

## Systems Integration

# McQuay BACnet Solution: Microtech II Unit Ventilator Controller (Model 2) for Water Source Heat Pump (WSHP) with Electric Heating

Table 1. Microtech II Unit Vent Controller for Water Source Heat Pump (WSHP) with Electric Heating Point Map, Application 4132.

Point	Type	Description	Range/Units <sup>a b c</sup>
1	LAO	Device Address	–
2	LAO	Device Application	4132
3	LAO	Space Temperature	°F °C
4	LDO	Space Temperature Out of Service Flag	No/Yes
5	LAO	Outdoor Temperature	°F °C
6	LDO	Outdoor Temperature Out of Service Flag	No/Yes
7	LAO	Outdoor Relative Humidity	% rh
8	LDO	Outdoor Relative Humidity Out of Service Flag	No/Yes
9	LAO	Space Relative Humidity	% rh
10	LDO	Space Relative Humidity Out of Service Flag	No/Yes
11	LAO	Space CO <sub>2</sub>	ppm
12	LDO	Space CO <sub>2</sub> Out of Service Flag	No/Yes
13	LAI	Discharge Air Temperature	°F °C
14	LAI	Effective Setpoint	°F °C
15	LAI	Local Setpoint	°F °C
16	LAI	Discharge Air Temperature Setpoint	°F °C
17	LAI	Outside Air Damper	%
18	LAI	State Machine	See Table 2
19	LAI	Fan Run Time	hrs
20	LAI	Binary Out 1	–

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**Table 1. Microtech II Unit Vent Controller for Water Source Heat Pump (WSHP) with Electric Heating Point Map, Application 4132. (continued)**

Point	Type	Description	Range/Units <sup>a b c</sup>
21	LAI	Binary Out 2	–
22	LAI	Binary Out 3	–
23	LAI	Binary In 1	–
24	LAI	In Alarm	See Table 3
26	LAI	Water Out Temperature	°F °C
27	LAI	Compressor Run Time	hrs
31	LAO	Setpoint Offset	°F °C
32	LAO	Occupied Cooling Setpoint	°F °C
33	LAO	Standby Cooling Setpoint	°F °C
34	LAO	Unoccupied Cooling Setpoint	°F °C
35	LAO	Occupied Heating Setpoint	°F °C
36	LAO	Standby Heating Setpoint	°F °C
37	LAO	Unoccupied Heating Setpoint	°F °C
38	LAO	Bypass Time	mins
39	LAO	Outdoor Air Minimum Position at High Speed	%
40	LAO	Outdoor Air Minimum Position at Medium Speed	%
41	LAO	Outdoor Air Minimum Position at Low Speed	%
42	LAO	Space CO <sub>2</sub> Limit	ppm
43	LAO	Economizer Outdoor Air Setpoint	°F °C
44	LAO	Economizer Deadband Differential	°F °C
45	LAO	Economizer Enthalpy Setpoint	Btu/lb Kj/kg
46	LAO	Economizer Enthalpy Differential	Btu/lb Kj/kg
47	LAO	Space Relative Humidity Setpoint	% rh
48	LAI	Fan Speed	See Table 4
49	LAI	Heat Cool Status	See Table 5
50	LAI	Effective Occupancy	See Table 6

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**Table 1. Microtech II Unit Vent Controller for Water Source Heat Pump (WSHP) with Electric Heating Point Map, Application 4132. (continued)**

Point	Type	Description	Range/Units <sup>a b c</sup>
51	LAI	Energy Hold	1=Disable 2=Enable
52	LAO	Occupancy Override	See Table 6
53	LAO	Application Mode	See Table 5
54	LAO	Emergency Override	See Table 7
55	LAO	Reset Filter	1=No 2=Yes
56	LAO	Reset Alarm	1=No 2=Yes
57	LAO	Economizer Enable	1=Disable 2=Enable
58	LAO	Compressor Enable	1=Disable 2=Enable
60	LAO	Occupancy Schedule	See Table 6
<p><sup>a</sup> Values noted for LDIs and LDOs are in the following format: OFF text/ON text.</p> <p><sup>b</sup> This column indicates the value/range or engineering units or both if known.</p> <p><sup>c</sup> The default English value is not italicized. An italicized entry indicates an SI value.</p>			

## Unit Status

**Table 2. Unit Status (Point 18).**

Value	Description
49	Economizer and Mechanical Cool
50	Mechanical Cool
51	Economizer Cool
52	DA Heat
53	Heat
54	Dehumidification
55	Full Heat
56	Night Range
57	Off
65	Fan Only
66	Cannot Heat
67	Cannot Cool
68	(Emergency Heat) Cannot Heat
69	(Heat) Low Limit
70	(Cool) Low Limit

## In Alarm Fault

**Table 3. In Alarm Fault (Point 24).**

Value	Description
0	No Fault
1	Space Temperature Sensor Failure
2	DX Pressure Fault
3	Compressor Envelope Fault
4	Discharge Air DX Cooling Low Limit Indication
5	Condensate Overflow Indication
6	Space Coil DX Temperature Sensor Failure
7	Outdoor Temperature Sensor Failure
8	Discharge Air Temperature Sensor Failure
9	Outdoor or Water Coil DX Temperature Sensor Failure
10	Water Out or Source (Water In) Temperature Sensor Failure
11	Space Humidity Sensor Failure
12	Outdoor Humidity Sensor Failure
13	Space CO <sub>2</sub> Sensor Failure
14	Source (Water In) Temperature Inadequate Indication
16	Change Filter Indication

## Fan Speed

**Table 4. Fan Speed (Point 48).**

Value	Description
1	Off
2	Auto, but Off
3	Low Speed
4	Medium Speed
5	High Speed

## Heat Cool Status and Application Mode

**Table 5. Heat Cool Status and Application Mode (Points 49 and 53).**

Value	Description
1	Auto
2	Heat
3	Morning Warmup
4	Cool

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**Table 5. Heat Cool Status and Application Mode (Points 49 and 53). (continued)**

Value	Description
5	Night Purge
6	Pre-Cool
7	Off
8	Test
9	Emergency Heat
10	Fan Only
11	Free Cool
12	Ice
13	Max Heat
14	Dehumidification

## Effective Occupancy, Occupancy Override, and Occupancy Schedule

**Table 6. Occupancy Override, Effective Occupancy, and Occupancy Schedule (Points 50, 52, and 60).**

Value	Description
1	Occupied
2	Unoccupied
3	Standby
4	Bypass

## Emergency Override

**Table 7. Emergency Override (Point 54).**

Value	Description
1	Normal
2	Pressurized
3	Depressurized
4	Purge
5	Shutdown
6	Fire

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