

Output Variables (Read/Write)

Name	Data Type	Description	Valid Values/Range									
nviHeatDemand	SNVT_switch	Heat Demand/Request. Setting the state member of this variable will put the boiler in heating mode.	<table border="1"> <thead> <tr> <th>value</th> <th>state</th> <th>Interpretation</th> </tr> </thead> <tbody> <tr> <td>any</td> <td>0</td> <td>no heat demand</td> </tr> <tr> <td>any</td> <td>1</td> <td>heat demand</td> </tr> </tbody> </table>	value	state	Interpretation	any	0	no heat demand	any	1	heat demand
value	state	Interpretation										
any	0	no heat demand										
any	1	heat demand										
nviSetpointTimer	SNVT_count	<p>System Setpoint Timer</p> <p>The system setpoint timer and system setpoint work in tandem to externally control (i.e. a BMS - building management system) the operating setpoint. The setpoint (countdown) timer should be loaded with a timeout value (in seconds) prior to writing the system setpoint. When the timer reaches zero, the control assumes that the BMS is no longer operating and the local setpoint (saved on the control) is reloaded. This is a failsafe feature used to help safeguard the system in case of BMS failure. If the setpoint timer is not written, a default timeout value of 60 seconds is assumed.</p>	0 – 65535 seconds									
nviSetpoint	SNVT_temp_p	System Setpoint (see <i>nviSetpointTimer</i>)	4.5 – 104.4 °C (40 - 220 °F)									
nviOARResetEnable	SNVT_switch	Enables/Disables outdoor air reset mode.	<table border="1"> <thead> <tr> <th>value</th> <th>state</th> <th>interpretation</th> </tr> </thead> <tbody> <tr> <td>any</td> <td>0</td> <td>disabled</td> </tr> <tr> <td>any</td> <td>1</td> <td>enabled</td> </tr> </tbody> </table>	value	state	interpretation	any	0	disabled	any	1	enabled
value	state	interpretation										
any	0	disabled										
any	1	enabled										
nviOARSetpoint	SNVT_temp_p	Outdoor air reset setpoint. Temperature at which boiler shuts down.	4.5 – 37.8 °C (40 – 100 °F)									
nviOARHiWtrTemp	SNVT_temp_p	Boiler water temperature setpoint when outdoor air temperature is at the high outdoor air temperature setpoint (<i>nviOARHiAirTemp</i>).	15.6 – 65.6 °C (60 – 150 °F)									
nviOARHiAirTemp	SNVT_temp_p	High outdoor air temperature setpoint.	10 – 32.2 °C (50 – 90 °F)									
nviOARLoWtrTemp	SNVT_temp_p	Header/Supply temperature setpoint when outdoor air temperature is at the low outdoor air temperature setpoint (<i>nviOARLoAirTemp</i>).	21.1 – 104.4 °C (70 – 220 °F)									
nviOARLoAirTemp	SNVT_temp_p	Low outdoor air temperature setpoint.	-37.2 – 4.4 °C (-35 – 40 °F)									
nviSetMonth	SNVT_count	Set real time clock – month (see <i>nviSetClock</i>)	0 (January) – 11 (December)									
nviSetDay	SNVT_count	Set real time clock – day (see <i>nviSetClock</i>)	1 – 31									
nviSetYear	SNVT_count	Set real time clock – year (see <i>nviSetClock</i>)	0 – 99									

KNSX LonWorks Bridge System Variables

Name	Data Type	Description	Valid Values/Range									
nviSetHour	SNVT_count	Set real time clock – hour (see <i>nviSetClock</i>)	0 – 23									
nviSetMinute	SNVT_count	Set real time clock – minute (see <i>nviSetClock</i>)	0 – 59									
nviSetSecond	SNVT_count	Set real time clock – second (see <i>nviSetClock</i>)	0 – 59									
nviSetWeekday	SNVT_count	Set real time clock – weekday (see <i>nviSetClock</i>)	1 (Monday) – 7 (Sunday)									
nviSetClock	SNVT_switch	<p>Set (write) the real time clock.</p> <p>To write the real time clock, the system variables (<i>nviSetMonth</i>, <i>nviSetMonth</i>, <i>nviSetDay</i>, <i>nviSetYear</i>, <i>nviSetHour</i>, <i>nviSetMinute</i>, <i>nviSetSecond</i>, <i>nviSetWeekday</i>) must first be loaded with the correct date and time. Then, a 1 must be written to the state portion of this system variable to write the new date and time to the system clock.</p>	<table border="1"> <thead> <tr> <th>value</th> <th>state</th> <th>interpretation</th> </tr> </thead> <tbody> <tr> <td>any</td> <td>0</td> <td>---</td> </tr> <tr> <td>any</td> <td>1</td> <td>set the clock</td> </tr> </tbody> </table>	value	state	interpretation	any	0	---	any	1	set the clock
value	state	interpretation										
any	0	---										
any	1	set the clock										

Input Variables (Read Only)

Name	Type	Description	Valid Values/Range
nvoBoilersOn	SNVT_count	The number of boilers currently running.	0 – 16
nvoModulation	SNVT_lev_cont_f	Current system modulation level.	0 – 100 %
nvoHeaderTemp	SNVT_temp_p	Header / System temperature.	0 – 121.1 °C (32 – 250 °F)
nvoSupplyTemp	SNVT_temp_p	Supply temperature.	0 – 121.1 °C (32 – 250 °F)
nvoReturnTemp	SNVT_temp_p	Return temperature.	0 – 121.1 °C (32 – 250 °F)
nvoOutsideTemp	SNVT_temp_p	Outside air temperature.	-40 – 121.1 °C (-40 – 250 °F)
nvoSpare1	SNVT_count	Raw A/D value from spare 1 input.	-32768 to 32767
nvoSpare2	SNVT_count	Raw A/D value from spare 2 input.	-32768 to 32767
nvoMonth	SNVT_count	Real time clock month.	0 – 11
nvoDay	SNVT_count	Real time clock day.	1 – 31
nvoYear	SNVT_count	Real time clock year.	0 – 99
nvoHour	SNVT_count	Real time clock hour.	0 – 23
nvoMinute	SNVT_count	Real time clock minute.	0 – 59
nvoSecond	SNVT_count	Real time clock second.	0 – 59
nvoWeekday	SNVT_count	Real time clock weekday.	1 – Monday 7 – Sunday
nvoClock	SNVT_time_stamp	Real time clock date and time.	0 – 11

Name	Type	Description	Valid Values/Range																																		
nvoBlr01Status1 ... nvoBlr16Status1	SNVT_state	Boiler status flags #1 (boilers 1 – 16). These bits indicate the state of the 24VAC interlocks, ignition circuit, and various other conditions. See the values column for a list of conditions.	0 = off, disabled, or not present 1 = on, enabled, or present <table border="1"> <thead> <tr> <th>Bit</th> <th>Description</th> </tr> </thead> <tbody> <tr><td>0</td><td>Disabled</td></tr> <tr><td>1</td><td>Local Override</td></tr> <tr><td>2</td><td>Alarm</td></tr> <tr><td>3</td><td>Failed</td></tr> <tr><td>4</td><td>Member Error</td></tr> <tr><td>5</td><td>Boiler Running</td></tr> <tr><td>6</td><td>Pump Running</td></tr> <tr><td>7</td><td>Spare 3 Interlock</td></tr> <tr><td>8</td><td>LWCO Interlock</td></tr> <tr><td>9</td><td>VFD Interlock</td></tr> <tr><td>10</td><td>Gas Prove</td></tr> <tr><td>11</td><td>Spare 4</td></tr> <tr><td>12</td><td>Operator Interlock</td></tr> <tr><td>13</td><td>Water Prove (Flow) Interlock</td></tr> <tr><td>14</td><td>Air Prove UV Sensor Interlock</td></tr> <tr><td>15</td><td>Main Valve</td></tr> </tbody> </table>	Bit	Description	0	Disabled	1	Local Override	2	Alarm	3	Failed	4	Member Error	5	Boiler Running	6	Pump Running	7	Spare 3 Interlock	8	LWCO Interlock	9	VFD Interlock	10	Gas Prove	11	Spare 4	12	Operator Interlock	13	Water Prove (Flow) Interlock	14	Air Prove UV Sensor Interlock	15	Main Valve
Bit	Description																																				
0	Disabled																																				
1	Local Override																																				
2	Alarm																																				
3	Failed																																				
4	Member Error																																				
5	Boiler Running																																				
6	Pump Running																																				
7	Spare 3 Interlock																																				
8	LWCO Interlock																																				
9	VFD Interlock																																				
10	Gas Prove																																				
11	Spare 4																																				
12	Operator Interlock																																				
13	Water Prove (Flow) Interlock																																				
14	Air Prove UV Sensor Interlock																																				
15	Main Valve																																				
nvoBlr01Status2 ... nvoBlr16Status2	SNVT_state	Boiler status flags #2 (boilers 1 – 16).). These bits indicate the state of the ignition circuit, sensors, and various other conditions. See the values column for a list of conditions.	0 = off, disabled, or not present 1 = on, enabled, or present <table border="1"> <thead> <tr> <th>Bit</th> <th>Description</th> </tr> </thead> <tbody> <tr><td>0</td><td>Pilot Valve</td></tr> <tr><td>1</td><td>Blower</td></tr> <tr><td>2</td><td>Ignition Alarm</td></tr> <tr><td>3</td><td>Valve Alarm</td></tr> <tr><td>4</td><td>High Limit</td></tr> <tr><td>5</td><td>Air Prove Switch</td></tr> <tr><td>6</td><td>XS Factory</td></tr> <tr><td>7</td><td>Software Operator</td></tr> <tr><td>8</td><td>Header Sensor not Present</td></tr> <tr><td>9</td><td>Supply Sensor not Present</td></tr> <tr><td>10</td><td>Return Sensor not Present</td></tr> <tr><td>11</td><td>Outside Sensor not Present</td></tr> <tr><td>12 - 13</td><td>---</td></tr> <tr><td>14</td><td>Master Boiler</td></tr> <tr><td>15</td><td>Present (Boiler Detected)</td></tr> </tbody> </table>	Bit	Description	0	Pilot Valve	1	Blower	2	Ignition Alarm	3	Valve Alarm	4	High Limit	5	Air Prove Switch	6	XS Factory	7	Software Operator	8	Header Sensor not Present	9	Supply Sensor not Present	10	Return Sensor not Present	11	Outside Sensor not Present	12 - 13	---	14	Master Boiler	15	Present (Boiler Detected)		
Bit	Description																																				
0	Pilot Valve																																				
1	Blower																																				
2	Ignition Alarm																																				
3	Valve Alarm																																				
4	High Limit																																				
5	Air Prove Switch																																				
6	XS Factory																																				
7	Software Operator																																				
8	Header Sensor not Present																																				
9	Supply Sensor not Present																																				
10	Return Sensor not Present																																				
11	Outside Sensor not Present																																				
12 - 13	---																																				
14	Master Boiler																																				
15	Present (Boiler Detected)																																				

Name	Type	Description	Valid Values/Range																				
nvoBlr01Status3 ... nvoBlr16Status3	SNVT_state	Boiler stage control input flags. These bits indicate the state of the stage control inputs. See the values column for a list of conditions.	0 = off or not present 1 = on or present <table border="1"> <thead> <tr> <th>Bit</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>0</td> <td>AA High Fire</td> </tr> <tr> <td>1</td> <td>Heat Demand</td> </tr> <tr> <td>2</td> <td>4-20ma Remote Enable</td> </tr> <tr> <td>3</td> <td>Outdoor Air Reset Override</td> </tr> <tr> <td>4</td> <td>T1</td> </tr> <tr> <td>5</td> <td>T2</td> </tr> <tr> <td>6</td> <td>T3</td> </tr> <tr> <td>7</td> <td>T4</td> </tr> <tr> <td>8 - 15</td> <td>---</td> </tr> </tbody> </table>	Bit	Description	0	AA High Fire	1	Heat Demand	2	4-20ma Remote Enable	3	Outdoor Air Reset Override	4	T1	5	T2	6	T3	7	T4	8 - 15	---
Bit	Description																						
0	AA High Fire																						
1	Heat Demand																						
2	4-20ma Remote Enable																						
3	Outdoor Air Reset Override																						
4	T1																						
5	T2																						
6	T3																						
7	T4																						
8 - 15	---																						
nvoBlr01Runtime ... nvoBlr16Runtime	SNVT_reg_val	The total number of minutes that the boiler has been running (with the current control board).	0 – 35791394 minutes																				