Functional Profile

TX Komfort

Ver 1.0

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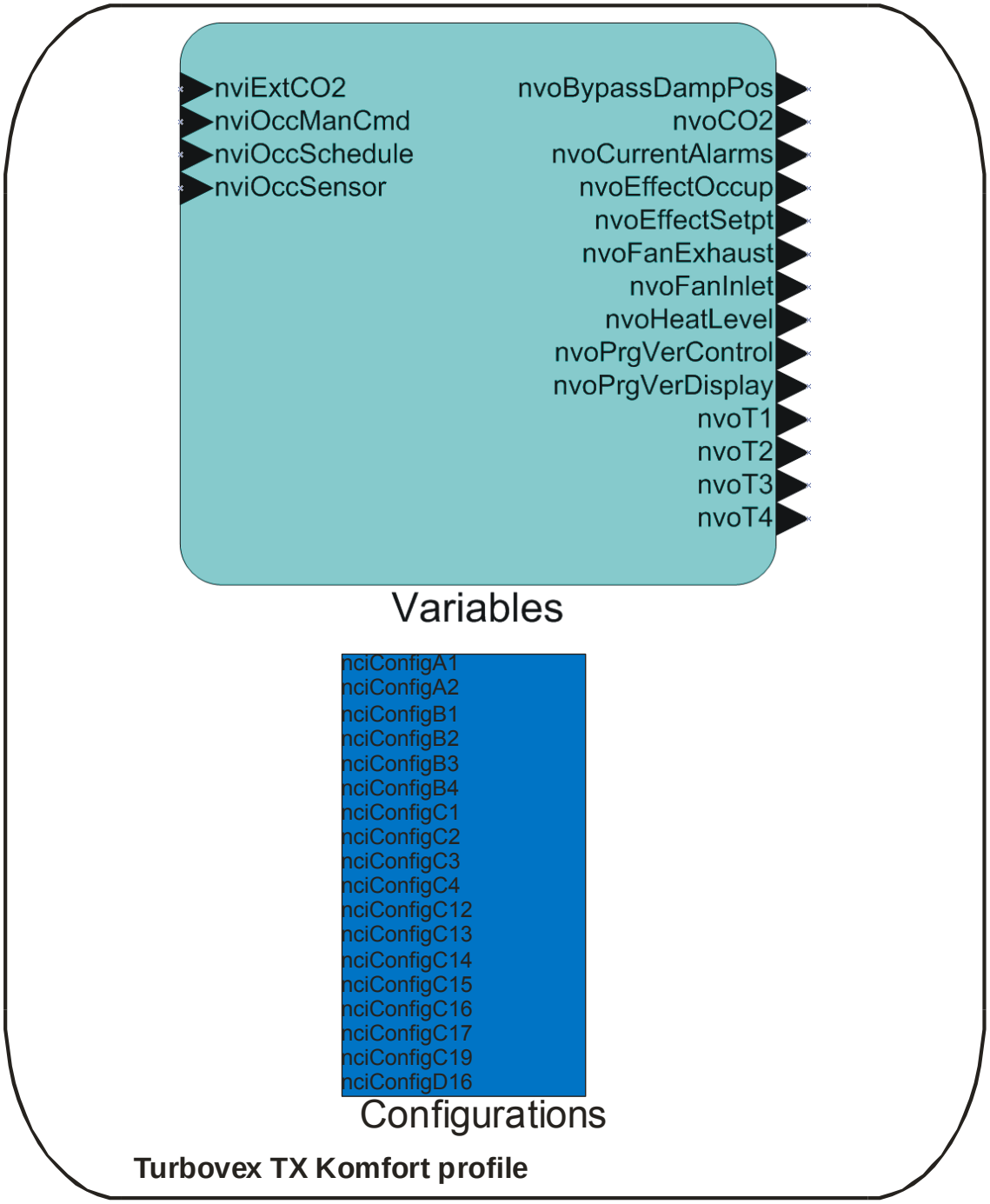
Function blocks in Turbovex profile:



SNVT SCPT Table:

Functionblock	Name	SNVT Type	SCPT type
TXBlock	nviExtCO2	SNVT_ppm	
TXBlock	nviOccManCmd	SNVT_occupancy	
TXBlock	nviOccSchedule	SNVT_tod_event	
TXBlock	nviOccSensor	SNVT_occupancy	
TXBlock	nvoBypassDampPos	SNVT_switch	
TXBlock	nvoCO2	SNVT_ppm	
TXBlock	nvoCurrentAlarms	SNVT_state	
TXBlock	nvoEffectOccup	SNVT_occupancy	
TXBlock	nvoEffectSetpt	SNVT_temp_p	
TXBlock	nvoFanExhaust	SNVT_switch	
TXBlock	nvoFanInlet	SNVT_switch	
TXBlock	nvoHeatLevel	SNVT_switch	
TXBlock	nvoPrgVerControl	SNVT_count	
TXBlock	nvoPrgVerDisplay	SNVT_count	
TXBlock	nvoT1	SNVT_temp_p	
TXBlock	nvoT2	SNVT_temp_p	
TXBlock	nvoT3	SNVT_temp_p	
TXBlock	nvoT4	SNVT_temp_p	
TXBlock	nciConfigA1		UCPTconfigA1_TempSetpointDay
TXBlock	nciConfigA2		UCPTconfigA2_TempSetpointNight
TXBlock	nciConfigB1		UCPTconfigB1_SpeedDayInlet
TXBlock	nciConfigB2		UCPTconfigB2_SpeedDayExtract
TXBlock	nciConfigB3		UCPTconfigB3_SpeedNightInlet
TXBlock	nciConfigB4		UCPTconfigB4_SpeedNightExtract
TXBlock	nciConfigC1		UCPTconfigC1_ForceTime
TXBlock	nciConfigC2		UCPTconfigC2_extendtime
TXBlock	nciConfigC3		UCPTconfigC3_PIRtime
TXBlock	nciConfigC4		UCPTconfigC4_BypassOn
TXBlock	nciConfigC12		UCPTconfigC12_CO2RegOnOff
TXBlock	nciConfigC13		UCPTconfigC13_CO2SetpointDay
TXBlock	nciConfigC14		UCPTconfigC14_CO2SetpointNight
TXBlock	nciConfigC15		UCPTconfigC15_CO2Range
TXBlock	nciConfigC16		UCPTconfigC16_CO2MaxSpeedInlet
TXBlock	nciConfigC17		UCPTconfigC17_CO2MaxExtract
TXBlock	nciConfigC19		UCPTconfigC19_HeatOn
TXBlock	nciConfigD16		UCPTconfigD16_PIR_NONC

Configurations:

The UCPT named configXX, is configurations variables for the TX komfort Unit.
All configurations are optional.
It's advisible to do a resync of Cp'es, and upload values from device.
Futher information about these configurations can be read in the Device specific document.
below follows the names of the configurations

nciConfigA1	UCPTconfigA1_TempSetpointDay
nciConfigA2	UCPTconfigA2_TempSetpointNight
nciConfigB1	UCPTconfigB1_SpeedDayInlet
nciConfigB2	UCPTconfigB2_SpeedDayExtract
nciConfigB3	UCPTconfigB3_SpeedNightInlet
nciConfigB4	UCPTconfigB4_SpeedNightExtract
nciConfigC1	UCPTconfigC1_ForceTime
nciConfigC2	UCPTconfigC2_extendtime
nciConfigC3	UCPTconfigC3_PIRtime
nciConfigC4	UCPTconfigC4_BypassOn
nciConfigC12	UCPTconfigC12_CO2RegOnOff
nciConfigC13	UCPTconfigC13_CO2SetpointDay
nciConfigC14	UCPTconfigC14_CO2SetpointNight
nciConfigC15	UCPTconfigC15_CO2Range
nciConfigC16	UCPTconfigC16_CO2MaxSpeedInlet
nciConfigC17	UCPTconfigC17_CO2MaxExtract
nciConfigC19	UCPTconfigC19_HeatOn
nciConfigD16	UCPTconfigD16_PIR_NONC

Variables:

nviExtCO2:

External CO2 sensor input
network input SNVT_ ppm : nviExtCO2;
This input network variable is used to get input from an external CO2 sensor

Valid Range
0..2000ppm
9999 = Disable input an use sensor input connected to controller
Default Value
The default value is 9999. This value will be adopted at power-up, until an update is received.
This network variable input does not Use the Receive Heartbeat function.

nviOccManCmd:

Occupancy Override Input
network input SNVT_occupancy nviOccManCmd;
This input network variable is used to command the Unit Ventilator Controller into different occupancy modes. It is typically sent by a wall-mounted occupant-interface module or a supervisory node, to manually control occupancy modes, or to override the scheduled occupancy.
If a local Bypass Input is present, it can be used in conjunction with this network variable input. The local input, when active, forces a Bypass request (equivalent to OC_BYPASS), overriding nviOccManCmd for the duration of the Local Bypass Time (determined by the configuration property nciBypassTime). When nviOccManCmd indicates OC_BYPASS, the Local Bypass Time is also used. Whenever an update of nviOccManCmd is received indicating OC_BYPASS, the bypass timer is restarted. This network variable input should never be bound to a network variable that uses a Send Heartbeat function.
This input is used in conjunction with nviOccSchedule and nviOccSensor (if installed) to determine the effective occupancy mode. Refer to Effective Occupancy Output (nvoEffectOccup) for more information.

Valid Range
0 = OC_OCCUPIED: The Unit Ventilator Controller should operate in the occupied mode as defined by the manufacturer (e.g. occupied Setpoint).
1 = OC_UNOCCUPIED: The Unit Ventilator Controller should operate in the unoccupied mode as defined by the manufacturer (e.g. unoccupied setpoint).
2 = OC_BYPASS: The Unit Ventilator Controller should operate in the occupied mode for a period of time defined by nciBypassTime.

3 = OC_STANDBY: The Unit Ventilator Controller should operate in the standby mode as defined by the manufacturer (e.g. standby setpoint).
0xFF = OC_NUL: This is the initial value after power-up and it remains until another value is received. It is used to indicate that this network variable input is invalid, unused or to cancel a previous command.

Default Value
The default value OC_NUL = 0xFF. This value will be adopted at power-up.

nviOccSchedule:

Occupancy Scheduler Input
network input SNVT_tod_event nviOccSchedule;
This input network variable is used to command the Unit Ventilator Controller into different occupancy modes. It is typically sent by a scheduler or a supervisory node. SNVT_tod_event is a structure containing three parts. The first part, current_state, is required for this network variable input. The additional parts, next_state and time_to_next_state, are optional. They can be used for control strategies that provide improved transitions between states. A scheduler node should send OC_NUL and 0, respectively, if it does not use these functions. The controller node will ignore these values if the functions are not supported by the controller.
This input is used in conjunction with nviOccManCmd and nviOccSensor (if installed) to determine the effective occupancy mode. Refer to Effective Occupancy Output (nvoEffectOccup) for more information.

Valid Range
for current_state:
0 = OC_OCCUPIED: The Unit Ventilator Controller should operate in the occupied mode as defined by the manufacturer (e.g. occupied setpoint).
1 = OC_UNOCCUPIED: The Unit Ventilator Controller should operate in the unoccupied mode as defined by the manufacturer (e.g. unoccupied setpoint).
3 = OC_STANDBY: The Unit Ventilator Controller should operate in the standby mode as defined by the manufacturer (e.g. standby setpoint).
0xFF = OC_NUL: This is the initial value after power-up and it remains until another value is received. It is used to indicate that this network variable input is invalid or unused.
The interpretation of all other enumerations will be manufacturer-specific.
for next_state: (optional)
0 = OC_OCCUPIED: The Unit Ventilator Controller will operate in the occupied mode as defined by the manufacturer (e.g. occupied

Setpoint).
1 = OC_UNOCCUPIED: The Unit Ventilator Controller will operate in the unoccupied mode as defined by the manufacturer (e.g. unoccupied setpoint).
3 = OC_STANDBY: The Unit Ventilator Controller will operate in the standby mode as defined by the manufacturer (e.g. standby setpoint).
0xFF = OC_NUL: This is the initial value after power-up and it remains until another value is received. It is used to indicate that this network variable input is invalid or unused.
The interpretation of all other enumerations will be manufacturer-specific.
for time_to_next_state: (optional) 0 to 65,534 minutes, 0 = not used, 65,535 (0xFFFF) = Invalid

Default Value
current_state = 0xFF = OC_NUL
next_state = 0xFF = OC_NUL
time_to_next_state = 0 minutes
These values will be adopted at power-up

nviOccSensor:

Occupancy Sensor Input
network input SNVT_occupancy nviOccSensor;
This input network variable is used to indicate the presence of occupants in the controlled space. It is typically sent by an occupancy sensor. In cases where an occupancy sensor is hardwired to the Unit Ventilator Controller, a valid value for nviOccSensor will take precedence over the hardwired input.
This input is used in conjunction with nviOccSchedule and nviOccManCmd (if installed) to determine the effective occupancy mode. Refer to Effective Occupancy Output (nvoEffectOccup) for more information.

Valid Range
0 = OC_OCCUPIED: The occupancy sensor is indicating that there ARE occupants in the space.
1 = OC_UNOCCUPIED: The occupancy sensor is indicating that there are NO occupants in the space.
0xFF = OC_NUL: This is the initial value after power-up and it remains until another value is received. It is used to indicate that this network variable input is invalid or unused. OC_NUL is equivalent to OC_OCCUPIED.
All other enumerations are handled as equivalent to OC_NUL.

Default Value
The default value is OC_NUL. This value will be adopted at power-up.

nvoBypassDampPos:

network output SNVT_switch : nvoBypassDampPos;
This output network variable show current position of the bypassvalve

Valid Range

State	Value	Equivalent Percent
1	0 to 200	0.5 to 100.0%
0xFF	n/a	n/a

Default value
The default value is 0,0. This value will be adopted at power-up

nvoCO2:

network output SNVT_ppm : nvoCO2;
This output network variable show current CO2 value from controller.
If nviExtCO2 = 9999 then value is adapted from a sensor connected to the controller, othervise value is adapted from a sensor connected to LON input

Valid Range

0..2000 ppm :measured value

Default value
The default value is 0 This value will be adopted at power-up

nvoCurrentAlarms:

network output SNVT_state : nvoCurrentAlarms;
This output network variable show current alarms in the controller.

Valid Range
Value 0 means no alarms if
Bit 0: means Fire
Bit 1 means Filter contaminated
Bit2..15 Not used

Default value
The default value is 0 This value will be adopted at power-up

nvoEffectOccup:

output SNVT_occupancy nvoEffectOccup;
This output network variable is used to indicate the actual occupancy mode of the unit. This information is typically reported to a supervisory controller, or provided to another Unit Ventilator Controller to coordinate the operation of multiple units. The occupancy mode is determined by a combination of optional input network variables and logic in the controller, as defined by the controller manufacturer. An example of how the Effective Occupancy

Output could be determined
from various inputs is shown in the table below.

nviOccManCmd	nviOccSchedule	nviOccSensor	nvoEffectOccup
OC_OCCUPIED	Don't Care	Don't Care	OC_OCCUPIED
OC_UNOCCUPIED	Don't Care	Don't Care	OC_UNOCCUPIED
OC_STANDBY	Don't Care	Don't Care	OC_STANDBY
OC_NUL	OC_OCCUPIED	OC_OCCUPIED	OC_OCCUPIED
		OC_UNOCCUPIED	OC_STANDBY
	OC_UNOCCUPIED	Don't Care	OC_UNOCCUPIED
	OC_STANDBY	Don't Care	OC_STANDBY
	OC_NUL	OC_OCCUPIED	OC_OCCUPIED
		OC_UNOCCUPIED	OC_UNOCCUPIED

Valid Range
0 = OC_OCCUPIED: The Controller should operate in the occupied mode (Day mode) as defined by the manufacturer (e.g. occupied setpoint).
1 = OC_UNOCCUPIED: The Controller should operate in the unoccupied mode (Night) as defined by the manufacturer (e.g. unoccupied setpoint).
3 = OC_STANDBY: The Controller should operate in the standby defined by the manufacturer (e.g. standby Setpoint).
When Transmitted
The variable is transmitted immediately when its value has changed. Additionally, this network variable may also (as defined by the

nvoEffectSetpt:

Effective Setpoint Output
network output SNVT_temp_p nvoEffectSetpt;
This output network variable is used to monitor the effective temperature setpoint which may depend on , nvoEffectOccup, and any local setpoint
Typical Range
The typical range is 8°C to 33°C.

nvoFanExtract:

network output SNVT_switch nvoFanExtract.
This output network variable reflects the actual fan speed of a local multi-speed fan as well as the requested speed of a remote fan. It can be used as part of a control loop and for monitoring purposes.
When used to control a remote fan, this output indicates a requested fan speed. When used to report the status of a hardwired fan output(s), this output indicates the actual fan speed.

Valid Range

State	Value	Equivalent Percent	Actual or Requested Fan State
	Actual or Requested Fan Speed		
0	n/a	n/a	OFF
1	0 to 200	0.5 to100 %	ON

nvoFanInlet:

network output SNVT_switch nvoFanInlet.
This output network variable reflects the actual fan speed of a local multi-speed fan as well as the requested speed of a remote fan. It can be used as part of a control loop and for monitoring purposes.
When used to control a remote fan, this output indicates a requested fan speed. When used to report the status of a hardwired fan output(s), this output indicates the actual fan speed.

Valid Range

State	Value	Equivalent Percent	Actual or Requested Fan State
	Actual or Requested Fan Speed		
0	n/a	n/a	OFF
1	0 to 200	0.5 to 100%	ON

nvoHeatLevel:

network output SNVT_switch nvoHeatLevel.
This output network variable reflects the actual heat level which the valve is adjusted

Valid Range

State	Value	Equivalent Percent	Actual or Requested Fan State
	Actual or Requested Fan Speed		
0	n/a	n/a	OFF
1	0 to 200	0.5 to 100%	ON

nvoPrgVerControl:

network output SNVT_count nvoPrgVerControl.
This output network variable show the current firmware version number from the controller
The value is formatted as 10= 1.0

nvoPrgVerDisplay:

network output SNVT_count nvoPrgVerDisplay.
This output network variable show the current firmware version number in the display
The value is formatted as 10= 1.0

nvoT1:

network output SNVT_temp_p nvoT1;
This output network variable is used to monitor the sensor T1
temperature if the unit controller provides a hardwired temperature
sensor for this purpose.

Typical Range
The typical range is -30°C to 70°C.

nvoT2:

network output SNVT_temp_p nvoT2;
This output network variable is used to monitor the sensor T2
temperature if the unit controller provides a hardwired temperature
sensor for this purpose.

Typical Range
The typical range is -30°C to 70°C.

nvoT3:

network output SNVT_temp_p nvoT3;
This output network variable is used to monitor the sensor T3 temperature if the unit controller provides a hardwired temperature sensor for this purpose.

Typical Range
The typical range is -30°C to 70°C.

nvoT4:

network output SNVT_temp_p nvoT4;
This output network variable is used to monitor the sensor T4 temperature if the unit controller provides a hardwired temperature sensor for this purpose.

Typical Range
The typical range is -30°C to 70°C.