SIEMENS

Systems Integration

McQuay BACnet Solution: Microtech II Self-contained Unit Controller with Discharge Air Control (DAC)

Table 1. Microtech II Self-contained Unit Controller with Discharge Air Control Point Map, Application 4127.

Point	Type	Description	Range/Units[a b c]
1	LAO	Device Address	–
2	LAO	Device Application	4127
3	LAI	Unit Status	See Table 2
4	LAI	Cooling Capacity	%
5	LAI	Heating Capacity	%
6	LAI	Cooling Control Status	See Table 3
7	LAI	Heating Control Status	See Table 4
8	LAO	Application Mode	See Table 5
9	LAI	VAV Box Output	0=Heat 1=Cool 2=Hold
10	LAI	Occupancy Status	0=Occupied 1=Unoccupied 2=Tenant Override
11	LAO	Occupancy Mode	See Table 6
12	LAI	Occupancy Source	See Table 7
13	LDO	Emergency Override Mode Flag	No/Yes
14	LAI	Control Temperature	°F °C
15	LAI	Discharge Air Temperature	°F °C
16	LAI	Return Air Temperature	°F °C
17	LAI	Space Temperature	°F °C
18	LAI	Outdoor Air Temperature	°F °C
19	LAI	Mixed Air Temperature	°F °C

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Table 1. Microtech II Self-contained Unit Controller with Discharge Air Control Point Map, Application 4127. ***(continued)***

Point	Type	Description	Range/Units[a] [b] [c]
20	LAI	Entering Water Temperature	°F *°C*
21	LAI	Leaving Water Temperature	°F *°C*
22	LDI	Water Flow Switch	Yes/No
23	LAO	Head Pressure Setpoint	140 to 210 psi *9652.6 to 14478.9 kPa*
24	LDI	Airflow Status	No Flow/Flow
25	LDI	Discharge Fan Status	Off/On
26	LDI	Fan Relay Output	Off/On
27	LAI	Duct Static Pressure	in WC *kPa*
28	LAO	Duct Static Pressure Setpoint	0.2 to 4.0 in WC *49.8 to 995.4 kPa*
29	LAI	Discharge Fan Capacity	%
30	LAI	Building Static Pressure	in WC *kPa*
31	LAI	Effective Cooling Enable Setpoint	°F *°C*
32	LAO	Occupied Cooling Setpoint	0 to 99°F *-17.8 to 37.3°C*
33	LAO	Control Temperature Source	See Table 8
34	LAO	Unoccupied Cooling Setpoint	55 to 99°F *12.8 to 37.3°C*
35	LAI	Effective Heating Enable Setpoint	°F *°C*
36	LAO	Occupied Heating Setpoint	0 to 99°F *-17.8 to 37.3°C*
37	LAO	Unoccupied Heating Setpoint	0 to 99°F *-17.8 to 37.3°C*
38	LAI	Effective Cooling Discharge Setpoint	°F *°C*
39	LAO	Discharge Air Cooling Setpoint	40 to 100°F *4.5 to 37.8°C*
40	LAO	Minimum Discharge Air Cooling Setpoint	0 to 99°F *-17.8 to 37.3°C*
41	LAO	Maximum Discharge Air Cooling Setpoint	0 to 99°F *-17.8 to 37.3°C*
42	LAI	Economizer Valve Position	%
43	LAI	Outdoor Air Damper Position	%
44	LAI	Effective Minimum Outdoor Damper Position Setpoint	%

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Table 1. **Microtech II Self-contained Unit Controller with Discharge Air Control Point Map, Application 4127.** *(continued)*

Point	Type	Description	Range/Units[a b c]
45	LDI	Free Cooling Available	Yes/No
46	LAO	Outdoor Air Damper Minimum Position	%
47	LDO	Economizer Changeover Method	Off/On
48	LAO	Economizer Changeover Temperature Setpoint	0 to 99°F *-17.8 to 37.3°C*
49	LAI	Effective Heating Discharge Setpoint	°F *°C*
50	LAO	Discharge Air Heating Setpoint	40 to 100°F *4.5 to 37.8°C*
51	LAO	Minimum Discharge Air Temperature Limit	0 to 70°F *-17.8 to 21.1°C*
52	LAO	Minimum Discharge Air Heating Setpoint	0 to 99°F *-17.8 to 37.3°C*
53	LAO	Maximum Discharge Air Heating Setpoint	0 to 99°F *-17.8 to 37.3°C*
60	LDO	Occupancy Scheduler Input	Unocc/Occ
62	LDO	Force Outdoor Air Damper Position	Closed/Open
63	LDO	Fault Status	Clear Alarms or No Alarms Present/Alarms Present
64	LDO	Problem Status	Clear Alarms or No Alarms Present/Alarms Present
65	LDO	Warning Status	Clear Alarms or No Alarms Present/Alarms Present
66	LDI	Fault - DAT Sensor Failure Manual	Normal/Alarm
67	LDI	Fault - MAT Sensor Failure While Selected as the Control Temperature Source	Normal/Alarm
68	LDI	Fault - Excessive Discharge Compartment Pressure Sensed by DHL Sensor Manual	Normal/Alarm
69	LDI	Fault - Airflow Not Sensed by PC7 After SAF Was Started Manual	Normal/Alarm
70	LDI	Fault - Freezestat Condition While SAF on Manual	Normal/Alarm
71	LDI	Fault - DAT Exceeded the Hi Disch Tmp Setting Manual	Normal/Alarm
72	LDI	Fault - RAT Exceeded the Hi Return Tmp Setting Manual	Normal/Alarm
73	LDI	Fault - DAT Fell Below the Lo Disch Tmp Setting Manual	Normal/Alarm
74	LDI	Fault - OA Dampers < 50% Open After Startup (100% OA Units Only) Manual	Normal/Alarm
75	LDI	Fault - OAT Sensor Failure While Selected as the Control Temperature Source Manual	Normal/Alarm
76	LDI	Fault - RAT Sensor Failure Manual	Normal/Alarm
77	LDI	Fault - Smoke Detected by SAF and/or RAF Smoke Detector Manual	Normal/Alarm

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Table 1. Microtech II Self-contained Unit Controller with Discharge Air Control Point Map, Application 4127. *(continued)*

Point	Type	Description	Range/Units[a b c]
78	LDI	Fault - Space Temp Sensor Failure When Control Temperature Source is Set to Space Manual	Normal/Alarm
79	LDI	Problem - Clg Enable Input to CCB1 Off When Cooling Was on Manual	Normal/Alarm
80	LDI	Problem - Comm Failure Occurred Between MCB and CCB1 Automatic	Normal/Alarm
81	LDI	Problem - Evaporator Coil Frost Condition Occurred on Ckt No. 1	Normal/Alarm
82	LDI	Problem - HP1 Open Indicating Ckt No. 1 High Refrigerant Pressure Manual	Normal/Alarm
83	LDI	Problem - LP1 Remained Opened After Ckt No. 1 Solenoid Valve Open Automatic	Normal/Alarm
84	LDI	Problem - LP1 Still Closed 180 Seconds into Ckt No. 1 Pumpdown Operation	Normal/Alarm
85	LDI	Problem - Clg Enable Input to CCB2 Off When Cooling Was on Manual	Normal/Alarm
86	LDI	Problem - Comm Failure Occurred Between MCB and CCB2 Automatic	Normal/Alarm
87	LDI	Evaporator Coil Frost Condition Occurred on Ckt No. 2	Normal/Alarm
88	LDI	Problem - HP2 Open Indicating Ckt No. 2 High Refrigerant Pressure Manual	Normal/Alarm
89	LDI	LP2 Remained Opened After Ckt No. 2 Solenoid Valve Open Automatic	Normal/Alarm
90	LDI	Problem - LP2 Still Closed 180 Seconds into Ckt No. 2 Pumpdown Operation	Normal/Alarm
91	LDI	Comp No. 1 Off on Motor Protector (MP1) Automatic	Normal/Alarm
92	LDI	Problem - Comp No. 2 Off on Motor Protector (MP2) Automatic	Normal/Alarm
93	LDI	Problem - Comp No. 3 Off on Motor Protector (MP3) Automatic	Normal/Alarm
94	LDI	Problem - Comp No. 4 Off on Motor Protector (MP4) Automatic	Normal/Alarm
95	LDI	Problem - Airflow Not Sensed by PC7 After SAF Was Started Automatic	Normal/Alarm
96	LDI	Problem - Freezestat Tripped While SAF Was Off Automatic	Normal/Alarm
97	LDI	Problem - Comm Failure Occurred Between MCB and EHB1 Automatic	Normal/Alarm
98	LDI	Problem - Htg Enable Input to EHB1 Off When Heating Was on Manual	Normal/Alarm
99	LDI	Problem - Gas Furnace Safety Lockout Condition Occurred Automatic	Normal/Alarm
100	LDI	Problem - Excessive Temperature Rise Sensed Across Heat Section on Single Stage Heat Unit Manual	Normal/Alarm
101	LDI	Problem - OAT Sensor Failure When Control Temperature Source Parameter Not Set to OAT Automatic	Normal/Alarm
102	LDI	Problem - RAT Sensor Failure Control Temperature Source Parameter Not Set to Return Automatic	Normal/Alarm
103	LDI	Problem - Space Temp Sensor Failure on Unit With RAT Sensor Automatic	Normal/Alarm

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Table 1. Microtech II Self-contained Unit Controller with Discharge Air Control Point Map, Application 4127. *(continued)*

Point	Type	Description	Range/Units[a b c]
104	LDI	Problem - Comp No. 5 Off on Motor Protector (MP5) Automatic	Normal/Alarm
105	LDI	Problem - Comp No. 6 Off on Motor Protector (MP6) Automatic	Normal/Alarm
106	LDI	Problem - HP3 Open Indicating Ckt No. 3 High Refrigerant Pressure Manual	Normal/Alarm
107	LDI	Problem - HP4 Open Indicating Ckt No. 4 High Refrigerant Pressure Manual	Normal/Alarm
108	LDI	Problem - HP5 Open Indicating Ckt No. 5 High Refrigerant Pressure Manual	Normal/Alarm
109	LDI	Problem - HP6 Open Indicating Ckt No. 6 High Refrigerant Pressure Manual	Normal/Alarm
110	LDI	Problem - LP3 Remained Opened After Ckt No. 3 Solenoid Valve Open Automatic	Normal/Alarm
111	LDI	Problem - LP4 Remained Opened After Ckt No. 4 Solenoid Valve Open Automatic	Normal/Alarm
112	LDI	Problem - LP5 Remained Opened After Ckt No. 5 Solenoid Valve Open Automatic	Normal/Alarm
113	LDI	Problem - LP6 Remained Opened After Ckt No. 6 Solenoid Valve Open Automatic	Normal/Alarm
114	LDI	Problem - WF1 Open Indicating No Water Flow	Normal/Alarm
115	LDI	Problem - Greater of the Two Refrigerant Pressure Sensors is Below the Setpoint by More Than the Deadband and EWT is Less Than 58°F	Normal/Alarm
116	LDI	Problem - MAT Sensor Failure When Control Temperature Source Parameter Not Set to MAT Automatic	Normal/Alarm
117	LDI	Problem - EWT Sensor Open or Shorted Automatic	Normal/Alarm
118	LDI	Warning - PC7 Sensed Airflow When Unit Was Off Manual	Normal/Alarm
119	LDI	Warning - Clg Enable Input to CCB1 On When Cooling Off Manual	Normal/Alarm
120	LDI	Warning - Clg Enable Input to CCB2 On When Cooling Off Manual	Normal/Alarm
121	LDI	Warning - Pressure Drop Across First Filter Section Exceeded the Setting of PC5 Manual	Normal/Alarm
122	LDI	Warning - Htg Enable Input to EHB1 On When Heating Off Manual	Normal/Alarm
123	LDI	Warning - Econo Position is > 10% After Unit Has Been Off For More Than Three Minutes or Economizer Position is < 95% After Unit Has Been in Mechanical Cooling With Conditions Acceptable for Economizer Operation for More Than Three Minutes	Normal/Alarm

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Table 1. Microtech II Self-contained Unit Controller with Discharge Air Control Point Map, Application 4127. *(continued)*

Point	Type	Description	Range/Units[a] [b] [c]
124	LAI	Current Fault	See Table 9
125	LAI	Current Problem	See Table 10
126	LAI	Current Warning	See Table 11

[a] Values noted for LDIs and LDOs are in the following format: OFF text/ON text.

[b] This column indicates the value/range or engineering units or both if known.

[c] The default English value is not italicized. An italicized entry indicates an SI value.

Unit Status (Point 03)

Table 2. Unit Status Values (Point 03).

Value	Description
0	Off-Unoccupied
1	Off-Network
2	Off-Switch
3	Off-Alarm
4	Calibration
5	Startup
6	Recirculation
7	Fan Only
8	Economizer
9	Cooling
10	Morning Warmup
11	Heating
12	Minimum Discharge Air Temperature
13	Unoccupied Economizer
14	Unoccupied Fan Only
15	Unoccupied Discharge Air Temperature
16	Unoccupied Cooling
17	Unoccupied Heating
18	Balance
19	Off-Manual
20	Manual Control

Cooling Control Status (Point 06)

Table 3. Cooling Control Status Values (Point 06).

Value	Description
0	All Cooling
1	Economizer
2	Mechanical Cooling
3	Off-Ambient
4	Off-Alarm
5	Off-None
6	Off-No Flow
7	Off-Switch
8	Off-Network
9	Off-Manual

Heating Control Status (Point 07)

Table 4. Heating Control Status Values (Point 07).

Value	Description
0	Heat Enabled
1	Off-Ambient
2	Off-Alarm
3	Off-None
4	Not Applicable
5	Off-Switch
6	Off-Network
7	Off-Manual

Application Mode (Point 08)

Table 5. Application Mode Values (Point 08).

Value	Description
0	Heat/Cool
1	Off
2	Heat Only
3	Cool Only
4	Fan Only

Occupancy Mode (Point 11)

Table 6. Occupancy Mode Values (Point 11).

Value	Description
0	Occupied
1	Unoccupied
2	Tenant Override
3	Automatic

Occupancy Source (Point 12)

Table 7. Occupancy Source Values (Point 12).

Value	Description
0	None
1	Initial Scheduler
2	Network Scheduler
3	Occupied Mode
4	Remote Switch
5	Not Applicable

Control Temperature Source (Point 33)

Table 8. Control Temperature Source Values (Point 33).

Value	Description
0	Return
1	Space
2	Outside Air Temperature
3	Mixed Air Temperature

Current Fault (Point 124)

Table 9. Current Fault Values (Point 124).

Value	Description
0	No Active Faults
204	Outdoor Air Damper Stuck
208	Fan Failure
212	Low Discharge Air Temperature
216	High Discharge Air Temperature
220	High Return Air Temperature
224	Duct High Limit
228	Discharge Sensor Failure
232	Return Sensor Failure
236	Space Sensor Failure
240	Outdoor Air Sensor Failure
244	Mixed Air Sensor Failure
248	Smoke Fault
252	Freeze Fault

Current Problem (Point 125)

Table 10. Current Problem Values (Point 125).

Value	Description
0	No Active Problems
105	Heating Board Communication Failure
109	Compressor Board No. 2 Communication Failure
110	Compressor Board No. 1 Communication Failure
113	Heating Board Enable Failure
117	Compressor Board No. 2 Enable Failure
118	Compressor Board No. 1 Enable Failure
122	Incomplete Pumpdown – Circuit No. 2
123	Incomplete Pumpdown – Circuit No. 1
129	Compressor No. 6 Failure
130	Compressor No. 5 Failure
131	Compressor No. 4 Failure
132	Compressor No. 3 Failure
133	Compressor No. 2 Failure
134	Compressor No. 1 Failure
137	No Water Flow
140	Water Regulating Valve Failure
144	Low Pressure/Frost – Circuit No. 6
145	Low Pressure/Frost – Circuit No. 5
146	Low Pressure/Frost – Circuit No. 4
147	Low Pressure/Frost – Circuit No. 3
148	Low Pressure/Frost – Circuit No. 2
149	Low Pressure/Frost – Circuit No. 1
153	Frost Protect – Circuit No. 2
154	Frost Protect – Circuit No. 1
158	Low Pressure – Circuit No. 2
159	Low Pressure – Circuit No. 1
162	High Pressure – Circuit No. 6
163	High Pressure – Circuit No. 5
164	High Pressure – Circuit No. 4
165	High Pressure – Circuit No. 3
166	High Pressure – Circuit No. 2
167	High Pressure – Circuit No. 1
170	Fan Retry

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Table 10. Current Problem Values (Point 125). ***(continued)***

Value	Description
173	Heat Failure
176	Low Airflow
182	Return Air Sensor Problem
185	Space Sensor Problem
188	OAT Sensor Problem
191	Entering Water Sensor Problem
194	Mixed Air Sensor Problem
197	Freeze Problem

Current Warning (Point 126)

Table 11. Current Warning Values (Point 126).

Value	Description
0	No Active Warnings
12	Compressor Board 2 Hardware Warning
16	Compressor Board 1 Hardware Warning
24	Dirty Filter
28	Airflow Switch Warning

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