Systems Integration

APOGEE® Integration to Trane LONWORKS® Devices: ZN520/521 Unit Vent/Blower Coil Controller

Table 1. ZN520/521 Unit Vent/Blower Coil Controller APOGEE Points, Application Number: 9036, Program ID: 80:00:2A:55:00:03:04:06.

Point	Type	Description	Range/Units[a b c]
1	LAO	Space Temperature Input	°F °C
2	LAI	Space Temperature Output	°F °C
3	LENUM	Unit Status Output Mode	See Table 2
4	LAI	Unit Status Output Primary Heat	%
5	LAI	Unit Status Output Secondary Heat	%
6	LAI	Unit Status Output Cool	%
7	LAI	Unit Status Output Economizer	%
8	LAI	Unit Status Output Fan	%
9	LDI	Unit Status Output Alarm	Normal/Alarm
10	LAO	Setpoint Input	°F °C
11	LAO	Setpoint Offset Input	°F °C
18	LENUM	Occupancy Scheduler Input Current State	0=Oc_Occupied 1=Oc_Unoccupied 2=Oc_Bypass 3=Oc_Standby 255=Oc_Nul
19	LENUM	Occupancy Scheduler Input Next State	0=Oc_Occupied 1=Oc_Unoccupied 2=Oc_Bypass 3=Oc_Standby 255=Oc_Nul

continued on next page...

Table 1. ZN520/521 Unit Vent/Blower Coil Controller APOGEE Points, Application Number: 9036, Program ID: 80:00:2A:55:00:03:04:06. ***(continued)***

Point	Type	Description	Range/Units[a b c]
20	LAO	Occupancy Scheduler Input Time to Next State	min
21	LENUM	Occupancy Input	0=Oc_Occupied 1=Oc_Unoccupied 2=Oc_Bypass 3=Oc_Standby 255=Oc_Nul
22	LENUM	Occupancy Sensor Input	0=Oc_Occupied 1=Oc_Unoccupied 2=Oc_Bypass 3=Oc_Standby 255=Oc_Nul
23	LENUM	Application Mode	See Table 2
24	LENUM	Heat/Cool Mode Input	See Table 2
25	LAO	Fan Speed Command Value	%
26	LAO	Fan Speed Command State	–
27	LAO	Compressor Enable Input Value	%
28	LAO	Compressor Enable Input State	–
29	LAO	Auxiliary Heat Enable Input Value	%
30	LAO	Auxiliary Heat Enable Input State	–
31	LAO	Economizer Enable Input Value	%
32	LAO	Economizer Enable Input State	–
35	LENUM	Water Valve Override Input State	See Table 3
36	LAO	Water Valve Override Input Pressure	%
37	LAO	Water Valve Override Input Flow	cfm *Lps*
41	LENUM	Emergency Command Input	0=Emerg_Normal 1=Emerg_ Pressurize 2=Emerg_ Depressurize 3=Emerg_Purge 4=Emerg_Shutdown 5=Emerg_Fire 255=Emerg_Nul
42	LAO	Source Temperature Input	°F *°C*

continued on next page...

Table 1. ZN520/521 Unit Vent/Blower Coil Controller APOGEE Points, Application Number: 9036, Program ID: 80:00:2A:55:00:03:04:06. ***(continued)***

Point	Type	Description	Range/Units[a] [b] [c]
43	LAO	Outside Temperature Input	°F *°C*
44	LAO	Space Humidity Input	%
50	LAI	Effective Setpoint Output	°F *°C*
51	LENUM	Effective Occupancy Output	0=Oc_Occupied 1=Oc_Unoccupied 2=Oc_Bypass 3=Oc_Standby 255=Oc_Nul
52	LENUM	Heat/Cool Output	See Table 2
53	LAI	Setpoint Output	°F *°C*
62	LAI	Discharge Air Temperature Output	°F *°C*
65	LAI	Terminal Load Output	%
71	LAI	Space Relative Humidity Output	%
73	LAI	Outside Air Temperature Output	°F *°C*
74	LAI	Space CO2 Sensor Output	ppm
106	LAO	Receive Heartbeat CP Input	sec
107	LAO	Local Bypass Time CP Input	min
120	LAO	Humidity Setpoint	%

[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.

Table 2. HVAC Mode/Status (hvac_t).

Value	Description
0	Hvac_Auto
1	Hvac_Heat
2	Hvac_Mrng_Wrmup
3	Hvac_Cool

continued on next page...

Table 2. HVAC Mode/Status (hvac_t). ***(continued)***

Value	Description
4	Hvac_Night_Purge
5	Hvac_Pre_Cool
6	Hvac_Off
7	Hvac_Test
8	Hvac_Emerg_Heat
9	Hvac_Fan_Only
10	Hvac_Free_Cool
11	Hvac_Ice
255	Hvac_Nul

Table 3. HVAC Override Type (hvac_overid_t).

Value	Description
0	Hvo_Off
1	Hvo_Position
2	Hvo_Flow_Value
3	Hvo_Flow_Percent
4	Hvo_Open
5	Hvo_Close
6	Hvo_Minimum
7	Hvo_Maximum
8	Hvo_Unused8
9	Hvo_Unused9
10	Hvo_Unused10
11	Hvo_Unused11
12	Hvo_Unused12
13	Hvo_Unused13
14	Hvo_Unused14
15	Hvo_Unused15
16	Hvo_Unused16
17	Hvo_Position_1
18	Hvo_Flow_Value_1
19	Hvo_Flow_Percent_1
20	Hvo_Open_1
21	Hvo_Close_1
22	Hvo_Minimum_1

continued on next page...

Table 3. HVAC Override Type (hvac_overid_t). ***(continued)***

Value	Description
23	Hvo_Maximum_1
24	Hvo_Unused24
25	Hvo_Unused25
26	Hvo_Unused26
27	Hvo_Unused27
28	Hvo_Unused28
29	Hvo_Unused29
30	Hvo_Unused30
31	Hvo_Unused31
32	Hvo_Unused32
33	Hvo_Position_2
34	Hvo_Flow_Value_2
35	Hvo_Flow_Percent_2
36	Hvo_Open_2
37	Hvo_Close_2
38	Hvo_Minimum_2
39	Hvo_Maximum_2
40	Hvo_Unused40
41	Hvo_Unused41
42	Hvo_Unused42
43	Hvo_Unused43
44	Hvo_Unused44
45	Hvo_Unused45
46	Hvo_Unused46
47	Hvo_Unused47
48	Hvo_Unused48
255	Hvo_Nul

Table 4. ZN520/521 Unit Vent/Blower Coil Controller LONWORKS Network Variables, Program ID: 80:00:2A:55:00:03:04:06.

Point	NVO Name	NVI Name	CP Name
1	–	nviSpaceTemp	–
2	nvoSpaceTemp	–	–
3	nvoUnitStatus.mode	–	–
4	nvoUnitStatus.heat_output_primary	–	–
5	nvoUnitStatus.heat_output_secondary	–	–
6	nvoUnitStatus.cool_output	–	–
7	nvoUnitStatus.econ_output	–	–
8	nvoUnitStatus.fan_output	–	–
9	nvoUnitStatus.in_alarm	–	–
10	–	nviSetpoint	–
11	–	nviSetptOffset	–
18	–	nviOccSchedule.current_state	–
19	–	nviOccSchedule.next_state	–
20	–	nviOccSchedule.time_to_next_state	–
21	–	nviOccManCmd	–
22	–	nviOccSensor	–
23	–	nviApplicMode	–
24	–	nviHeatCool	–
25	–	nviFanSpeedCmd.value	–
26	–	nviFanSpeedCmd.state	–
27	–	nviComprEnable.value	–
28	–	nviComprEnable.state	–
29	–	nviAuxHeatEnable.value	–
30	–	nviAuxHeatEnable.state	–
31	–	nviEconEnable.value	–
32	–	nviEconEnable.state	–
35	–	nviValveOverride.state	–
36	–	nviValveOverride.percent	–
37	–	nviValveOverride.flow	–

continued on next page...

Table 4. ZN520/521 Unit Vent/Blower Coil Controller LONWORKS Network Variables, Program ID: 80:00:2A:55:00:03:04:06. ***(continued)***

Point	NVO Name	NVI Name	CP Name
41	–	nviEmergOverride	–
42	–	nviSourceTemp	–
43	–	nviOutdoorTemp	–
44	–	nviSpaceRH	–
50	nvoEffectSetpt	–	–
51	nvoEffectOccup	–	–
52	nvoHeatCool	–	–
53	nvoSetpoint	–	–
62	nvoDischAirTemp	–	–
65	nvoTerminalLoad	–	–
71	nvoSpaceRH	–	–
73	nvoOutdoorTemp	–	–
74	nvoSpaceCO2	–	–
106	–	–	SCPTmaxRcvTime
107	–	–	SCPTbypassTime
120	–	–	SCPThumSetpt

Information in this document is based on specifications believed correct at the time of publication. The right is reserved to make changes as design improvements are introduced. Product or company names mentioned herein may be the trademarks of their respective owners.
© 2003 Siemens Building Technologies, Inc.

Siemens Building Technologies, Inc.
1000 Deerfield Parkway
Buffalo Grove, IL 60089-4513
U.S.A.

Document No. 127-0920
Printed in the U.S.A.