



Applications

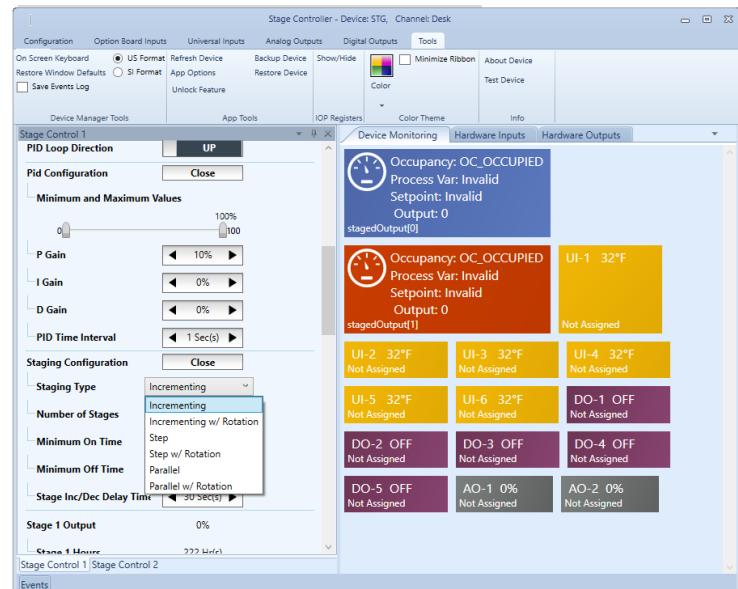
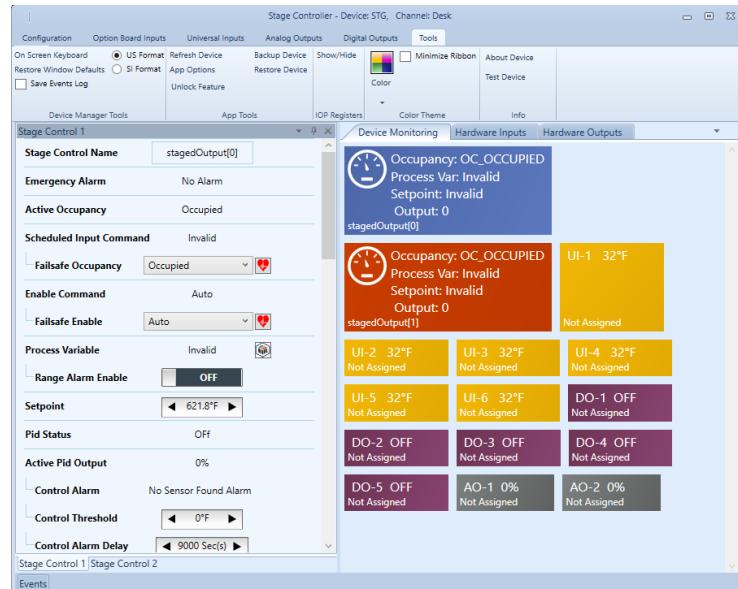
Application is compatible with Q1 Hardware. Fully customizable PID controller with 6 stages of outputs. 2 independent PID applications available to run multiple equipment on the same controller. Built in safeties and alarms for notification and precise control. Can be used on any type of equipment for control of pressures, temperatures, valves, pumps, fans, dampers or other types of equipment.

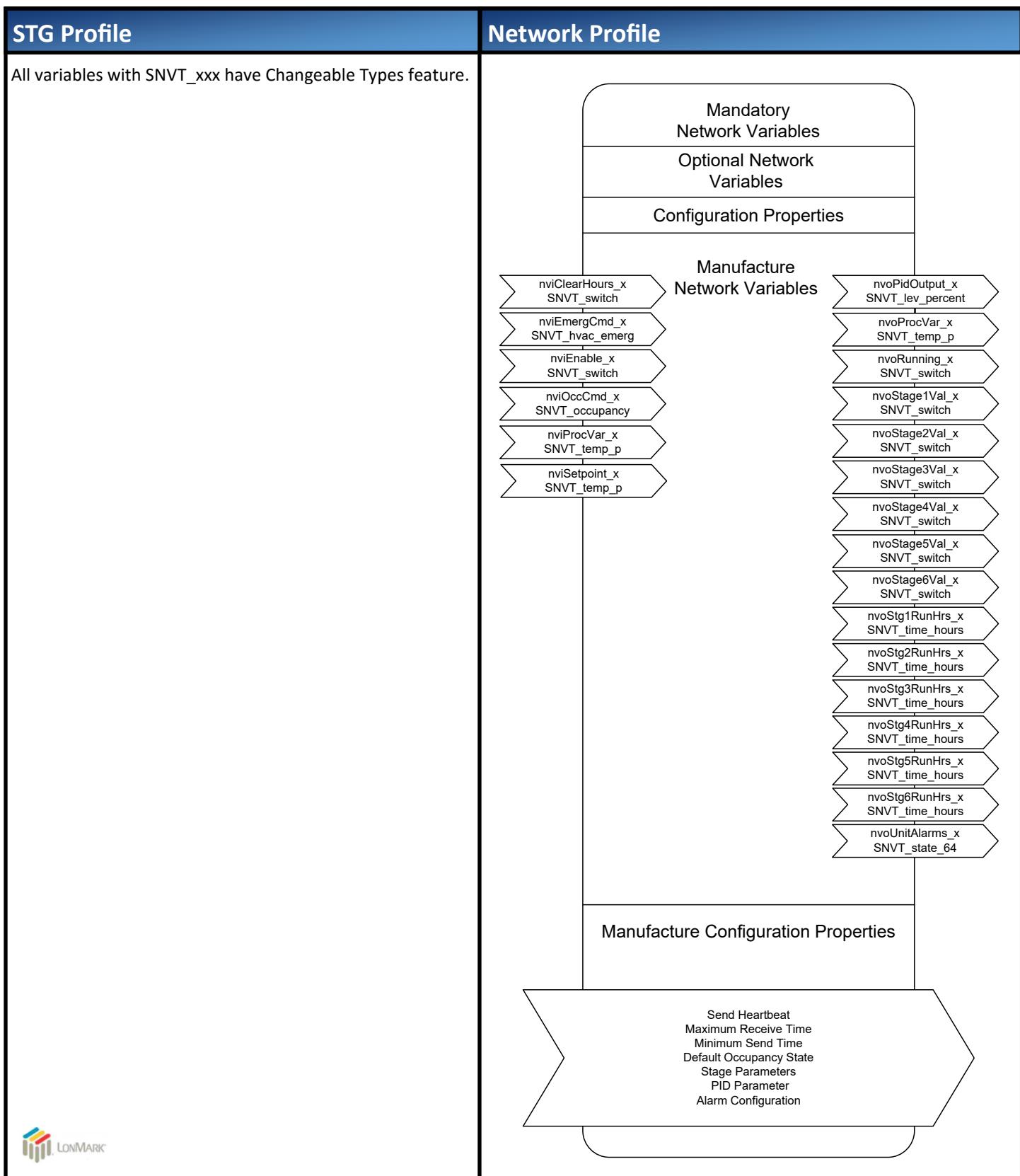
Software

Software features include:

- Multiple inputs for occupancy of enable commands
- Fully featured PID control
- Full configurability of up to 6 stages of output timing and type
- Safeties for process variable over and under thresholds with variable restart timing
- Fail-safe settings for communications loss handling
- Individual stage proof settings
- Individual stage run hour accumulation
- Stage rotations for equalizing equipment run hours
- Built in Alarming
 - Emergency Shutdown Alarms
 - Staged Equipment Proof Failure Alarms
 - Staged Equipment “In Hand” Alarms
 - Process Variable Control Alarms
 - Process Variable out of Range Alarms
- Changeable network variable types
- Slave mode for any unused I/O, which can be bound to another controller

LNS Plug-in provides graphical user interface for configuration and monitoring. Plug-in simplifies hardware I/O customization, communication parameters, and control sequences. Plug-in can be executed from-within network management tool such as LonMaker for Windows or similar.







Open Loop Sensor Profile	Network Profile
<p>Open Loop Sensor profile is used by all physical inputs. Inputs can be used as slave I/O or as part of the main application.</p> <p>All variables with SNVT_xxx have Changeable Types feature.</p>	<p>Open Loop Sensor functional block information. (Physical inputs)</p>

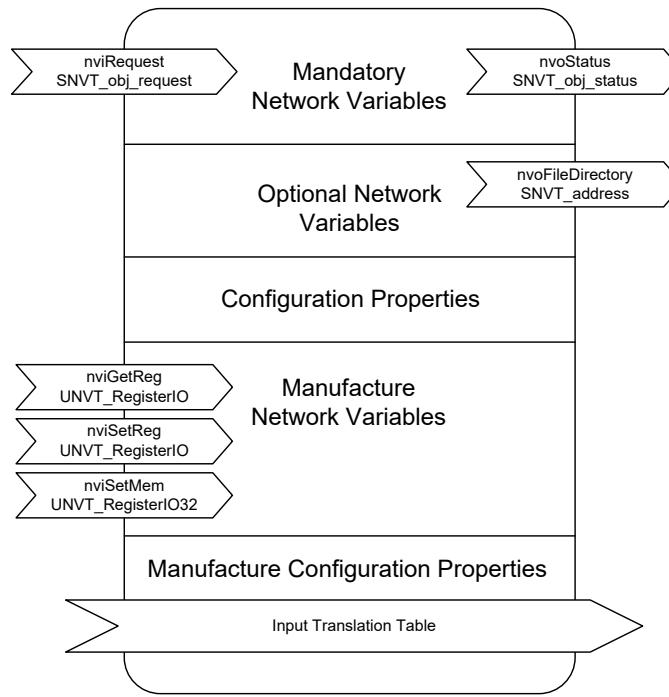


Open Loop Actuator Profile	Network Profile
<p>Analog Output profile is used by all analog outputs. Outputs can be used as slave I/O or as part of the main application.</p> <p>All variables with SNVT_xxx have Changeable Types feature.</p>	<p>Analog Outputs functional block information.</p> <pre> graph TD subgraph NP [Network Profile] direction TB MNV[Mandatory Network Variables] ONV[Optional Network Variables] CP[Configuration Properties] MNV --- ONV ONV --- CP subgraph MNV direction LR nviHwAoCmd_x[nviHwAoCmd_x SNVT_count] --> SNVT[Manufacture Network Variables] nvoHwAoValue_x[nvoHwAoValue_x SNVT_switch] end subgraph CP direction TB subgraph MP [Manufacture Configuration Properties] direction TB MP_items[Default Value Invert Value Override Value Maximum Receive Time Output Assignment Maximum/Minimum Send Time Minimum Send Delta Maximum/Minimum Output Values] MP_items --- MP_label[Manufacture Configuration Properties] end end end </pre>



Open Loop Sensor Profile	Network Profile
<p>Digital Output profile is used by all digital outputs. Outputs can be used as slave I/O or as part of the main application.</p> <p>All variables with SNVT_xxx have Changeable Types feature.</p>	<p>Digital Outputs functional block information.</p> <pre> graph TD subgraph NP [Network Profile] direction TB MNV[Mandatory Network Variables] ONV[Optional Network Variables] CP[Configuration Properties] MNV --- ONV ONV --- CP subgraph MNV direction LR nviHwDoCmd_x[nviHwDoCmd_x SNVT_count] --- MNV nvoHwDoValue_x[nvoHwDoValue_x SNVT_switch] --- MNV end subgraph CP direction TB subgraph MNV_C [Manufacture Network Variables] direction TB subgraph MC_P [Manufacture Configuration Properties] direction TB subgraph DVC [Default Value Configuration] direction TB subgraph OMST [Output Minimum/Maximum Send Time] direction TB subgraph FPC [Floating Point Configuration] direction TB subgraph OMST_FPC [Output Minimum/Maximum Send Time & Floating Point Configuration] direction TB subgraph OMST_FPC_DVC [Output Minimum/Maximum Send Time, Floating Point Configuration & Default Value Configuration] direction TB subgraph OMST_FPC_DVC_OA [Output Assignment] direction TB subgraph OMST_FPC_DVC_OA_MMT [Output Minimum/Maximum Send Time, Floating Point Configuration, Default Value Configuration & Output Assignment] direction TB subgraph OMST_FPC_DVC_OA_MMT_MSV [Output Minimum/Maximum Send Time, Floating Point Configuration, Default Value Configuration, Output Assignment & Minimum Send Value] direction TB subgraph OMST_FPC_DVC_OA_MMT_MSV_MRT [Output Minimum/Maximum Send Time, Floating Point Configuration, Default Value Configuration, Output Assignment, Minimum Send Value & Maximum Receive Time] direction TB subgraph OMST_FPC_DVC_OA_MMT_MSV_MRT_OAT [Output Minimum/Maximum Send Time, Floating Point Configuration, Default Value Configuration, Output Assignment, Minimum Send Value, Maximum Receive Time & Output Assignment] direction TB subgraph OMST_FPC_DVC_OA_MMT_MSV_MRT_OAT_MSD [Output Minimum/Maximum Send Time, Floating Point Configuration, Default Value Configuration, Output Assignment, Minimum Send Value, Maximum Receive Time, Output Assignment & Minimum Send Delta] direction TB subgraph OMST_FPC_DVC_OA_MMT_MSV_MRT_OAT_MSD_FPC [Output Minimum/Maximum Send Time, Floating Point Configuration, Default Value Configuration, Output Assignment, Minimum Send Value, Maximum Receive Time, Output Assignment, Minimum Send Delta & Floating Point Configuration] direction TB subgraph OMST_FPC_DVC_OA_MMT_MSV_MRT_OAT_MSD_FPC_DVC [Output Minimum/Maximum Send Time, Floating Point Configuration, Default Value Configuration, Output Assignment, Minimum Send Value, Maximum Receive Time, Output Assignment, Minimum Send Delta, Floating Point Configuration & Default Value Configuration] direction TB subgraph OMST_FPC_DVC_OA_MMT_MSV_MRT_OAT_MSD_FPC_DVC_OA [Output Minimum/Maximum Send Time, Floating Point Configuration, Default Value Configuration, Output Assignment, Minimum Send Value, Maximum Receive Time, Output Assignment, Minimum Send Delta, Floating Point Configuration, Default Value Configuration & Output Assignment] end end end end end end end end </pre>



Node Object Profile	Network Profile
<p>Node Object profile includes hardware specific network variables. The variables are for internal and use by the plugin only.</p>	<p>Node Object functional block information.</p>  <pre> graph TD subgraph Stack [] direction TB M1[Mandatory Network Variables] M2[Optional Network Variables] M3[Configuration Properties] M4[Manufacture Configuration Properties] end In[nviRequest SNVT_obj_request] --> M1 Out1[nvoStatus SNVT_obj_status] --> M2 Out2[nvoFileDirectory SNVT_address] --> M3 IT[Input Translation Table] --> M4 </pre>