	Perform Service Test	yes/no												
	Confirm Accuracy of Pressure Transducers	yes/no												
	Confirm Accuracy of Thermistors	yes/no												
Starter	General Tightening & Cleaning Connections	yes/no												
	Inspect All Contactors	yes/no												
System	Check Refrigerant Charge Level	yes/no												
	Verify Operation of EXVs and Record Position	0-100%												
	Record System Super Heat	deg. F												
	Check Moisture Sight Glass	yes/no												
	Perform Leak Test	yes/no												
	Check all Refrigerant Joints and Valves for Refrigerant Leaks	yes/no												
	Check Filter Driers	yes/no												

Annually

NOTE: Equipment failures caused by lack of adherence to the Maintenance Interval Requirements are not covered under warranty.

APPENDIX E — MAINTENANCE SUMMARY AND LOG SHEETS

30RB Seasonal Shutdown Log

Month		1	2	3	4	5	6	7	8	9	10	11	12
Date		/ /	/ /	/ /	/ /	/ /	/ /	/ /	/ /	/ /	/ /	/ /	/ /
Operator													

UNIT SECTION	ACTION	ENTRY											
Cooler	Isolate and Drain Cooler												
Controls	Do Not Disconnect Control Power Unless Cooler is Completely Drained												

NOTES:
1. Equipment failures caused by lack of adherence to the Maintenance Interval Requirements are not covered under warranty.
2. Refer to Installation Instructions for proper Winterization procedure.

APPENDIX F — BACNET COMMUNICATIONS OPTION

The following section is used to configure the UPC Open controller which is used when the BACnet* communications option is selected. The UPC Open controller is mounted in a separate enclosure below the main control box.

TO ADDRESS THE UPC OPEN CONTROLLER — The user must give the UPC Open controller an address that is unique on the BACnet network. Perform the following procedure to assign an address:

1. If the UPC Open controller is powered, pull the screw terminal connector from the controller's power terminals labeled Gnd and HOT. The controller reads the address each time power is applied to it.
2. Using the rotary switches (see Fig. A and B), set the controller's address. Set the Tens (10's) switch to the tens digit of the address, and set the Ones (1's) switch to the ones digit.

As an example in Fig. B, if the controller's address is 25, point the arrow on the Tens (10's) switch to 2 and the arrow on the Ones (1's) switch to 5.

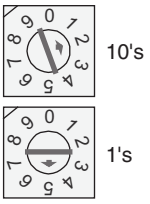


Fig. B — Address Rotary Switches

BACNET DEVICE INSTANCE ADDRESS — The UPC Open controller also has a BACnet Device Instance address. This Device Instance MUST be unique for the complete BACnet system in which the UPC Open controller is installed. The Device Instance is auto generated by default and is derived by adding the MAC address to the end of the Network Number. The Network Number of a new UPC Open controller is 16101, but it can be changed using i-Vu® Tools or BACView device. By default, a MAC address of 20 will result in a Device Instance of 16101 + 20 which would be a Device Instance of 1610120.

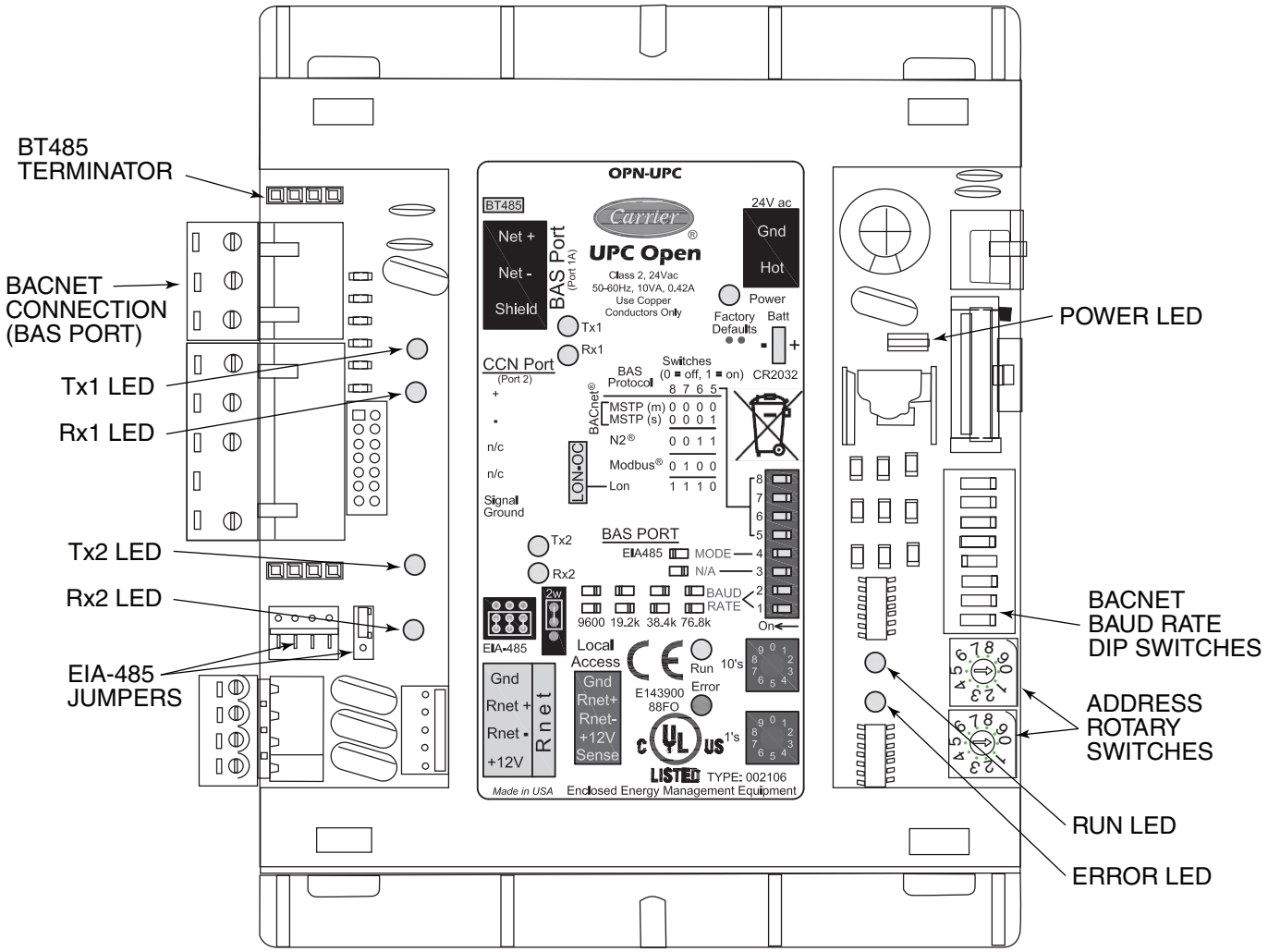


Fig. A — UPC Open Controller

* Sponsored by ASHRAE (American Society of Heating, Refrigerating and Air Conditioning Engineers).

CONFIGURING THE BAS PORT FOR BACNET MS/TP — Use the same baud rate and communication settings for all controllers on the network segment. The UPC Open controller is fixed at 8 data bits, No Parity, and 1 Stop bit for this protocol's communications.

If the UPC Open controller has been wired for power, pull the screw terminal connector from the controller's power terminals labeled Gnd and HOT. The controller reads the DIP Switches and jumpers each time power is applied to it.

Set the BAS Port DIP switch DS3 to "enable." Set the BAS Port DIP switch DS4 to "E1-485." Set the BMS Protocol DIP switches DS8 through DS5 to "MSTP." See Table A.

Table A — SW3 Protocol Switch Settings for MS/TP

DS8	DS7	DS6	DS5	DS4	DS3
Off	Off	Off	Off	On	Off

Verify that the EIA-485 jumpers below the CCN Port are set to EIA-485 and 2W.

The example in Fig. C shows the BAS Port DIP Switches set for 76.8k (Carrier default) and MS/TP.

Set the BAS Port DIP Switches DS2 and DS1 for the appropriate communications speed of the MS/TP network (9600, 19.2k, 38.4k, or 76.8k bps). See Fig. D and Table B.

Table B — Baud Selection Table

BAUD RATE	DS2	DS1
9,600	Off	Off
19,200	On	Off
38,400	Off	On
76,800	On	On

WIRING THE UPC OPEN CONTROLLER TO THE MS/TP NETWORK — The UPC Open controller communicates using BACnet on an MS/TP network segment communications at 9600 bps, 19.2 kbps, 38.4 kbps, or 76.8 kbps.

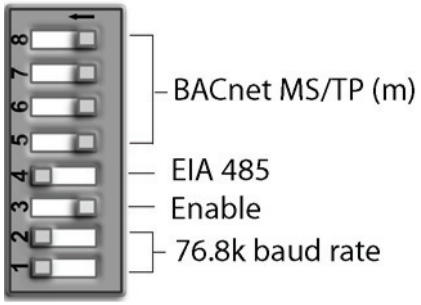


Fig. C — DIP Switches

Wire the controllers on an MS/TP network segment in a daisy-chain configuration. Wire specifications for the cable are 22 AWG (American Wire Gage) or 24 AWG, low-capacitance, twisted, stranded, shielded copper wire. The maximum length is 2000 ft.

Install a BT485 terminator on the first and last controller on a network segment to add bias and prevent signal distortions due to echoing. See Fig. A, D, and E.

To wire the UPC Open controller to the BAS network:

1. Pull the screw terminal connector from the controller's BAS Port.
2. Check the communications wiring for shorts and grounds.
3. Connect the communications wiring to the BAS port's screw terminals labeled Net +, Net -, and Shield.

NOTE: Use the same polarity throughout the network segment.

4. Insert the power screw terminal connector into the UPC Open controller's power terminals if they are not currently connected.
5. Verify communication with the network by viewing a module status report. To perform a module status report using the BACview keypad/display unit, press and hold the "FN" key then press the "." Key.

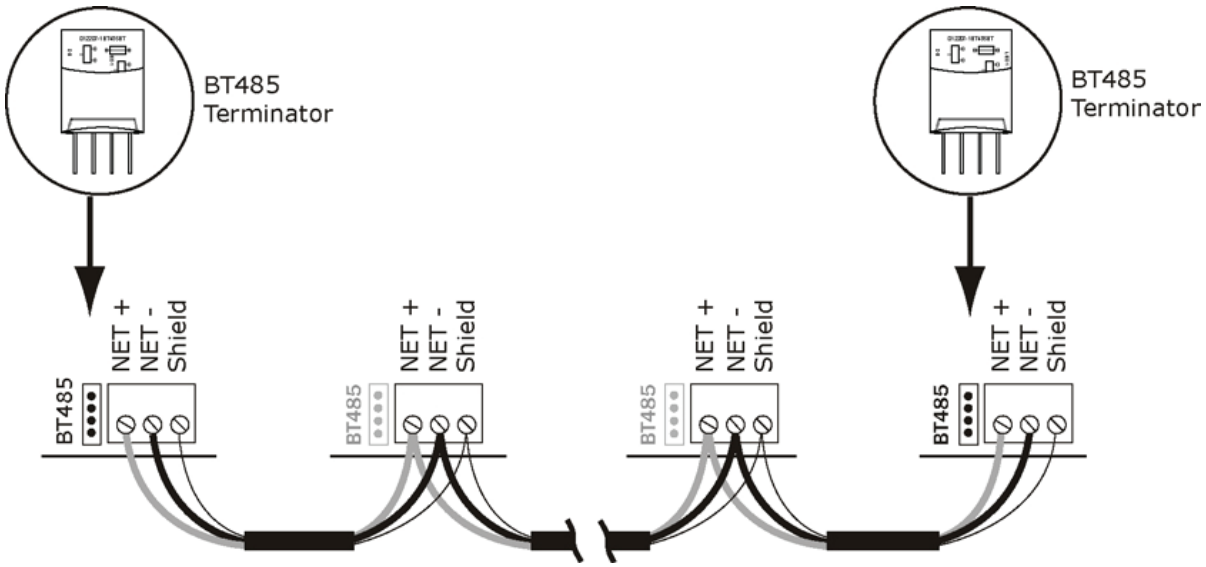


Fig. D — Network Wiring

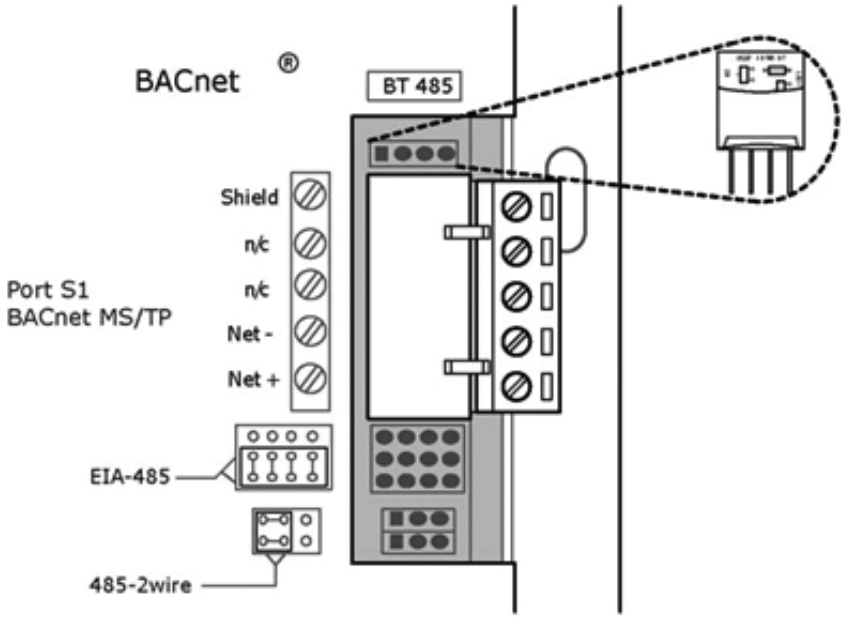


Fig. E — BT485 Terminator Installation

To install a BT485 terminator, push the BT485 terminator on to the BT485 connector located near the BACnet connector.

NOTE: The BT485 terminator has no polarity associated with it.

To order a BT485 terminator, consult Commercial Products i-Vu Open Control System Master Prices.

MS/TP WIRING RECOMMENDATIONS — Recommendations are shown in Tables C and D. The wire jacket and UL temperature rating specifications list two acceptable alternatives. The Halar specification has a higher temperature rating and a tougher outer jacket than the SmokeGard specification, and it is appropriate for use in applications where the user is concerned about abrasion. The Halar jacket is also less likely to crack in extremely low temperatures.

NOTE: Use the specified type of wire and cable for maximum signal integrity.

Table C — MS/TP Wiring Recommendations

SPECIFICATION	RECOMMMENDATION
Cable	Single twisted pair, low capacitance, CL2P, 22 AWG (7x30), TC foam FEP, plenum rated cable
Conductor	22 or 24 AWG stranded copper (tin plated)
Insulation	Foamed FEP 0.015 in. (0.381 mm) wall 0.060 in. (1.524 mm) O.D.
Color Code	Black/White
Twist Lay	2 in. (50.8 mm) lay on pair 6 twists/foot (20 twists/meter) nominal
Shielding	Aluminum/Mylar shield with 24 AWG TC drain wire
Jacket	SmokeGard Jacket (SmokeGard PVC) 0.021 in. (0.5334 mm) wall 0.175 in. (4.445 mm) O.D. Halar Jacket (E-CTFE) 0.010 in. (0.254 mm) wall 0.144 in. (3.6576 mm) O.D.
DC Resistance	15.2 Ohms/1000 feet (50 Ohms/km) nominal
Capacitance	12.5 pF/ft (41 pF/meter) nominal conductor to conductor
Characteristic Impedance	100 Ohms nominal
Weight	12 lb/1000 feet (17.9 kg/km)
UL Temperature Rating	SmokeGard 167°F (75°C) Halar -40 to 302°F (-40 to 150°C)
Voltage	300 Vac, power limited
Listing	UL: NEC CL2P, or better

LEGEND

AWG — American Wire Gage
CL2P — Class 2 Plenum Cable
DC — Direct Current
FEP — Fluorinated Ethylene Polymer
NEC — National Electrical Code
O.D. — Outside Diameter
TC — Tinned Copper
UL — Underwriters Laboratories

Table D — Open System Wiring Specifications and Recommended Vendors

WIRING SPECIFICATIONS		RECOMMENDED VENDORS AND PART NUMBERS			
Wire Type	**Description**	**Connect Air International**	**Belden**	**RMCORP**	**Contractors Wire and Cable**
MS/TP Network (RS-485)	22 AWG, single twisted shielded pair, low capacitance, CL2P, TC foam FEP, plenum rated. See MS/TP Installation Guide for specifications.	W221P-22227	—	25160PV	CLP0520LC
	24 AWG, single twisted shielded pair, low capacitance, CL2P, TC foam FEP, plenum rated. See MS/TP Installation Guide for specifications.	W241P-2000F	82841	25120-OR	—
Rnet	4 conductor, unshielded, CMP, 18 AWG, plenum rated.	W184C-2099BLB	6302UE	21450	CLP0442

LEGEND

AWG — American Wire Gage
CL2P — Class 2 Plenum Cable
CMP — Communications Plenum Rated
FEP — Fluorinated Ethylene Polymer
TC — Tinned Copper

LOCAL ACCESS TO THE UPC OPEN CONTROLLER — The user can use a BACview[6] handheld keypad display unit or the Virtual BACview software as a local user interface to an Open controller. These items let the user access the controller network information. These are accessory items and do not come with the UPC Open controller.

The BACview[6] unit connects to the local access port on the UPC Open controller. See Fig. F. The BACview software must be running on a laptop computer that is connected to the local access port on the UPC Open controller. The laptop will require an additional USB link cable for connection.

See the *BACview Installation and User Guide* for instructions on connecting and using the BACview[6] device.

To order a BACview[6] Handheld (BV6H), consult Commercial Products i-Vu Open Control System Master Prices.

CONFIGURING THE UPC OPEN CONTROLLER'S PROPERTIES — The UPC Open device and *Comfort*Link control must be set to the same CCN Address (Element) number and CCN Bus number. The factory default settings for CCN Element and CCN Bus number are 1 and 0 respectively.

If modifications to the default Element and Bus number are required, both the *Comfort*Link and UPC Open configurations must be changed.

The following configurations are used to set the CCN Address and Bus number in the *Comfort*Link control. These configurations can be changed using the scrolling marquee display or accessory Navigator handheld device.

Configuration→CCN→CCN.A (CCN Address)

Configuration→CCN→CCN.B (CCN Bus Number)

The following configurations are used to set the CCN Address and Bus Number in the UPC Open controller. These configurations can be changed using the accessory BACview[6] display.

Navigation: BACview→CCN
Home: Element Comm Stat
Element: 1
Bus: 0

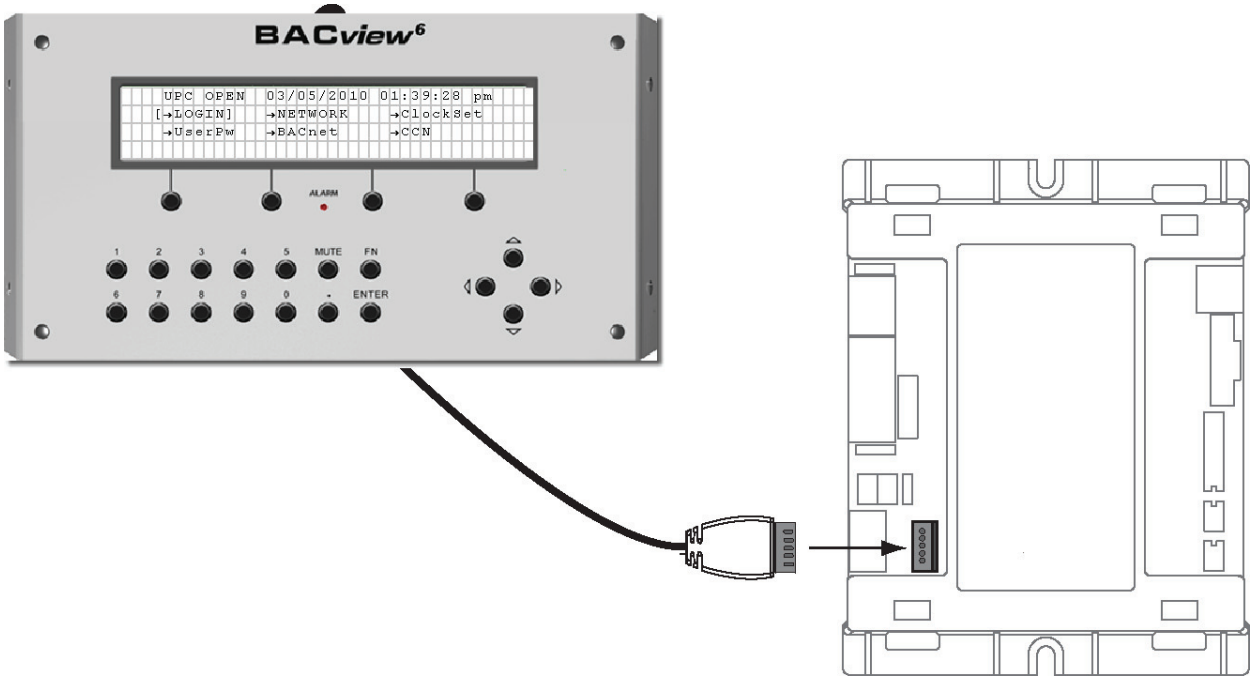


Fig. F — BACview[6] Device Connection

If the UPC Open is used with the chiller application of Lead/Lag/Standby, all chillers and UPC Open's CCN element numbers must be changed to a unique number in order to follow CCN specifications. In this application, there can only be a maximum of 3 UPC Open controllers on a CCN bus.

For the CCN Alarm Acknowledger configuration, the UPC Open defaults to CCN Acknowledger. If a Chiller Lead/Lag/Standby application is being used, then the Carrier technician must change the configuration to only one CCN Acknowledger on the CCN bus.

For the CCN Time Broadcaster configuration, the UPC Open defaults to CCN Time Broadcaster. If the Chiller Lead/Lag/Standby application is used, then the Carrier technician must change the configuration to only one CCN Time Broadcaster on the CCN bus.

TROUBLESHOOTING — If there are problems wiring or addressing the UPC Open controller, contact Carrier Technical Support.

COMMUNICATION LEDS — The LEDs indicate if the controller is communicating with the devices on the network. See Tables E and F. The LEDs should reflect communication traffic based on the baud rate set. The higher the baud rate the more solid the LEDs become. See Fig. A for location of LEDs on UPC Open module.

REPLACING THE UPC OPEN BATTERY — The UPC Open controller's 10-year lithium CR2032 battery provides a minimum of 10,000 hours of data retention during power outages.

IMPORTANT: Power must be **ON** to the UPC Open when replacing the battery, or the date, time, and trend data will be lost.

Remove the battery from the controller, making note of the battery's polarity. Insert the new battery, matching the battery's polarity with the polarity indicated on the UPC Open controller.

NETWORK POINTS LIST — The points list for the controller is shown in Table G.

Table E — LED Status Indicators

LED	STATUS
Power	Lights when power is being supplied to the controller. The UPC Open controller is protected by internal solid-state polyswitches on the incoming power and network connections. These polyswitches are not replaceable and will reset themselves if the condition that caused the fault returns to normal.
Rx	Lights when the controller receives data from the network segment; there is an Rx LED for Ports 1 and 2.
Tx	Lights when the controller transmits data to the network segment; there is an Rx LED for Ports 1 and 2.
Run	Lights based on controller status. See Table F.
Error	Lights based on controller status. See Table F.

Table F — Run and Error LEDs Controller and Network Status Indication

RUN LED	ERROR LED	STATUS
2 flashes per second	Off	Normal
2 flashes per second	2 flashes, alternating with **Run** LED	Five minute auto-restart delay after system error
2 flashes per second	3 flashes, then off	Controller has just been formatted
2 flashes per second	1 flash per second	Controller is alone on the network
2 flashes per second	On	Exec halted after frequent system errors or control programs halted
5 flashes per second	On	Exec start-up aborted, Boot is running
5 flashes per second	Off	Firmware transfer in progress, Boot is running
7 flashes per second	7 flashes per second, alternating with **Run** LED	Ten second recovery period after brownout
14 flashes per second	14 flashes per second, alternating with **Run** LED	Brownout

APPENDIX F — BACNET COMMUNICATIONS OPTION (cont)

Table G — Network Points List

POINT DESCRIPTION	POINT NAME	READ/ WRITE	UNITS	DEFAULT VALUE	RANGE	BACNET OBJECT ID	BACNET OBJECT NAME
Active Demand Limit Val	DEM_LIM	R	%	N/A	0-100	AV:1	dem_lim_1
Air Cond Entering Valv A	hr_ea_a	R	N/A	N/A	On/Off	BV:4	hr_ea_a_1
Air Cond Entering Valv B	hr_ea_b	R	N/A	N/A	On/Off	BV:5	hr_ea_b_1
Air Cond Leaving Valve A	hr_la_a	R	N/A	N/A	On/Off	BV:6	hr_la_a_1
Air Cond Leaving Valve B	hr_la_b	R	N/A	N/A	On/Off	BV:7	hr_la_b_1
Alarm Relay Status	ALARMOUT	R	N/A	N/A	On/Off	BV:8	alarmout_1
Alarm State	ALM	R	N/A	N/A	0=Normal, 1=Partial, 2=Shutdown	AV:2	alm_1
Alert Relay Status	ALERT	R	N/A	N/A	On/Off	BV:9	alert_1
Auto Changeover Active	Mode_12	R	N/A	N/A	Yes/No	BV:10	mode_12_1
Boiler Active	Mode_17	R	N/A	N/A	Yes/No	BV:11	mode_17_1
Boiler Command	BOILER	R	N/A	N/A	On/Off	BV:12	boiler_1
CCN Chiller Start/Stop	CHIL_S_S	R/W	N/A	N/A	Enable/Disable	BV:1500	chil_s_s_1
Chiller Capacity Signal	CAPT_010	R	volts	N/A	±nn.n	AV:3	capt_010_1
Chiller Occupied?	CHIL_OCC	R	N/A	N/A	Yes/No	BV:1501	chil_occ_1
CHWS Temperature - Prime Variable	CHWSTEMP	R	°F	N/A	±nnn.n	AV:1612	chwstemp_1
Cir A Compressor 1 Heater Out	cp_a1_ht	R	N/A	N/A	On/Off	BV:13	cp_a1_ht_1
Cir A Compressor 1 Output	CP_A1	R	N/A	N/A	On/Off	BV:14	cp_a1_1
Cir A Compressor 2 Heater Out	cp_a2_ht	R	N/A	N/A	On/Off	BV:15	cp_a2_ht_1
Cir A Compressor 2 Output	CP_A2	R	N/A	N/A	On/Off	BV:16	cp_a2_1
Cir A Compressor 3 Heater Out	cp_a3_ht	R	N/A	N/A	On/Off	BV:17	cp_a3_ht_1
Cir A Compressor 3 Output	CP_A3	R	N/A	N/A	On/Off	BV:18	cp_a3_1
Cir A Compressor 4 Heater Out	cp_a4_ht	R	N/A	N/A	On/Off	BV:19	cp_a4_ht_1
Cir A Compressor 4 Output	CP_A4	R	N/A	N/A	On/Off	BV:20	cp_a4_1
Cir A Crank Heater Current Cp1	cpa1_cur	R	amps	N/A	nnn.n	AV:4	cpa1_cur_1
Cir A Crank Heater Current Cp2	cpa2_cur	R	amps	N/A	nnn.n	AV:5	cpa2_cur_1
Cir A Crank Heater Current Cp3	cpa3_cur	R	amps	N/A	nnn.n	AV:6	cpa3_cur_1
Cir A Crank Heater Current Cp4	cpa4_cur	R	amps	N/A	nnn.n	AV:7	cpa4_cur_1
Cir A Discharge Pressure	DP_A	R	psi	N/A	nnn.n	AV:1601	dp_a_1
Cir A EXV Position	EXV_A	R	%	N/A	0-100	AV:8	exv_a_1
Cir A Fan Output DO # 1	fan_a1	R	N/A	N/A	On/Off	BV:21	fan_a1_1
Cir A Fan Output DO # 2	fan_a2	R	N/A	N/A	On/Off	BV:22	fan_a2_1
Cir A Fan Output DO # 3	fan_a3	R	N/A	N/A	On/Off	BV:23	fan_a3_1
Cir A Fan Output DO # 4	fan_a4	R	N/A	N/A	On/Off	BV:24	fan_a4_1
Cir A Fan Output DO # 5	fan_a5	R	N/A	N/A	On/Off	BV:25	fan_a5_1
Cir A Fan Output DO # 6	fan_a6	R	N/A	N/A	On/Off	BV:26	fan_a6_1
Cir A Fan Staging Number	FAN_ST_A	R	N/A	N/A	0-6	AV:9	fan_st_a_1
Cir A Head Press Actuator Pos	hd_pos_a	R	%	N/A	0-100	AV:10	hd_pos_a_1
Cir A Hot Gas Bypass Output	HGBP_V_A	R	N/A	N/A	On/Off	BV:27	hgbp_v_a_1
Cir A Motor Thermistor Comp 1	cpa1_tmp	R	ohms	N/A	nnnn	AV:11	cpa1_tmp_1
Cir A Motor Thermistor Comp 2	cpa2_tmp	R	ohms	N/A	nnnn	AV:12	cpa2_tmp_1
Cir A Motor Thermistor Comp 3	cpa3_tmp	R	ohms	N/A	nnnn	AV:13	cpa3_tmp_1
Cir A Motor Thermistor Comp 4	cpa4_tmp	R	ohms	N/A	nnnn	AV:14	cpa4_tmp_1
Cir A Percent Total Capacity	CAPA_T	R	%	N/A	0-100	AV:15	capa_t_1
Cir A Saturated Condensing Tmp	SCT_A	R	°F	N/A	±nnn.n	AV:1602	sct_a_1
Cir A Saturated Suction Temp	SST_A	R	°F	N/A	±nnn.n	AV:1603	sst_a_1
Cir A Suction Gas Temperature	SUCT_T_A	R	°F	N/A	±nnn.n	AV:16	suct_t_a_1
Cir A Suction Pressure	SP_A	R	psi	N/A	±nnn.n	AV:1600	sp_a_1
Cir A Suction Superheat Temp	SH_A	R	^F	N/A	±nnn.n	AV:17	sh_a_1
Cir B Compressor 1 Heater Out	cp_b1_ht	R	N/A	N/A	On/Off	BV:28	cp_b1_ht_1
Cir B Compressor 1 Output	CP_B1	R	N/A	N/A	On/Off	BV:29	cp_b1_1
Cir B Compressor 2 Heater Out	cp_b2_ht	R	N/A	N/A	On/Off	BV:30	cp_b2_ht_1
Cir B Compressor 2 Output	CP_B2	R	N/A	N/A	On/Off	BV:31	cp_b2_1
Cir B Compressor 3 Heater Out	cp_b3_ht	R	N/A	N/A	On/Off	BV:32	cp_b3_ht_1
Cir B Compressor 3 Output	CP_B3	R	N/A	N/A	On/Off	BV:33	cp_b3_1

LEGEND

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OAT — Outdoor Air Temperature
R — Read
W — Write

Table G — Network Points List (cont)

POINT DESCRIPTION	POINT NAME	READ/ WRITE	UNITS	DEFAULT VALUE	RANGE	BACNET OBJECT ID	BACNET OBJECT NAME
Cir B Compressor 4 Heater Out	cp_b4_ht	R	N/A	N/A	On/Off	BV:34	cp_b4_ht_1
Cir B Compressor 4 Output	CP_B4	R	N/A	N/A	On/Off	BV:35	cp_b4_1
Cir B Crank Heater Current Cp1	cpb1_cur	R	amps	N/A	nnn.n	AV:18	cpb1_cur_1
Cir B Crank Heater Current Cp2	cpb2_cur	R	amps	N/A	nnn.n	AV:19	cpb2_cur_1
Cir B Crank Heater Current Cp3	cpb3_cur	R	amps	N/A	nnn.n	AV:20	cpb3_cur_1
Cir B Crank Heater Current Cp4	cpb4_cur	R	amps	N/A	nnn.n	AV:21	cpb4_cur_1
Cir B Discharge Pressure	DP_B	R	psi	N/A	nnn.n	AV:1605	dp_b_1
Cir B EXV Position	EXV_B	R	%	N/A	0-100	AV:22	exv_b_1
Cir B Fan Output DO # 1	fan_b1	R	N/A	N/A	On/Off	BV:36	fan_b1_1
Cir B Fan Output DO # 2	fan_b2	R	N/A	N/A	On/Off	BV:37	fan_b2_1
Cir B Fan Output DO # 3	fan_b3	R	N/A	N/A	On/Off	BV:38	fan_b3_1
Cir B Fan Output DO # 4	fan_b4	R	N/A	N/A	On/Off	BV:39	fan_b4_1
Cir B Fan Output DO # 5	fan_b5	R	N/A	N/A	On/Off	BV:40	fan_b5_1
Cir B Fan Output DO # 6	fan_b6	R	N/A	N/A	On/Off	BV:41	fan_b6_1
Cir B Fan Staging Number	FAN_ST_B	R	N/A	N/A	0-6	AV:23	fan_st_b_1
Cir B Head Press Actuator Pos	hd_pos_b	R	%	N/A	0-100	AV:24	hd_pos_b_1
Cir B Hot Gas Bypass Output	HGBP_V_B	R	N/A	N/A	On/Off	BV:42	hgbp_v_b_1
Cir B Motor Thermistor Comp 1	cpb1_tmp	R	ohms	N/A	nnnn	AV:25	cpb1_tmp_1
Cir B Motor Thermistor Comp 2	cpb2_tmp	R	ohms	N/A	nnnn	AV:26	cpb2_tmp_1
Cir B Motor Thermistor Comp 3	cpb3_tmp	R	ohms	N/A	nnnn	AV:27	cpb3_tmp_1
Cir B Motor Thermistor Comp 4	cpb4_tmp	R	ohms	N/A	nnnn	AV:28	cpb4_tmp_1
Cir B Percent Total Capacity	CAPB_T	R	%	N/A	0-100	AV:29	capb_t_1
Cir B Saturated Condensing Tmp	SCT_B	R	°F	N/A	±nnn.n	AV:30	sct_b_1
Cir B Saturated Suction Temp	SST_B	R	°F	N/A	±nnn.n	AV:31	sst_b_1
Cir B Suction Gas Temperature	UCT_T_B	R	°F	N/A	±nnn.n	AV:32	suct_t_b_1
Cir B Suction Pressure	SP_B	R	psi	N/A	nnn.n	AV:33	sp_b_1
Cir B Suction Superheat Temp	SH_B	R	psi	N/A	nnn.n	AV:34	sh_b_1
Cir C Compressor 1 Heater Out	cp_c1_ht	R	N/A	N/A	On/Off	BV:43	cp_c1_ht_1
Cir C Compressor 1 Output	CP_C1	R	N/A	N/A	On/Off	BV:44	cp_c1_1
Cir C Compressor 2 Heater Out	cp_c2_ht	R	N/A	N/A	On/Off	BV:45	cp_c2_ht_1
Cir C Compressor 2 Output	CP_C2	R	N/A	N/A	On/Off	BV:46	cp_c2_1
Cir C Compressor 3 Heater Out	cp_c3_ht	R	N/A	N/A	On/Off	BV:47	cp_c3_ht_1
Cir C Compressor 3 Output	CP_C3	R	N/A	N/A	On/Off	BV:48	cp_c3_1
Cir C Compressor 4 Heater Out	cp_c4_ht	R	N/A	N/A	On/Off	BV:49	cp_c4_ht_1
Cir C Compressor 4 Output	CP_C4	R	N/A	N/A	On/Off	BV:50	cp_c4_1
Cir C Crank Heater Current Cp1	cpc1_cur	R	amps	N/A	nnn.n	AV:35	cpc1_cur_1
Cir C Crank Heater Current Cp2	cpc2_cur	R	amps	N/A	nnn.n	AV:36	cpc2_cur_1
Cir C Crank Heater Current Cp3	cpc3_cur	R	amps	N/A	nnn.n	AV:37	cpc3_cur_1
Cir C Crank Heater Current Cp4	cpc4_cur	R	amps	N/A	nnn.n	AV:38	cpc4_cur_1
Cir C Discharge Pressure	DP_C	R	psi	N/A	nnn.n	AV:1609	dp_c_1
Cir C EXV Position	EXV_C	R	%	N/A	0-100	AV:39	exv_c_1
Cir C Fan Output DO # 1	fan_c1	R	N/A	N/A	On/Off	BV:51	fan_c1_1
Cir C Fan Output DO # 2	fan_c2	R	N/A	N/A	On/Off	BV:52	fan_c2_1
Cir C Fan Output DO # 3	fan_c3	R	N/A	N/A	On/Off	BV:53	fan_c3_1
Cir C Fan Output DO # 4	fan_c4	R	N/A	N/A	On/Off	BV:54	fan_c4_1
Cir C Fan Output DO # 5	fan_c5	R	N/A	N/A	On/Off	BV:55	fan_c5_1
Cir C Fan Output DO # 6	fan_c6	R	N/A	N/A	On/Off	BV:56	fan_c6_1
Cir C Fan Staging Number	FAN_ST_C	R	N/A	N/A	0-6	AV:40	fan_st_c_1
Cir C Head Press Actuator Pos	hd_pos_c	R	%	N/A	0-100	AV:41	hd_pos_c_1
Cir C Hot Gas Bypass Output	HGBP_V_C	R	N/A	N/A	On/Off	BV:57	hgbp_v_c_1
Cir C Motor Thermistor Comp 1	cpc1_tmp	R	ohms	N/A	nnnn	AV:42	cpc1_tmp_1
Cir C Motor Thermistor Comp 2	cpc2_tmp	R	ohms	N/A	nnnn	AV:43	cpc2_tmp_1
Cir C Motor Thermistor Comp 3	cpc3_tmp	R	ohms	N/A	nnnn	AV:44	cpc3_tmp_1
Cir C Motor Thermistor Comp 4	cpc4_tmp	R	ohms	N/A	nnnn	AV:45	cpc4_tmp_1

LEGEND

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Table G — Network Points List (cont)

POINT DESCRIPTION	POINT NAME	READ/ WRITE	UNITS	DEFAULT VALUE	RANGE	BACNET OBJECT ID	BACNET OBJECT NAME
Cir C Percent Total Capacity	CAPC_T	R	%	N/A	0-100	AV:46	capc_t_1
Cir C Saturated Condensing Tmp	SCT_C	R	°F	N/A	±nnn.n	AV:47	sct_c_1
Cir C Saturated Suction Temp	SST_C	R	°F	N/A	±nnn.n	AV:48	sst_c_1
Cir C Suction Gas Temperature	SUCT_T_C	R	°F	N/A	±nnn.n	AV:49	suct_t_c_1
Cir C Suction Pressure	SP_C	R	psi	N/A	±nnn.n	AV:50	sp_c_1
Cir C Suction Superheat Temp	SH_C	R	^F	N/A	±nnn.n	AV:51	sh_c_1
Circuit A Fan #1 Hours	hr_fana1	R	hours	N/A	nnnnn	AV:52	hr_fana1_1
Circuit A Fan #2 Hours	hr_fana2	R	hours	N/A	nnnnn	AV:53	hr_fana2_1
Circuit A Fan #3 Hours	hr_fana3	R	hours	N/A	nnnnn	AV:54	hr_fana3_1
Circuit A Fan #4 Hours	hr_fana4	R	hours	N/A	nnnnn	AV:55	hr_fana4_1
Circuit A Fan #5 Hours	hr_fana5	R	hours	N/A	nnnnn	AV:56	hr_fana5_1
Circuit A Fan #6 Hours	hr_fana6	R	hours	N/A	nnnnn	AV:57	hr_fana6_1
Circuit B Fan #1 Hours	hr_fanb1	R	hours	N/A	nnnnn	AV:58	hr_fanb1_1
Circuit B Fan #2 Hours	hr_fanb2	R	hours	N/A	nnnnn	AV:59	hr_fanb2_1
Circuit B Fan #3 Hours	hr_fanb3	R	hours	N/A	nnnnn	AV:60	hr_fanb3_1
Circuit B Fan #4 Hours	hr_fanb4	R	hours	N/A	nnnnn	AV:61	hr_fanb4_1
Circuit B Fan #5 Hours	hr_fanb5	R	hours	N/A	nnnnn	AV:62	hr_fanb5_1
Circuit B Fan #6 Hours	hr_fanb6	R	hours	N/A	nnnnn	AV:63	hr_fanb6_1
Circuit C Fan #1 Hours	hr_fanc1	R	hours	N/A	nnnnn	AV:64	hr_fanc1_1
Circuit C Fan #2 Hours	hr_fanc2	R	hours	N/A	nnnnn	AV:65	hr_fanc2_1
Circuit C Fan #3 Hours	hr_fanc3	R	hours	N/A	nnnnn	AV:66	hr_fanc3_1
Circuit C Fan #4 Hours	hr_fanc4	R	hours	N/A	nnnnn	AV:67	hr_fanc4_1
Circuit C Fan #5 Hours	hr_fanc5	R	hours	N/A	nnnnn	AV:68	hr_fanc5_1
Circuit C Fan #6 Hours	hr_fanc6	R	hours	N/A	nnnnn	AV:69	hr_fanc6_1
Circuit Loading Sequence	lead_cir	R	N/A	0	0-3	AV:70	lead_cir_1
Compressor A1 Hours	HR_CP_A1	R	hours	N/A	nnnnn	AV:71	hr_cp_a1_1
Compressor A1 Starts	st_cp_a1	R	N/A	N/A	nnnnn	AV:72	st_cp_a1_1
Compressor A2 Hours	HR_CP_A2	R	hours	N/A	nnnnn	AV:73	hr_cp_a2_1
Compressor A2 Starts	st_cp_a2	R	N/A	N/A	nnnnn	AV:74	st_cp_a2_1
Compressor A3 Hours	HR_CP_A3	R	hours	N/A	nnnnn	AV:75	hr_cp_a3_1
Compressor A3 Starts	st_cp_a3	R	N/A	N/A	nnnnn	AV:76	st_cp_a3_1
Compressor A4 Hours	HR_CP_A4	R	hours	N/A	nnnnn	AV:77	hr_cp_a4_1
Compressor A4 Starts	st_cp_a4	R	N/A	N/A	nnnnn	AV:78	st_cp_a4_1
Compressor B1 Hours	HR_CP_B1	R	hours	N/A	nnnnn	AV:79	hr_cp_b1_1
Compressor B1 Starts	st_cp_b1	R	N/A	N/A	nnnnn	AV:80	st_cp_b1_1
Compressor B2 Hours	HR_CP_B2	R	hours	N/A	nnnnn	AV:81	hr_cp_b2_1
Compressor B2 Starts	st_cp_b2	R	N/A	N/A	nnnnn	AV:82	st_cp_b2_1
Compressor B3 Hours	HR_CP_B3	R	hours	N/A	nnnnn	AV:83	hr_cp_b3_1
Compressor B3 Starts	st_cp_b3	R	N/A	N/A	nnnnn	AV:84	st_cp_b3_1
Compressor B4 Hours	HR_CP_B4	R	hours	N/A	nnnnn	AV:85	hr_cp_b4_1
Compressor B4 Starts	st_cp_b4	R	N/A	N/A	nnnnn	AV:86	st_cp_b4_1
Compressor C1 Hours	HR_CP_C1	R	hours	N/A	nnnnn	AV:87	hr_cp_c1_1
Compressor C1 Starts	st_cp_c1	R	N/A	N/A	nnnnn	AV:88	st_cp_c1_1
Compressor C2 Hours	HR_CP_C2	R	hours	N/A	nnnnn	AV:89	hr_cp_c2_1
Compressor C2 Starts	st_cp_c2	R	N/A	N/A	nnnnn	AV:90	st_cp_c2_1
Compressor C3 Hours	HR_CP_C3	R	hours	N/A	nnnnn	AV:91	hr_cp_c3_1
Compressor C3 Starts	st_cp_c3	R	N/A	N/A	nnnnn	AV:92	st_cp_c3_1
Compressor C4 Hours	HR_CP_C4	R	hours	N/A	nnnnn	AV:93	hr_cp_c4_1
Compressor C4 Starts	st_cp_c4	R	N/A	N/A	nnnnn	AV:94	st_cp_c4_1
Control Point	CTRL_PNT	R	°F	N/A	±nnn.n	AV:96	ctrl_pnt_1
Controlled Water Temp	CTRL_WT	R	°F	N/A	±nnn.n	AV:95	ctrl_wt_1
Cooler Fluid Type	flui_typ	R	N/A	1	1=Water, 2=Brine 3=Low Brine	AV:97	flui_typ_1

LEGEND

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Table G — Network Points List (cont)

POINT DESCRIPTION	POINT NAME	READ/ WRITE	UNITS	DEFAULT VALUE	RANGE	BACNET OBJECT ID	BACNET OBJECT NAME
Cooler Heater Active	Mode_06	R	N/A	N/A	Yes/No	BV:58	mode_06_1
Cooler Heater Command	COOLHEAT	R	N/A	N/A	On/Off	BV:59	coolheat_1
Cooler Pumps Rotation	Mode_07	R	N/A	N/A	Yes/No	BV:60	mode_07_1
Cooler Pumps Sequence	pump_seq	R	N/A	0	0-4	AV:98	pump_seq_1
Cooling Ice Setpoint	ice_sp	R	^F	1	0.2-2.0	AV:99	ice_sp_1
Cooling Ramp Loading	cramp_sp	R	^F	0	-30 ->30	AV:100	cramp_sp_1
Cooling Reset Deg. Value	cr_deg	R	°F	44	-20.0->78.8	AV:101	cr_deg_1
Cooling Setpoint 1	csp1	R	°F	44	-20.0->78.8	AV:102	csp1_1
Cooling Setpoint 2	csp2	R	min	N/A	nn	AV:103	csp2_1
Critical Alarm Status	CRITICAL	R	N/A	N/A	On/Off	BV:61	critical_1
Current Full Reset Value	v_cr_fu	R	ma	0	0-20	AV:104	v_cr_fu_1
Current No Reset Value	v_cr_no	R	ma	0	0-20	AV:105	v_cr_no_1
Current Setpoint	SP	R	°F	N/A	±nnn.n	AV:3500	chws_sp_1
Defrost Active On Cir A	Mode_19	R	N/A	N/A	Yes/No	BV:62	mode_19_1
Defrost Active On Cir B	Mode_20	R	N/A	N/A	Yes/No	BV:63	mode_20_1
Delta T Full Reset Value	dt_cr_fu	R	^F	0	0-25	AV:106	dt_cr_fu_1
Delta T No Reset Value	dt_cr_no	R	^F	0	0-25	AV:107	dt_cr_no_1
Demand Limit Active	Mode_04	R	N/A	N/A	Yes/No	BV:64	mode_04_1
Demand Limit Type Select	lim_sel	R/W	N/A	0	0=None, 1=Switch control, 2=4-20mA Control	AV:108	lim_sel_1
Electric Heat Active	Mode_15	R	N/A	N/A	0-4/Off	BV:67	mode_15_1
Electrical Box Safety	ELEC_BOX	R	N/A	N/A	Yes/No	BV:65	elec_box_1
Electrical Heat Stage	EHS_STEP	R	N/A	N/A	Open/Close	BV:66	ehs_step_1
Element Comm Status		R	N/A	N/A		BV:2999	element_stat_1
Emergency Stop	EMSTOP	R/W	N/A	N/A	Enable/Disable	BV:68	emstop_1
Equipment Alarm		R	N/A	N/A		BV:146	element_alarm_1
External Temperature	OAT	R	°F	N/A	±nnn.n	AV:109	oat_1
Flow Checked if Pump Off	pump_loc	R/W	N/A	Yes	Yes/No	BV:69	pump_loc_1
Free Cooling Active	Mode_13	R	N/A	N/A	Yes/No	BV:70	mode_13_1
Free Cooling Disable Sw.	FC_SW	R	N/A	N/A	Yes/No	BV:72	fc_sw_1
Free Cooling Disable?	FC_DSBLE	R	N/A	N/A	Yes/No	BV:71	fc_dsble_1
Heat Reclaim Pump Hours	hr_hpump	R	hours	N/A	nnnnn	AV:112	hr_hpump_1
Heat Reclaim Select	RECL_SEL	R	N/A	N/A	Yes/No	BV:74	recl_sel_1
Heat/Cool Select	HC_SEL	R/W	N/A	N/A	0=Cool, 1=Heat, 2=Auto	AV:110	hc_sel_1
Heat/Cool Status	HEATCOOL	R	N/A	N/A	0=Cool, 1=Heat 2=Stand-by, 3=Both	AV:111	heatcool_1
Heating Low EWT Lockout	Mode_16	R	N/A	N/A	Yes/No	BV:73	mode_16_1
High DGT Circuit A	Mode_24	R	N/A	N/A	Yes/No	BV:75	mode_24_1
High DGT Circuit B	Mode_25	R	N/A	N/A	Yes/No	BV:76	mode_25_1
High DGT Circuit C	Mode_26	R	N/A	N/A	Yes/No	BV:77	mode_26_1
High Pres Override Cir A	Mode_27	R	N/A	N/A	Yes/No	BV:78	mode_27_1
High Pres Override Cir B	Mode_28	R	N/A	N/A	Yes/No	BV:79	mode_28_1
High Pres Override Cir C	Mode_29	R	N/A	N/A	Yes/No	BV:80	mode_29_1
Ice Done Storage Switch	ICE_SW	R	N/A	N/A	Open/Close	BV:81	ice_sw_1
Ice Mode in Effect	Mode_18	R	N/A	N/A	Yes/No	BV:82	mode_18_1
Interlock Status	LOCK_1	R	N/A	N/A	Open/Close	BV:83	lock_1_1
Lag Capacity Limit Value	LAG_LIM	R	%	N/A	nnn	AV:113	lag_lim_1
Limit 4-20mA Signal	LIM_ANAL	R	ma	N/A	±nn.n	AV:114	lim_anal_1
Limit Switch 1 Status	LIM_SW1	R	N/A	N/A	Open/Close	BV:84	lim_sw1_1
Limit Switch 2 Status	LIM_SW2	R	N/A	N/A	Open/Close	BV:85	lim_sw2_1
Local Schedule		R	N/A	N/A		BV:2	schedule_1

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Table G — Network Points List (cont)

POINT DESCRIPTION	POINT NAME	READ/ WRITE	UNITS	DEFAULT VALUE	RANGE	BACNET OBJECT ID	BACNET OBJECT NAME
Low Suction Circuit A	Mode_21	R	N/A	N/A	Yes/No	BV:86	mode_21_1
Low Suction Circuit B	Mode_22	R	N/A	N/A	Yes/No	BV:87	mode_22_1
Low Suction Circuit C	Mode_23	R	N/A	N/A	Yes/No	BV:88	mode_23_1
mA For 0% Demand Limit	lim_ze	R/W	mA	0	0-20	AV:117	lim_ze_1
mA For 100% Demand Limit	lim_mx	R/W	mA	0	0-20	AV:118	lim_mx_1
Machine Operating Hours	HR_MACH	R	hours	N/A	nnnnn	AV:115	hr_mach_1
Machine Starts Number	st_mach	R	N/A	N/A	nnnnn	AV:116	st_mach_1
Master/Slave Select	ms_sel	R/W	N/A	0	0= Disable, 1=Master, 2=Slave	AV:119	ms_sel_1
Minutes Left for Start	min_left	R	min	N/A	0-15	AV:120	min_left_1
Night Low Noise Active	Mode_09	R	N/A	N/A	Yes/No	BV:89	mode_09_1
OAT Full Reset Value	oatcr_fu	R	°F	14	14-125	AV:121	oatcr_fu_1
OAT No Reset Value	oatcr_no	R	°F	0	0-25	AV:122	oatcr_no_1
Occupied Override Switch	OCC_OVSW	R	N/A	N/A	Open/Close	BV:90	occ_ovsw_1
On/Off - Remote Switch	ONOFF_SW	R	N/A	N/A	Open/Close	BV:91	onoff_sw_1
Optional Space Temp	SPACETMP	R	°F	N/A	±nnn.n	AV:123	spacetmp_1
Pass For All User Config	all_pass	R/W	N/A	No	No/Yes	BV:92	all_pass_1
Percent Total Capacity	CAP_T	R	%	N/A	nnn	AV:1700	cap_t_1
Pump Auto Rotation Delay	pump_del	R	hours	48	24-3000	AV:124	pump_del_1
Pump Periodic Start	Mode_08	R	N/A	N/A	Yes/No	BV:93	mode_08_1
Pump Run Status	PUMP_DEF	R	N/A	N/A	Open/Close	BV:94	pump_def_1
Pump Sticking Protection	pump_per	R/W	N/A	No	No/Yes	BV:95	pump_per_1
Pumpdown Pressure Cir A	PD_P_A	R	psi	N/A	±nnn.n	AV:125	pd_p_a_1
Pumpdown Pressure Cir B	PD_P_B	R	psi	N/A	±nnn.n	AV:126	pd_p_b_1
Pumpdown Saturated Tmp A	hr_sat_a	R	°F	N/A	n	AV:127	hr_sat_a_1
Pumpdown Saturated Tmp B	hr_sat_b	R	°F	N/A	n	AV:128	hr_sat_b_1
Ramp Loading Active	Mode_05	R	N/A	N/A	Yes/No	BV:96	mode_05_1
Ramp Loading Select	ramp_sel	R	N/A	No	No/Yes	BV:97	ramp_sel_1
Ready or Running Status	READY	R	N/A	N/A	On/Off	BV:98	ready_1
Reclaim Active	Mode_14	R	N/A	N/A	Yes/No	BV:99	mode_14_1
Reclaim Condenser Flow	condflow	R	N/A	N/A	On/Off	BV:100	condflow_1
Reclaim Condenser Heater	cond_htr	R	N/A	N/A	On/Off	BV:101	cond_htr_1
Reclaim Condenser Pump	CONDPUMP	R	N/A	N/A	On/Off	BV:102	condpump_1
Reclaim Condenser Pump	COND_PMP	R	N/A	N/A	On/Off	BV:103	cond_pmp_1
Reclaim Deadband	hr_deadb	R/W	^F	9.0	5-27	AV:129	hr_deadb_1
Reclaim Entering Fluid	HR_EWT	R	°F	N/A	±nnn.n	AV:130	hr_ewt_1
Reclaim Leaving Fluid	HR_LWT	R	°F	N/A	±nnn.n	AV:131	hr_lwt_1
Reclaim Setpoint	rsp	R/W	°F	122	95-122	AV:132	rsp_1
Reclaim Status Circuit A	hrstat_a	R	N/A	N/A	n	AV:133	hrstat_a_1
Reclaim Status Circuit B	hrstat_b	R	N/A	N/A	n	AV:134	hrstat_b_1
Reclaim Valve Position	hr_v_pos	R	%	N/A	±nnn.n	AV:135	hr_v_pos_1
Remote Heat/Cool Switch	HC_SW	R	N/A	N/A	Open/Close	BV:104	hc_sw_1
Remote Interlock Status	REM_LOCK	R	N/A	N/A	Open/Close	BV:105	rem_lock_1
Remote Reclaim Switch	RECL_SW	R	N/A	N/A	Open/Close	BV:106	recl_sw_1
Remote Setpoint Switch	SETP_SW	R	N/A	N/A	Open/Close	BV:107	setp_sw_1
Reset in Effect	Mode_03	R	N/A	N/A	Yes/No	BV:108	mode_03_1
Reset/Setpoint 4-20mA In	SP_RESET	R	ma	N/A	±nn.n	AV:136	sp_reset_1
Rotate Pumps Now?	ROT_PUMP	R	N/A	N/A	Yes/No	BV:109	rot_pump_1

LEGEND

CCN — Carrier Comfort Network
CHWS — Chilled Water Setpoint
DGT — Discharge Gas Temperature
DO — Discrete Output
EWT — Entering Water Temperature
EXV — Electronic Expansion Valve
OAT — Outdoor Air Temperature
R — Read
W — Write

Table G — Network Points List (cont)

POINT DESCRIPTION	POINT NAME	READ/ WRITE	UNITS	DEFAULT VALUE	RANGE	BACNET OBJECT ID	BACNET OBJECT NAME
Run Status	STATUS	R	N/A	N/A	0=Off, 1=Running 2=Stopping, 3= Delay 4=Tripout, 5=Ready 6=Override, 7=Defrost 8=Run Test, 9=Test	AV:137	status_1
Running Status	RUNNING	R	N/A	N/A	On/Off	BV:110	running_1
Second Setpoint in Use	Mode_02	R	N/A	N/A	Yes/No	BV:111	mode_02_1
Setpoint Occupied?	SP_OCC	R	N/A	N/A	Yes/No	BV:112	sp_occ_1
Shutdown Indicator State	SHUT-DOWN	R	N/A	N/A	On/Off	BV:113	shutdown_1
Space T Full Reset Value	spacr_fu	R	°F	14	14-125	AV:138	spacr_fu_1
Space T No Reset Value	spacr_no	R	°F	14	14-125	AV:139	spacr_no_1
Staged Loading Sequence	seq_typ	R	N/A	No	No/Yes	BV:114	seq_typ_1
Starts Max During 1 Hour	st_cp_mx	R	N/A	N/A	nnnnn	AV:141	st_cp_mx_1
Starts/hr From Last 24 h	st_cp_av	R	N/A	N/A	nnnnn	AV:140	st_cp_av_1
Startup Delay in Effect	Mode_01	R	N/A	N/A	Yes/No	BV:115	mode_01_1
Sub Condenser Temp Cir A	hr_subta	R	°F	N/A	±nnn.n	AV:142	hr_subta_1
Sub Condenser Temp Cir B	hr_subtb	R	°F	N/A	±nnn.n	AV:143	hr_subtb_1
Subcooling Temperature A	hr_subca	R	°F	N/A	±nnn.n	AV:144	hr_subca_1
Subcooling Temperature B	hr_subcb	R	°F	N/A	±nnn.n	AV:145	hr_subcb_1
Superheat Override Cir A	Mode_30	R	N/A	N/A	Yes/No	BV:116	mode_30_1
Superheat Override Cir B	Mode_31	R	N/A	N/A	Yes/No	BV:117	mode_31_1
Superheat Override Cir C	Mode_32	R	N/A	N/A	Yes/No	BV:118	mode_32_1
Switch Limit Setpoint 1	lim_sp1	R	%	100	0-100	AV:146	lim_sp1_1
Switch Limit Setpoint 2	lim_sp2	R	%	100	0-100	AV:147	lim_sp2_1
Switch Limit Setpoint 3	lim_sp3	R	%	100	0-100	AV:148	lim_sp3_1
System Cooling Demand Level		R	N/A	N/A		AV:9006	cool_demand_level_1
System Demand Limiting		R	N/A	N/A		BV:3	dem_lmt_act_1
System Manager Active	Mode_10	R	N/A	N/A	Yes/No	BV:119	mode_10_1
System OAT Master		R	N/A	N/A		AV:80001	mstr_oa_temp_1
Unit Off to On Delay	/off_on_d	R	min	1	1-15	AV:149	off_on_d_1
User Defined Analog 1		R	N/A	N/A		AV:2901	user_analog_1_1
User Defined Analog 2		R	N/A	N/A		AV:2902	user_analog_2_1
User Defined Analog 3		R	N/A	N/A		AV:2903	user_analog_3_1
User Defined Analog 4		R	N/A	N/A		AV:2904	user_analog_4_1
User Defined Analog 5		R	N/A	N/A		AV:2905	user_analog_5_1
User Defined Binary 1		R	N/A	N/A		BV:2911	user_binary_1_1
User Defined Binary 2		R	N/A	N/A		BV:2912	user_binary_2_1
User Defined Binary 3		R	N/A	N/A		BV:2913	user_binary_3_1
User Defined Binary 4		R	N/A	N/A		BV:2914	user_binary_4_1
User Defined Binary 5		R	N/A	N/A		BV:2915	user_binary_5_1
Water Cond Enter Valve A	hr_ew_a	R	N/A	N/A	On/Off	BV:120	hr_ew_a_1
Water Cond Enter Valve B	hr_ew_b	R	N/A	N/A	On/Off	BV:121	hr_ew_b_1
Water Cond Leaving Val A	hr_lw_a	R	N/A	N/A	On/Off	BV:122	hr_lw_a_1
Water Cond Leaving Val B	hr_lw_b	R	N/A	N/A	On/Off	BV:123	hr_lw_b_1
Water Exchanger Entering Temp	EWT	R	°F	N/A	±nnn.n	AV:150	ewt_1
Water Exchanger Leaving Temp	LWT	R	°F	N/A	±nnn.n	AV:151	lwt_1
Water Pump #1 Command	CPUMP_1	R	N/A	N/A	On/Off	BV:124	cpump_1_1
Water Pump #1 Hours	hr_cpum1	R	hours	N/A	nnnnn	AV:152	hr_cpum1_1
Water Pump #2 Command	CPUMP_2	R	N/A	N/A	On/Off	BV:125	cpump_2_1
Water Pump #2 Hours	hr_cpum2	R	hours	N/A	nnnnn	AV:153	hr_cpum2_1

LEGEND

CCN — Carrier Comfort Network
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Manufacturer reserves the right to discontinue, or change at any time, specifications or designs without notice and without incurring obligations.

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START-UP CHECKLIST FOR 30RB LIQUID CHILLER

A. PROJECT INFORMATION

Job Name _____
Address _____
City _____ State _____ Zip _____

Installing Contractor _____
Sales Office _____
Start-Up Performed By _____

Design Information

	CAPACITY	EWT	LWT	FLUID TYPE	FLOW RATE	P.D.	AMBIENT
Cooler							

Unit

Model _____
Serial _____

Cooler

Model _____
Serial _____

Compressors

A1)
Model _____
Serial _____
SPM Address _____

A2)
Model _____
Serial _____
SPM Address _____

A3)
Model _____
Serial _____
SPM Address _____

A4)
Model _____
Serial _____
SPM Address _____

B1)
Model _____
Serial _____
SPM Address _____

B2)
Model _____
Serial _____
SPM Address _____

B3)
Model _____
Serial _____
SPM Address _____

B4)
Model _____
Serial _____
SPM Address _____

C1)
Model _____
Serial _____
SPM Address _____

C2)
Model _____
Serial _____
SPM Address _____

C3)
Model _____
Serial _____
SPM Address _____

C4)
Model _____
Serial _____
SPM Address _____

Hydronic Package

P1)
Model _____
Serial _____

P2)
Model _____
Serial _____

B. PRELIMINARY EQUIPMENT CHECK (This section to be completed by installing contractor)

1. Is there any physical damage? ☐ Yes ☐ No
   a. Will this prevent start-up? ☐ Yes ☐ No
   Description _____
   _____
2. Unit is installed level as per the installation instructions. ☐ Yes ☐ No
3. Power supply agrees with the unit nameplate. ☐ Yes ☐ No
4. Correct control voltage _____vac. Check transformer primary on 208/230 v. ☐ Yes ☐ No
5. Electrical power wiring is installed properly. ☐ Yes ☐ No
6. Unit is properly grounded. ☐ Yes ☐ No

7. Electrical circuit protection has been sized and installed properly. ☐ Yes ☐ No
8. All terminals are tight. ☐ Yes ☐ No
9. All plug assemblies are tight. ☐ Yes ☐ No
10. All cables, thermistors and transducers have been inspected for cross wires. ☐ Yes ☐ No
11. All thermistors are fully inserted into wells. ☐ Yes ☐ No
12. Crankcase heaters energized for 24 hours before start-up. ☐ Yes ☐ No
13. All armatures more freely on contactors. ☐ Yes ☐ No

Chilled Water System Check

1. All chilled water valves are open. ☐ Yes ☐ No
2. All piping is connected properly. ☐ Yes ☐ No
3. All air has been purged from the system. ☐ Yes ☐ No
4. Chilled water pump is operating with the correct rotation. ☐ Yes ☐ No
5. Chilled water pump starter interlocked with chiller. ☐ Yes ☐ No
6. Chilled water flow switch operational. ☐ Yes ☐ No
7. Inlet piping to cooler includes a 20 mesh strainer. ☐ Yes ☐ No
8. Water loop volume greater than 3 gal/ton for air conditioning or 6 gal/ton for process cooling and low ambient operation. ☐ Yes ☐ No
9. Proper loop freeze protection provided to ____ °F (°C). ☐ Yes ☐ No
   Antifreeze type_____ Concentration _____%.
   (If antifreeze solution is not utilized on 30RB machines and the minimum outdoor ambient is below 32 F (0° C) then items 10 and 11 have to be completed to provide cooler freeze protection to –20 F. Refer to Installation Instructions for proper cooler winterization procedure.)
10. Outdoor piping wrapped with electric heater tape. ☐ Yes ☐ No
11. Cooler heaters installed and operational. ☐ Yes ☐ No
12. Is the unit equipped with low ambient head pressure control? ☐ Yes ☐ No
    a. If yes, are wind baffles installed? (Required if chiller will run below 32 F and be exposed to the wind.) ☐ Yes ☐ No
13. Are there any VFDs on the chilled water pumps?
    a. Primary loop ☐ Yes ☐ No
    b. Secondary loop ☐ Yes ☐ No

C. UNIT START-UP

1. All liquid line service valves located near EXVs are open. ☐ Yes ☐ No
2. All discharge service valves are open. ☐ Yes ☐ No
3. All suction service valves are open. ☐ Yes ☐ No
4. All compressor rack holddown bolts removed. ☐ Yes ☐ No
5. Leak check unit. Locate, repair and report any refrigerant leaks. ☐ Yes ☐ No
6. Voltage at terminal block is within unit nameplate range. ☐ Yes ☐ No
7. Check voltage imbalance: A-B_____ A-C_____B-C_____
   Average voltage = _____ (A-B + A-C + B-C)/3
   Maximum deviation from average voltage = _____
   Voltage imbalance = _____% (max. deviation / average voltage) X 100
   Is voltage imbalance less than 2%. ☐ Yes ☐ No
   (DO NOT start chiller if voltage imbalance is greater than 2%. Contact local utility for assistance.)
8. Verify cooler flow rate ☐ Yes ☐ No
   Pressure entering cooler _____ psig (kpa)
   Pressure leaving cooler _____ psig (kpa)
   Cooler pressure drop _____ psig (kpa)
   Psig x 2.31 ft./psi = _____ ft of water
   kPa x 0.334 m/psi = _____ m of water
   Cooler flow rate _____ gpm (l/s) (See Cooler Pressure Drop Curve provided in the 30RB Installation Instructions.)
9. Verify that isolation valves on factory-installed pump packages are properly positioned and locked prior to start-up (slot in-line with piping on both sides of pump). ☐ Yes ☐ No

CUT ALONG DOTTED LINE

CUT ALONG DOTTED LINE

Start and operate machine. Complete the following:

1. Complete component test (make sure EXVs are checked after liquid line service valves are opened).
2. Check refrigerant and oil charge. Record charge information below.
3. Record compressor and condenser fan motor current.
4. Record operating data.
5. Provide operating instructions to owner's personnel. Instruction time _____ hours

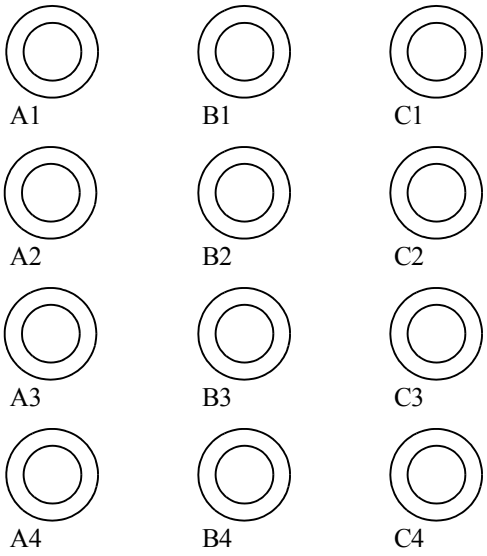
	Circuit A	Circuit B	Circuit C
Refrigerant Charge	_____	_____	_____
Additional charge required	_____	_____	_____

Oil Charge

Indicate level in sight glass of compressors A1, B1 and C1.

Additional oil charge required.

Circuit A _____
Circuit B _____
Circuit C _____



Record Software Versions

MODE — RUN STATUS

SUB-MODE	ITEM	DISPLAY	ITEM EXPANSION
VERS	APPL		CSA-SR- __ __ __ __ __ __
	MARQ		
	EXV1		
	EXV2		
	AUX1		
	AUX2		
	AUX3		

(Press ENTER and ESCAPE simultaneously to obtain software versions)

Record Configuration Information

MODE — CONFIGURATION

SUB-MODE	ITEM	DISPLAY	ITEM EXPANSION	ENTRY
DISP	TEST	OFF/ON	Test Display LED's	
	METR	US-METR	Metric Display	
	LANG	x	Language	
UNIT	TYPE	x	Unit Type	
	TONS	xxx	Unit Size	
	VAR.A	x	NB Fan on Varifan CIR A	
	VAR.B	x	NB Fan on Varifan CIR B	
	VAR.C	x	NB Fan on Varifan CIR C	
	HGBP	x	Hot Gas Bypass Control	
	60HZ	NO/YES	60 Hz Frequency	
	RECL	NO/YES	Heat Reclaim Select	
	EHS	x	Electric Heater Stage	
	EMM	NO/YES	EMM Module Installed	
	PAS.E	DSBL/ENBL	Password Enable	
	PASS	xxxx	Password Protection Must be Disabled	
	FREE	NO/YES	Free Cooling Select	
	PD4.D	NO/YES	Pro_Dialog Users Display	
	BOIL	OFF/ON	Boiler Command Select	
SERV	FLUD	x	Cooler Fluid Type	
	MOP	xx.x	EXV MOP Setpoint	
	HP.TH	xxx.x	High Pressure Threshold	
	SHP.A	xx.x	Circuit A Superheat Setp	
	SHP.B	xx.x	Circuit B Superheat Setp	
	SHP.C	xx.x	Circuit C Superheat Setp	
	HTR	xx.x	Cooler Heater DT Setp	
	EWTO	NO/YES	Entering Water Control	
	AU.SM	NO/YES	Auto Start When SM Lost	
	BOTH	NO/YES	HSM Both Command Select	
	LLWT	xx	Brine Min. Fluid Temp.	
	LOSP	xx.x	Brine Freeze Setpoint	
	HD.PG	xx.x	Varifan Proportion Gain	
	HD.DG	xx.x	Varifan Derivative Gain	
	HD.IG	xx.x	Varifan Integral Gain	
	HR.MI	xxx.x	Reclaim Water Valve Min	
	HR.MA	xxx.x	Reclaim Water Valve Max	
	AVFA	NO/YES	Attach Drive to Fan A	
	AVFB	NO/YES	Attach Drive to Fan B	
	AVFC	NO/YES	Attach Drive to Fan C	
OPTN	CCNA	xxx	CCN Address	
	CCNB	xxx	CCN Bus Number	
	BAUD	x	CCN Baud Rate	
	LOAD	x	Loading Sequence Select	
	LLCS	x	Lead/Lag Circuit Select	
	RL.S	ENBL/DSBL	Ramp Load Select	
	DELY	xx	Minutes Time Off	
	ICE.M	ENBL/DSBL	Ice Mode Enable	
	PUMP	x	Cooler Pumps Sequence	
	ROT.P	xxxx	Pump Rotation Delay	
	PM.PS	NO/YES	Periodic Pump Start	
	P.SBY	NO/YES	Stop Pump in Standby	
	P.LOC	NO/YES	Flow Checked if Pump Off	
	LS.ST	xx.xx	Night Low Noise Start	
	LS.ND	xx.xx	Night Low Noise End	
	LS.LT	xxx	Low Noise Capacity Lim	
	OA.TH	xx.x	Heat Mode OAT Threshold	
	FREE	xx.x	Free Cooling OAT Limit	
	BO.TH	xx.x	Boiler OAT Threshold	
	EHST	xx.xx	Elec Stag OAT Threshold	
	EHSB	NO/YES	Last Heat Elec Backup	
	E.DEF	NO/YES	Quick EHS in Defrost	
	EHSP	xx	Elec Heat Pulldown	
	AUTO	NO/YES	Auto Changeover Select	

CUT ALONG DOTTED LINE

CUT ALONG DOTTED LINE

MODE — CONFIGURATION (cont)

SUB-MODE	ITEM	DISPLAY	ITEM EXPANSION	ENTRY
RSET	CRST	x	Cooling Reset Type	
	HRST	x	Heating Reset Type	
	DMDC	x	Demand Limit Select	
	DMMX	xx.x	mA for 100% Demand Lim	
	DMZE	xx.x	mA for 0% Demand Limit	
	MSSL	x	Master/Slave Select	
	SLVA	xxx	Slave Address	
	LLBL	ENBL/DSBL	Lead/Lag Balance Select	
	LLBD	xxx	Lead/Lag Balance Delta	
	LLDY	xx	Lag Start Delay	
	LAGP	x	Lag Unit Pump Select	
	LPUL	xx	Lead Pulldown Time	

MODE — SETPOINT

SUB-MODE	ITEM	DISPLAY	ITEM EXPANSION	ENTRY
COOL	CSP.1	xxx.x	Cooling Setpoint 1	
	CSP.2	xxx.x	Cooling Setpoint 2	
	CSP.3	xxx.x	Ice Setpoint	
	CRV1	xx.x	Current No Reset Value	
	CRV2	xx.x	Current Full Reset Value	
	CRT1	xxx.x	Delta T No Reset Temp	
	CRT2	xxx.x	Delta T Full Reset Value	
	CRO1	xxx.x	OAT No Reset Temp	
	CRO2	xxx.x	OAT Full Reset Temp	
	CRS1	xxx.x	Space T No Reset Temp	
	CRS2	xxx.x	Space T Full Reset Temp	
	DGRC	xx.x	Degrees Cool Reset	
	CAUT	xx.x	Cool Changeover Setpt	N/A
	CRMP	x.x	Cool Ramp Loading	
HEAT	HSP.1	xxx.x	Heating Setpoint 1	N/A
	HSP.2	xxx.x	Heating Setpoint 2	N/A
	HRV1	xx.x	Current No Reset Val	N/A
	HRV2	xx.x	Current Full Reset Val	N/A
	HRT1	xxx.x	Delta T No Reset Temp	N/A
	HRT2	xxx.x	Delta T Full Reset Temp	N/A
	HRO1	xxx.x	OAT No Reset Temp	N/A
	HRO2	xxx.x	OAT Full Reset Temp	N/A
	DGRH	xx.x	Degrees Heat Reset	N/A
	HAUT	xx.x	Heat Changeover Setpt	N/A
	HRMP	x.x	Heat Ramp Loading	N/A
MISC	DLS1	xxx	Switch Limit Setpoint 1	
	DLS2	xxx	Switch Limit Setpoint 2	
	DLS3	xxx	Switch Limit Setpoint 3	
	RSP	xxx.x	Heat Reclaim Setpoint	N/A
	RDB	xx.x	Reclaim Deadband	N/A

MODE — OPERATING MODE

SUB-MODE	ITEM	DISPLAY	ITEM EXPANSION	ENTRY
SLCT	OPER	x	Operating Control Type	
	SP.SE	x	Setpoint Select	
	HC.SE	x	Heat Cool Select	
	RL.SE	x	Reclaim Select	

Component Test — Complete the following tests to make sure all peripheral components are operational before the compressors are started.

MODE — SERVICE TEST

SUB-MODE	ITEM	DISPLAY	ITEM EXPANSION	ENTRY
TEST*	T.REQ	OFF/ON	Manual Sequence	
	CP.A1	OFF/ON	Compressor A1 Output	
	CP.A2	OFF/ON	Compressor A2 Output	
	CP.A3	OFF/ON	Compressor A3 Output	
	CP.A4	OFF/ON	Compressor A4 Output	
	HGB.A	OFF/ON	Hot Gas Bypass A Output	
	CP.B1	OFF/ON	Compressor B1 Output	
	CP.B2	OFF/ON	Compressor B2 Output	
	CP.B3	OFF/ON	Compressor B3 Output	
	CP.B4	OFF/ON	Compressor B4 Output	
	HGB.B	OFF/ON	Hot Gas Bypass B Output	
	CP.C1	OFF/ON	Compressor C1 Output	
	CP.C2	OFF/ON	Compressor C2 Output	
	CP.C3	OFF/ON	Compressor C3 Output	
	CP.C4	OFF/ON	Compressor C4 Output	
	HGB.C	OFF/ON	Hot Gas Bypass C Output	
QUIC†	Q.REQ	OFF/ON	Quick Test Mode	
	EXV.A	xxx%	Circuit A EXV % Open	
	EXV.B	xxx%	Circuit B EXV % Open	
	EXV.C	xxx%	Circuit C EXV % Open	
	FAN.A	X	Circuit A Fan Stages	
	FAN.B	X	Circuit B Fan Stages	
	FAN.C	X	Circuit C Fan Stages	
	SPD.A	xxx%	Circ A Varifan Position	
	SPD.B	xxx%	Circ B Varifan Position	
	SPD.C	xxx%	Circ C Varifan Position	
	FRV.A	OPEN/CLSE	Free Cooling Valve A	
	FRP.A	OFF/ON	Refrigerant Pump Out A	
	FRV.B	OPEN/CLSE	Free Cooling Valve B	
	FRP.B	OFF/ON	Refrigerant Pump Out B	
	FRV.C	OPEN/CLSE	Free Cooling Valve C	
	FRP.C	OFF/ON	Refrigerant Pump Out C	
	RV.A	OPEN/CLSE	4 Way Valve Circuit A	
	RV.B	OPEN/CLSE	4 Way Valve Circuit B	
	BOIL	OFF/ON	Boiler Command	
	HR1.A	OPEN/CLSE	Air Cond Enter Valve A	
	HR2.A	OPEN/CLSE	Air Cond Leaving Valve A	
	HR3.A	OPEN/CLSE	Water Cond Enter Valve A	
	HR4.A	OPEN/CLSE	Water Cond Leaving Valve A	
	HR1.B	OPEN/CLSE	Air Cond Enter Valve B	
	HR2.B	OPEN/CLSE	Air Cond Leaving Valve B	
	HR3.B	OPEN/CLSE	Water Cond Enter Valve B	
	HR4.B	OPEN/CLSE	Water Cond Leaving Valve B	
	PMP.1	OFF/ON	Water Exchanger Pump 1	
	PMP.2	OFF/ON	Water Exchanger Pump 2	
	CND.P	OFF/ON	Reclaim Condenser Pump	
	CL.HT	OFF/ON	Cooler Heater Output	
	CP.HT	OFF/ON	Condenser Heater Output	

*Place the Enable/Off/Remote Contact switch to the Off position prior to configuring ***T.REQ*** to ON. Configure the desired item to ON, then place the Enable/Off/Remote Contact switch to the Enable position.
†Place the Enable/Off/Remote Contact switch to the Off position prior to configuring ***Q.REQ*** to ON. The switch should be in the Off position to perform Quick Test.

CUT ALONG DOTTED LINE

CUT ALONG DOTTED LINE

MODE — SERVICE TEST (cont)

SUB-MODE	ITEM	DISPLAY	ITEM EXPANSION	ENTRY
QUIC†(cont)	CH.A1	OFF/ON	Compressor A1 Heater	
	CH.A2	OFF/ON	Compressor A2 Heater	
	CH.A3	OFF/ON	Compressor A3 Heater	
	CH.A4	OFF/ON	Compressor A4 Heater	
	CH.B1	OFF/ON	Compressor B1 Heater	
	CH.B2	OFF/ON	Compressor B2 Heater	
	CH.B3	OFF/ON	Compressor B3 Heater	
	CH.B4	OFF/ON	Compressor B4 Heater	
	CH.C1	OFF/ON	Compressor C1 Heater	
	CH.C2	OFF/ON	Compressor C2 Heater	
	CH.C3	OFF/ON	Compressor C3 Heater	
	CH.C4	OFF/ON	Compressor C4 Heater	
	HGB.A	OFF/ON	Hot Gas Bypass A Output	
	HGB.B	OFF/ON	Hot Gas Bypass B Output	
	HGB.C	OFF/ON	Hot Gas Bypass C Output	
	Q.RDY	OFF/ON	Chiller Ready Status	
	Q.RUN	OFF/ON	Chiller Running Status	
	SHUT	OFF/ON	Customer Shut Down Stat	
	CATO	xx.x	Chiller Capacity 0-10v	
	ALRM	OFF/ON	Alarm Relay	
	ALRT	OFF/ON	Alert Relay	
	C.ALM	OFF/ON	Critical Alarm Relay	

*Place the Enable/Off/Remote Contact switch to the Off position prior to configuring ***T.REQ*** to ON. Configure the desired item to ON, then place the Enable/Off/Remote Contact switch to the Enable position.

†Place the Enable/Off/Remote Contact switch to the Off position prior to configuring ***Q.REQ*** to ON. The switch should be in the Off position to perform Quick Test.

Operating Data:

Record the following information from the Run Status, Temperatures and Outputs Modes when machine is in a stable operating condition. If cooling load is insufficient, these readings must be obtained by putting the chiller in test mode (Service Test) and running each compressor.

TEMPERATURES

COOLER ENTERING FLUID	EWT _____	
COOLER LEAVING FLUID	LWT _____	
CONTROL POINT	CTPT _____	
CAPACITY	CAP _____	
OUTSIDE AIR TEMPERATURE	OAT _____	
LEAD/LAG LEAVING FLUID	CHWS_____	(Dual Chiller Control Only)
OPTIONAL HEAT RECLAIM		
ENTERING WATER TEMPERATURE	HEWT _____	
LEAVING WATER TEMPERATURE	HLWT _____	

Install a manifold gage set to obtain readings and verify these against pressure transducers.

CIRCUIT A	CIRCUIT B	CIRCUIT C
SCT.A _____	SCT.B _____	SCT.C_____
SST.A _____	SST.B _____	SST.C _____
SGT.A _____	SGT.B _____	SGT.C _____
SUP.A _____	SUP.B _____	SUP.C _____
EXV.A_____	EXV.B _____	EXV.C _____

NOTE: EXV A,B,C positions are found in the output mode.

COMPRESSOR MOTOR CURRENT

	L1	L2	L3
COMPRESSOR A1	_____	_____	_____
COMPRESSOR A2	_____	_____	_____
COMPRESSOR A3	_____	_____	_____
COMPRESSOR A4	_____	_____	_____
COMPRESSOR B1	_____	_____	_____
COMPRESSOR B2	_____	_____	_____
COMPRESSOR B3	_____	_____	_____
COMPRESSOR B4	_____	_____	_____
COMPRESSOR C1	_____	_____	_____
COMPRESSOR C2	_____	_____	_____
COMPRESSOR C3	_____	_____	_____
COMPRESSOR C4	_____	_____	_____

CONDENSER FAN MOTOR CURRENT

	L1	L2	L3		L1	L2	L3
FAN MOTOR 1	_____	_____	_____	FAN MOTOR 10	_____	_____	_____
FAN MOTOR 2	_____	_____	_____	FAN MOTOR 11	_____	_____	_____
FAN MOTOR 3	_____	_____	_____	FAN MOTOR 12	_____	_____	_____
FAN MOTOR 4	_____	_____	_____	FAN MOTOR 13	_____	_____	_____
FAN MOTOR 5	_____	_____	_____	FAN MOTOR 14	_____	_____	_____
FAN MOTOR 6	_____	_____	_____	FAN MOTOR 15	_____	_____	_____
FAN MOTOR 7	_____	_____	_____	FAN MOTOR 16	_____	_____	_____
FAN MOTOR 8	_____	_____	_____	FAN MOTOR 17	_____	_____	_____
FAN MOTOR 9	_____	_____	_____	FAN MOTOR 18	_____	_____	_____

CUT ALONG DOTTED LINE

CUT ALONG DOTTED LINE

COMMENTS:

SIGNATURES:

Start-up Technician _____ Date _____

Customer Representative _____ Date _____

CUT ALONG DOTTED LINE

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Manufacturer reserves the right to discontinue, or change at any time, specifications or designs without notice and without incurring obligations.

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