Systems Integration

LONWORKS® Solution for Carrier: Wake City V2 AHU/RTU Controller

Table 1. Wake City V2 Custom APOGEE Points, Application Number: 9115, Program ID: 80:00:B2:50:1E:02:04:03.

Point	Type	Description	Range/Units[a b c]
1	LAO	Space Temperature Input	°F °C
2	LAO	Supply Air Setpoint	°F °C
3	LAI	Space Temperature Output	°F °C
7	LAI	Cooling Percent Total Capacity	%
8	LAI	Economizer Position	%
13	LAO	Space Temperature Offset	°F °C
14	LAO	Outdoor Air Temperature Input	°F °C
15	LAO	Outdoor Air Humidity Input	%
16	LAI	Supply Air Setpoint	°F °C
17	LAI	Outdoor Air Temperature Output	°F °C
18	LAI	Outdoor Air Humidity Output	%
19	LAO	Return Air Humidity	%
20	LAO	Indoor Air CO2 Level Input	ppm
22	LAI	Indoor Air CO2 Level Output	ppm
26	LAO	Alarm Index	–
31	LAI	Leaving Air Temperature	°F °C
32	LAI	Return Air Temperature	°F °C
33	LAI	Mixed Air Temperature	°F °C
35	LAO	Duct Pressure Setpoint	IN WC Pa

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Table 1. Wake City V2 Custom APOGEE Points, Application Number: 9115, Program ID: 80:00:B2:50:1E:02:04:03. ***(continued)***

Point	Type	Description	Range/Units[a] [b] [c]
36	LAI	Duct Static Pressure	IN WC *Pa*
37	LAI	Building Pressure	IN WC *Pa*
45	LAO	Remote Input Value	%
46	LAO	Remote Input State	–
51	LAI	Remote Output Value	%
52	LDI	Remote Output State	Off/On
53	LAI	Supply Fan Relay Output Value	%
54	LDI	Supply Fan Relay Output State	Open/Closed
57	LAI	Filter Status Value	%
58	LDI	Filter Status State	Clean/Dirty
59	LAI	Supply Fan Status Alarm Value	%
60	LDI	Supply Fan Status Alarm State	Off/On
200	LAO	Occupied Cooling Setpoint	°F *°C*
202	LAO	Unoccupied Cooling Setpoint	°F *°C*
203	LAO	Occupied Heating Setpoint	°F *°C*
205	LAO	Unoccupied Heating Setpoint	°F *°C*
206	LAO	Received Heatbeat Timer CP	–

[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. Wake City V2 LONWORKS Network Variables, Program ID: 80:00:B2:50:1E:02:04:03.

Point	NVO Name	NVI Name	CP Name
1	–	nviSpaceTemp	nviSpaceTemp
2	–	nviSetpoint	nviSetpoint
3	nvoSpaceTemp	–	–
5	nvoUnitStatus.heat_output_primary	–	–
7	nvoUnitStatus.cool_output	–	–
8	nvoUnitStatus.econ_output	–	–
13	–	nviSetptOffset	nviSetptOffset
14	–	nviOutsideTemp	nviOutsideTemp
15	–	nviOutsideRH	nviOutsideRH
16	nvoEffectSetpt	–	–
17	nvoOutsideTemp	–	–
18	nvoOutsideRH	–	–
19	–	nviSpaceRH	nviSpaceRH
20	–	nviCO2	nviCO2
22	nvoCO2	–	–
23	–	nviOccSchedule.current_state	nviOccSchedule.current_state
24	–	nviOccSchedule.next_state	nviOccSchedule.next_state
25	–	nviOccSchedule.time_to_next_state	nviOccSchedule.time_to_next_state
26	–	nviAlarmIndex	nviAlarmIndex
31	nvoTEMP1	–	–
32	nvoTEMP2	–	–
33	nvoTEMP3	–	–
35	–	nviPRESS1	nviPRESS1
36	nvoPRESS1	–	–
37	nvoPRESS2	–	–
45	–	nviDISCRETE1.value	nviDISCRETE1.value
46	–	nviDISCRETE1.state	nviDISCRETE1.state
49	–	nviDISCRETE3.value	nviDISCRETE3.value
50	–	nviDISCRETE3.state	nviDISCRETE3.state
51	nvoDISCRETE1.value	–	–

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Table 2. Wake City V2 LONWORKS Network Variables, Program ID: 80:00:B2:50:1E:02:04:03. ***(continued)***

Point	NVO Name	NVI Name	CP Name
52	nvoDISCRETE1.state	–	–
53	nvoDISCRETE2.value	–	–
54	nvoDISCRETE2.state	–	–
55	nvoDISCRETE3.value	–	–
56	nvoDISCRETE3.state	–	–
57	nvoDISCRETE4.value	–	–
58	nvoDISCRETE4.state	–	–
59	nvoDISCRETE5.value	–	–
60	nvoDISCRETE5.state	–	–
200	–	–	nciSetPnts.occupied_cool
202	–	–	nciSetPnts.unoccupied_cool
203	–	–	nciSetPnts.occupied_heat
205	–	–	nciSetPnts.unoccupied_heat
206	–	–	nciRcvHrtBt

Carrier Supplied Information

For this project, the Carrier representative used the following mapping.

Table 3. Carrier Representative Mapping for Wake City V2.

RTUMAP1	SNVT Type	Point	Read or Write?	CCN Point Description	CCN Point Name
nviSpaceTemp	SNVT_temp_p	POINT01	W	Space Temperature	SPT
nviSetPoint	SNVT_temp_p	POINT02	W	Supply Air Setpoint	SASP
nvoSpaceTemp	SNVT_temp_p	POINT03	R	Space Temperature	SPT
nvoUnitStatus.mode	SNVT_hvac_status	POINT04	R	–	–
nvoUnitStatus.heat_out_p	SNVT_hvac_status	POINT05	R	–	–
nvoUnitStatus.heat_out_s	SNVT_hvac_status	POINT06	R	–	–
nvoUnitStatus.cool_out	SNVT_hvac_status	POINT07	R	Cooling % Total Capacity	CCAP
nvoUnitStatus.econ_out	SNVT_hvac_status	POINT08	R	Economizer Position	ECONOPOS
nvoUnitStatus.fan_out	SNVT_hvac_status	POINT09	R	–	–
nvoUnitStatus.in_alarm	SNVT_hvac_status	POINT10	R	–	–
nviOccSchedule	SNVT_occupancy	POINT11	W	–	–
nviSetPtOffset	SNVT_temp_p	POINT12	W	Space Temperature Offset	SPTO
nviOutsideTemp	SNVT_temp_p	POINT13	W	Outdoor Air Temperature	OAT
nviOutsideRH	SNVT_lev_percent	POINT14	W	Outdoor Air Humidity	OARH
nvoEffectSetpt	SNVT_temp_p	POINT15	R	Supply Air Setpoint	SASP
nvoOutsideTemp	SNVT_temp_p	POINT16	R	Outdoor Air Temperature	OAT
nvoOutsideRH	SNVT_lev_percent	POINT17	R	Outdoor Air Humidity	OARH
nviSpaceRH	SNVT_lev_percent	POINT18	W	Return Air Humidity	RARH
nviCO2	SNVT_ppm	POINT19	W	Indoor Air CO2 Level	IAQ
nvoCO2	SNVT_ppm	POINT20	R	Indoor Air CO2 Level	IAQ
nviTEMP1	SNVT_temp_p	POINT21	W	–	–
nvoTEMP1	SNVT_temp_p	POINT22	R	Leaving Air Temperature	LAT
nvoTEMP2	SNVT_temp_p	POINT23	R	Return Air Temperature	RAT
nvoTEMP3	SNVT_temp_p	POINT24	R	Mixed Air Tempterature	MAT
nvoTEMP4	SNVT_temp_p	POINT25	R	–	–
nviPRESS1	SNVT_press_p	POINT26	W	Static Pressure Setpoint	SPSP
nvoPRESS1	SNVT_press_p	POINT27	R	Duct Static Pressure	SP
nvoPRESS2	SNVT_press_p	POINT28	R	Building Pressure	BP
RTUMAP2	**SNVT Type**	**Point**	**Read or Write?**	**CCN Point Description**	**CCN Point Name**
nviPCT1	SNVT_lev_percent	POINT29	W	–	–
nviPCT2	SNVT_lev_percent	POINT30	W	–	–

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Table 3. Carrier Representative Mapping for Wake City V2. ***(continued)***

nvoPCT1	SNVT_lev_percent	POINT31	R	–	–
nvoPCT2	SNVT_lev_percent	POINT32	R	–	–
nvoPCT3	SNVT_lev_percent	POINT33	R	–	–
nvoTEMPDIFF1	SNVT_temp_diff_p	POINT34	R	–	–
nvoTEMPDIFF2	SNVT_temp_diff_p	POINT35	R	–	–
nviDISCRETE1	SNVT_switch	POINT36	W	Remote Input	RMTIN
nviDISCRETE2	SNVT_switch	POINT37	W	–	–
nviDISCRETE3	SNVT_switch	POINT38	W	–	–
nvoDISCRETE1	SNVT_switch	POINT39	R	Remote Input	RMTIN
nvoDISCRETE2	SNVT_switch	POINT40	R	Supply Fan Relay	SFAN
nvoDISCRETE3	SNVT_switch	POINT41	R	–	–
nvoDISCRETE4	SNVT_switch	POINT42	R	Filter Status Input	FLTS
nvoDISCRETE5	SNVT_switch	POINT43	R	Supply Fan Status Alarm	SFS
nvoDISCRETE6	SNVT_switch	POINT44	R	–	–
nvoDISCRETE7	SNVT_switch	POINT45	R	–	–
nvoDISCRETE8	SNVT_switch	POINT46	R	–	–
nciCO2Limit	SNVT_ppm	POINT47	W	–	–
nciSetPnts.occupied_cool	SNVT_temp_setpt	POINT48	W	Occupied Cooling Setpoint	OCSP
nciSetPnts.standby_cool	SNVT_temp_setpt	POINT49	W	–	–
nciSetPnts.unocc_cool	SNVT_temp_setpt	POINT50	W	Unoccupied Cooling Setpoint	UCSP
nciSetPnts.occupied_heat	SNVT_temp_setpt	POINT51	W	Occupied Heating Setpoint	OHSP
nciSetPnts.standby_heat	SNVT_temp_setpt	POINT52	W	–	–
nciSetPnts.unocc_heat	SNVT_temp_setpt	POINT53	W	Unoccupied Heating Setpoint	UHSP
nviCOUNT1	SNVT_count	POINT54	W	–	–
nvoCOUNT1	SNVT_count	POINT55	R	–	–
nvoCOUNT2	SNVT_count	POINT56	R	–	–
nvoCOUNTinc1	SNVT_count_inc	POINT57	R	–	–
nvoCOUNTinc2	SNVT_count_inc	POINT58	R	–	–

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