

AURORA

Aurora Universal Protocol Converter (UPC)

LonWorks Points List For Dual Compressor WSHP

Software Version 1.01 Utilizing the Aurora UPC Controller

Aurora UPC LonWorks Points List For Dual Compressor

LonWorks SNVT Points for Dual Compressor WSHP

Software Version 1.01 Utilizing the Aurora UPC Controller



Program Id: 9000005000030501								State Text	
NV #	SNVT Type	NV Name	Reference Name	Direction	Default Value	Units	Description	Inactive = 0	Active = 1
0	SNVT_temp_p	nvoAbcLat	abc_lat_an_a	Output_Active	0	F	Displays the leaving air temperature that is connected to the FP2 input on ABC A.		
1	SNVT_temp_p	nvoFP1_A	coax_temp_an_a	Output_Active	0	F	Displays the temperature of the refrigerant at the Coax associated with circuit A on ABC A.		
2	SNVT_count_inc	nvoFilterHours	filter_hours_an	Output_Active	0	hrs	Allows for adjustment to the filter alarm hours, adjust this value to set the number of fan run hours.		
3	SNVT_temp_p	nvoFP1Setpt_A	fp1_setpoint_an_a	Output_Active	30	F	Displays the FP1 freeze detection limit (coax temp) for circuit A.		
4	SNVT_lev_percent	nvoHumidity	humidity_an	Output_Active	30	%	Displays the humidity value if the zone sensor is equipped with humidity sensor.		
5	SNVT_lev_percent	nviHumidityC	humidity_c	Input_Passive	0	%	Allows for the BAS to override the space humidity value if desired.		
6	SNVT_temp_p	nviOAT	oat_c	Input_Passive	0	F	Displays the outdoor air temperature if the BAS is sending a value.		
7	SNVT_lev_percent	nviOccDHSetpt	occ_dehum_setpt_c	Input_Passive	53	%	Allows for the network to adjust the occupied dehumidify set point.		
8	SNVT_temp_p	nviRemSetptSpan	rem_setpt_span_c	Input_Passive	5	F	Allows for the network to set the warm/cool adjust control value.		
9	SNVT_temp_p	nviEffClgSpAn	eff_clg_sp_an	Input_Passive	76	F	Displays the effective cooling set point.		
10	SNVT_temp_p	nviEff_htg_sp_c	eff_htg_sp_an	Input_Passive	70	F	Displays the effective heating set point.		
11	SNVT_temp_p	nviOccClgSp	occ_clg_sp_c	Input_Passive	76	F	Displays and sets the occupied cooling set point.		
12	SNVT_temp_p	nviOccHtgSp	occ_htg_sp_c	Input_Passive	70	F	Displays and sets the occupied heating set point.		
13	SNVT_temp_p	nviUnoccClgSp	unocc_clg_sp_c	Input_Passive	85	F	Displays and sets the unoccupied cooling set point.		
14	SNVT_temp_p	nviUnoccHtgSp	unocc_htg_sp_c	Input_Passive	60	F	Displays and sets the unoccupied heating set point.		
15	SNVT_temp_p	nviStbyCool	standby_cool_c	Input_Passive	76	F	Displays and sets the standby cooling set point.		
16	SNVT_count_inc	nvoTmpOccTimer	temp_occ_time_an	Output_Active	99999	Min	Displays the amount of time left in temp occupancy only while in Temp Occ.		
17	SNVT_ppm	nvoVocAn	voc_an	Output_Active	0	ppm	Displays the space voc (volatile organic compounds) if sensor is present.		
18	SNVT_temp_p	nvoZoneTemp	zone_temp_an	Output_Active	0	F	Displays the zone temperature if sensor is present or if overridden by the BAS.		
19	SNVT_switch	nvoAcc1St_A	acc1_st_a	Output_Active	0		Displays the status of the ACC-1 output on ABC A.	Off	On
20	SNVT_switch	nvoAcc1St_B	acc1_st_b	Output_Active	0		Displays the status of the ACC-1 output on ABC B.	Off	On
21	SNVT_switch	nviAlarmReset	alarm_reset_c	Input_Passive	0		Allows for the network to command the alarm reset, to clear the alarm command to "ON" then Back to "OFF".	Off	On
22	SNVT_switch	nvoComprStA	compressor_st_a	Output_Active	0		Displays the status of the ABC A's output for the compressor operation.	Off	On
23	SNVT_switch	nvoDhCmdSt	dh_cmd_st	Output_Active	0		Displays the status of the dehumidification command.	Off	On
24	SNVT_switch	nviDhDis	dh_disable_c	Input_Passive	0		Allows for the network to enable/disable dehumidification.	DH Disabled	DH Enabled
25	SNVT_switch	nviEconoEna	economizer_ena_c	Input_Passive	0		Allows for the network to enable the economizer control feature of the program.	Disabled	Enabled
26	SNVT_switch	nviEh1OvrdC	eh1_ovrd_c	Input_Passive	0		Allows for network control of electric heat 1 output relay if SNVT-46 is set to "network".	Off	On
27	SNVT_switch	nviEStopC	e_stop_c	Input_Passive	0		Allows for the network to issue a emergency shutdown command to the unit.	Normal Operation	Shutdown
28	SNVT_switch	nvoHeatCoolSt	heat_cool_st	Output_Active	0		Displays the command the UPC is sending to the reversing valve.	Off	On
29	SNVT_switch	nviLdLagEna	lead_lag_ena_c	Input_Passive	1		Used to enable/disable the compressor lead lag control.	Off	On
30	SNVT_switch	nviNetworkGC	network_g_c	Input_Passive	0		Allows for network control of the fan.	Off	On
31	SNVT_switch	nviNetworkOC	network_o_c	Input_Passive	0		Allows for network control of the reversing valve.	Off	On
32	SNVT_switch	nviNetworkWC	network_w_c	Input_Passive	0		Allows for network control of electric heat output.	Off	On
33	SNVT_switch	nviNetworkY1C	network_y1_c	Input_Passive	0		Allows for network control of the Y1 output.	Off	On
34	SNVT_switch	nviNetworkY2C	network_y2_c	Input_Passive	0		Allows for network control of the Y2 output.	Off	On
35	SNVT_switch	nviOccSensEna	occ_sensor_enable_c	Input_Passive	0		Used to enable/disable the Hardwired Occupancy sensor input.	Disabled	Enabled
36	SNVT_switch	nviSchedSel	schedule_selector_c	Input_Passive	1		Used to select between the internal or external schedule, internal schedule is Occupied 7:30-5:00 Mon-Fri EST.	Internal	External

LonWorks SNVT Points for Dual Compressor WSHP cont.

Software Version 1.01 Utilizing the Aurora UPC Controller



Program Id: 9000005000030501								State Text	
NV #	SNVT Type	NV Name	Reference Name	Direction	Default Value	Units	Description	Inactive = 0	Active = 1
37	SNVT_switch	nviTmpOccDis	temp_occ_dis_c	Input_Passive	1		Allows for network control to disable temporary occupancy.	Disabled	Enabled
38	SNVT_switch	nviZoneTmpSel	zone_temp_selector_c	Input_Passive	0		Allows for network selection of the zone sensor input.	Sensor	BAS
39	SNVT_count_inc	nvoLockout_A	lockout_enumerated_st_a	Output_Active	1		Displays the status of the lockout alarm output.	Normal	Lockout
40	SNVT_temp_p	nviZoneTadjust	zone_temp_adj_c	Input_Passive	0	F	Displays the zone temp adjust value, this is used to calibrate the zone sensor.		
41	SNVT_switch	nviNetworkDhC	network_dh_c	Input_Passive	0		Allows for the network to enable/disable dehumidification.	Off	On
42	SNVT_ppm	nvoCo2An	co2_an	Output_Active	0	ppm	Displays the CO2 value if the zone sensor is equipped with the CO2 sensor.		
43	SNVT_temp_p	nviStbyHeat	standby_heat_c	Input_Passive	68		Displays and sets the standby heating set point.		
44	SNVT_count_inc	nviOccManCmd	occ_man_cmd_c	Input_Passive	1		Use this point to command unit occupancy, verify that SNVT-36 is set to Active(External).	[1 = Occupied] [2 = Unoccupied] [3 = Temp Occ] [4 = Standby] [5 = Occ Sensor]	
45	SNVT_count_inc	nvoEffOccup	effect_occup_st	Output_Active	1		Displays the current occupancy state of the unit.		
46	SNVT_switch	nviAuxHeatEna	aux_heat_ena_c	Input_Passive	1		Allows for the network to select how the E.H.-1 Output on ABC A is controlled, if set to Aux heat the P.I.D. loop will enable and disable the output as needed.	Network EH	Aux Heat
47	SNVT_temp_p	nvoEconoWat	economizer_water_temp_an	Output_Active	-999.9	F	Displays the value of the water side economizer temp sensor.		
48	SNVT_count_inc	nvoLockouts_B	lockouts_enumerated_an_b	Output_Active	0		Displays the current lock-out alarm value for ABC B, refer to the alarms table for a description.		
49	SNVT_count_inc	nvoLockout_B	lockout_enumerated_st_b	Output_Active	1		Displays the text that is used to describe the alarm.		
50	SNVT_temp_p	nvoActiveSetpt	active_setpt_an	Output_Active	76	F	Displays the set point that is controlling the call for the compressor.		
51	SNVT_temp_p	nviNetwkLpT	network_loop_temp_c	Input_Passive	0	F	Allows for the BAS to write the loop temperature value that is used in the economizer portion of the control program. Refer to page ? of the ATU guide? for help configuring.		
52	SNVT_count_inc	nvoLockouts_A	lockouts_enumerated_an_a	Output_Active	0		Displays the current lock-out alarm value for ABC A, refer to the alarms table for a description.		
53	SNVT_switch	nviLoadShedC	load_shed_c	Input_Passive	0		Allows for the network to enable/disable load shed.	Off	On
54	SNVT_temp_p	nviZnTmpOvrd	zone_temp_ovrd_c	Input_Passive	0	F	Allows for the network to override the zone temp sensor reading if SNVT-38 is set to Active or BAS.		
55	SNVT_switch	nvoComprStB	compressor_st_b	Output_Active	0		Displays the status of the ABC B's output for the compressor operation.	Off	On
56	SNVT_temp_p	nvoFP1Setpt_B	fp1_setpoint_an_b	Output_Active	30	F	Displays the current freeze detection set point for Circuit B.	15°	30°
57	SNVT_temp_p	nvoFP1_B	coax_temp_an_b	Output_Active			Displays the coax temperature read on FP1 ABC B.		
58	SNVT_temp_p	nviEconoSet	economizer_setpt_c	Input_Passive	45	F	Displays the economizer set point value.		
59	SNVT_count_inc	nvoModeSt	mode_st	Output_Active	0		Displays the current operating mode of the unit, refer to the Mode Of Operation Table located below.		
60	SNVT_switch	nvoFilterAlm	dirty_filter_alarm_st	Output_Active	0		Sends alarm when the fan runtime exceeds the value set in SNVT-2. Alarm should be reset after filters are changed/checked.		
61	SNVT_switch	nviFilterAlmRst	filter_alm_reset_c	Input_Passive	0		Used to reset the dirty filter alarm, this should only be reset once the filters have been checked and changed if needed.		

Modes of Operation for Dual Compressor WSHP

Software Version 1.01 Utilizing the Aurora UPC Controller



Dual Compressor Water to Air Modes Of Operation
1 = Standby
2 = Fan Only
3 = Cooling Stage 1
4 = Cooling Stage 2
5 = Hot Gas Reheat
6 = Heating Stage 1
7 = Heating Stage 2
8 = Emergency Heat
9 = Auxiliary Heat
10 = Emergency Shutdown
11 = Load Shed
12 = ABC A Lock-Out
13 = Test Mode
14 = Economizer Mode
15 = ABC B Lout-Out
16 = Full Cool W/Economizer
17 = Dehumidification Mode
18 = 1/2 Capacity W/Lock-Out
19 = Full Lockout Condition
20 = Clg 1 W/Economizer

ABC Dipswitches for Dual Compressor WSHP

Software Version 1.01 Utilizing the Aurora UPC Controller



ABC Dip Switch Commandable Override Points

We understand the hassles associated with configuring each unit's controller in a commercial building so we have provided a way to accomplish this thru the Building Automation System or through the ATU interface. The BAS method allows for the control technician to send commands to UPC Controller and set the freeze detection set point or the accessory 1 relay operation through a BAS. The physical dip switch bank that is normally used to configure the unit settings can still be used if desired, but one must make sure that the switches have not already been overridden. A technician can determine if the dip switches have been overridden by the BAS by looking at the yellow LED located on the Aurora Base Controller, if the yellow LED is constantly flashing slow then at least one switch has been overridden. The following procedure must be followed carefully to ensure proper unit configuration. Since we are able to use the BAS to select these settings special care must be taken when doing start-up on the units. The physical switch position can differ from what is set as defaults in the UPC program, so verify and record the actual switch settings before trying to command the points. First thing that needs to be done is to determine what settings are present and what settings need changed. To locate the current switch settings refer to these points for their read only values. Remember that these points represent the current configuration and not necessarily the actual position of the switches, there is a column below that can be used to record the current switch settings.

Alarms for Dual Compressor WSHP

Software Version 1.01 Utilizing the Aurora UPC Controller



Commercial Alarms Table for the Dual Compressor Aurora with UPC						
Aurora Base Controller with UPC Alarms Table		ABC Red LED Flash Code	Alarm Values Enumerated on AV-80 & AV-81 or ADF-78 & ADF-79 to the BAS	Alarm Values Enumerated on MSV-6 & MSV-7 to the BAS	Lockout	Reset
ABC & AXB Basic Faults	Normal - No Faults	Off	0	1	-	-
	E1 - Fault-Input	1	1	2	No	Auto
	E2 - Fault-High Pressure	2	2	3	Yes	Hard or Soft
	E3 - Fault-Low Pressure	3	3	4	Yes	Hard or Soft
	E4 - Fault-Freeze Detection FP2	4	4	5	Yes	Hard or Soft
	E5 - Fault-Freeze Detection FP1	5	5	6	Yes	Hard or Soft
	E6 - Fault-Loss Of Charge	6	6	7	Yes	Hard or Soft
	E7 - Fault-Condensate Overflow	7	7	8	Yes	Hard or Soft
	E8 - Fault-Over/Under Voltage	8	8	9	No**	Auto
	E9 - Airflow Monitoring	9	9	10	Future	Future
	E10 - Fault-Compressor Monitoring	10	10	11	Yes	Hard or Soft
	E11 - Fault-FP1 Snsr Error	11	11	12	Yes	Hard or Soft
	E12 - Refrigeration Monitoring	12	12	13	Future	Future
	E13 - Non Critical AXB Sensor Error	13	13	14	Future	Future
	E14 - Critical AXB Sensor Error	14	14	15	Future	Future
	E15 - Hot Water Limit	15	15	16	No	Auto
	E16 - Fault-VarSpdPump	16	16	17	No	Auto
	E30 - Zone Sensor Loss of Comm	N/A	30	18	Yes	Auto
	E18 - Non-CritComErr	18	18	19	No	Auto
	E19 - CritComErr	19	19	20	Yes	Auto
E20 - UPC-ABC Critical Comm Error	N/A	20	20	Yes	Auto	

Dual Compressor Water to Air Modes Of Operation
1 = Standby
2 = Fan Only
3 = Cooling Stage 1
4 = Cooling Stage 2
5 = Hot Gas Reheat
6 = Heating Stage 1
7 = Heating Stage 2
8 = Emergency Heat
9 = Auxiliary Heat
10 = Emergency Shutdown
11 = Load Shed
12 = ABC A Lock-Out
13 = Test Mode
14 = Economizer Mode
15 = ABC B Lout-Out
16 = Full Cool W/Economizer
17 = Dehumidification Mode
18 = 1/2 Capacity W/Lock-Out
19 = Full Lockout Condition
20 = Clg 1 W/Economizer

Internal Schedule for Dual Compressor WSHP

Software Version 1.01 Utilizing the Aurora UPC Controller



Aurora UPC Schedule		
Internal Schedule	Eastern Standard Time	
	Occupied	Unoccupied
Sunday	Unscheduled	Unscheduled
Monday	7:30am-5pm	5pm-7:30am
Tuesday	7:30am-5pm	5pm-7:30am
Wednesday	7:30am-5pm	5pm-7:30am
Thursday	7:30am-5pm	5pm-7:30am
Friday	7:30am-5pm	5pm-7:30am
Saturday	Unscheduled	Unscheduled

Control Tables for Dual Compressor WSHP

Software Version 1.01 Utilizing the Aurora UPC Controller



Read Only Values	
1	Standby
2	Fan Only
3	Cool Stage 1
4	Cool Stage 2
5	Hot Gas Reheat
6	Heat Stage 1
7	Heat Stage 2
8	Emergency Heat
9	Auxiliary Heat
10	Emergency Shutdown
11	Load Shed
12	ABC A Lock-Out
13	Test Mode
14	Economizer Mode
15	ABC B Lock-Out
16	Full Cool W/Economizer
17	Dehumidification
18	1/2 Capacity W/Lock-out
19	Full Lock-Out
20	Cooling 1 W/Economizer

Notes Key for Dual Compressor WSHP

Software Version 1.01 Utilizing the Aurora UPC Controller



Dual Compressor Notes Key	
① = Only displayed if logged in as the Administrator	④ = Factory set value
② = Only displayed if logged in as the User	⑤ = Adjustable thru the touchscreen
③ = Only displayed if logged in as the factory	⑥ = Only displayed if feature is enabled

© 2016 WaterFurnace International Inc., 9000 Conservation Way, Fort Wayne, IN 46809-9794. WaterFurnace has a policy of continual product research and development and reserves the right to change design and specifications without notice.