



FLEXSYS UNDERFLOOR AIR SYSTEM

COMMISSIONING PROCEDURE

Supersedes: 130.15-COM2 (203)

Form 130.15-COM2 (404)

W7763C1081/1099 FIELD COMMISSIONING ISSUES

WARNING

The W7763C1081/1099 controller is applied as a zone controller component in the York FlexSys system. The FlexSys application requires a special York OEM configuration which is different from the default found in Honeywell field commissioning tools (LonSpec and E-Vision) as well as third party tools using the Honeywell W7763 LonMark Plug-In. Please note that the York International warranty, for the W7763, is voided if a field technician reconfigures the W7763 back to the default application.

FIELD COMMISSIONING Q & A

- Q:** How do I verify that the W7763 is installed with the York OEM FlexSys configuration?
- A:** The York W7763C1081/1099 is factory configured with the OEM FlexSys configuration. You may verify the W7763 configuration by using the procedure outlined in Appendix A.
- Q:** Who do I contact if it is determined that the W7763 configuration does not match the York FlexSys specifications.
- A:** First Level Contact: Local York International Service Office. Phone number (800) 861-1001
- Q:** How is it possible that the custom York International, for the W7763C1081/1099, configuration has changed?
- A:** Typically there are three scenarios resulting in changes to the W7763 OEM configuration.
1. An uniformed field technician uses a Lon based commissioning tool (LonSpec, E-Vision or Third Party) to modify (monitor ... verify) the W7763. During this process, the technician mistakenly commissions the W7763 with the generic default configuration.
 2. A field technician uses a Third Party tool to

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change the W7763 SubNet/Node ID. During the SubNet/Node assignment process, it is possible to overlook a tool setting, which results in a SubNet/Node assignment accompanied with configuration back to the W7763 generic application.

3. A field technician uses the NODEUTIL tool to execute a W7763 Node Mode Reset or State Change. NODEUTIL is a simple DOS-based utility that can be used to diagnose and configure LONWORKS network interface nodes, LONWORKS routers, and application nodes.

- Q:** Which Honeywell Tool is available to verify and change the W7763 SubNet/Node ID assignment.
- A:** LonSpec is the Honeywell Tool used to configure, commission, calibrate and monitor the Excel 10 and Excel 15 family of controllers (XL15A/W7760a, W7763 & W7762). It can also be used to modify existing networks, create reports, monitor network groups, and read alarms and logs. Please note that LonSpec is not a system integration tool and therefore does not support 3rd party controller commissioning tasks or individual assignment of SubNet/Node IDs. Refer to Appendix B for a detailed procedure to change the SubNet ID and eliminate duplicate Node assignments.

Q: Where do I get the E-Vision or LonSpec project backup for the York FlexSys System OEM configuration Library?

A: Contact Name: Local York International Service Office. Phone number: (800) 861-1001.

Q: Someone on the job has connected a Lon based tool and has reconfigured one or more of the FlexSys System W7763 controllers. The new configuration does not match the York OEM specification in Appendix C. What do I do?

A: First Level Contact: The Local York International Service Office. Phone number (800) 861-1001.

Q: How do I wire the terminals for the W7763 device?

A: Use the project specific York International drawings, utilizing York PAP thermostat cables and following colorcodes as noted on York literature.

Q: Who do I contact if I feel the project specific W7763 connection drawings are incorrect?

A: First Level Contact: The Local York International Service Office. Phone number (800) 861-1001.

Q: I noticed that in some of the Honeywell documentation, there are terminals labeled: (COM 2, 3), (COM 1) and (24VAC COM). Is it possible to connect the (24VAC COM) transformer power supply wire to the input sensor common terminals (COM 2, 3) or (COM 1)?

A: No, it is not possible to change the connection of the 24 VAC COM as indicated on the York project drawings. Failure to follow the York FlexSys project electrical wiring diagrams will result in voiding the York W7763 warranty.

APPENDIX A

Using Honeywell LonSpec to Verify W7763 Configuration

LonSpec version 3.1.3 or 4.x is required to configure and commission W7763 controllers.

1. Start LonSpec and create a new project using the customer name.
2. Open the new project, create a new network using the command sequence: Network, New.
3. Create a physical Ebus connection between the LonSpec Tool and the W7763C controller.
4. Power up the W7763C controller with 24VAC.
5. Change LonSpec to the online mode using the command sequence: Network, Connect.

6. Discover the W7763 controllers using the command sequence: Network, Create Network.
7. LonSpec displays a list of discovered W7763 devices.
8. Check the Add column for each W7763 and click Update Network.
9. Transfer the configuration parameters from the W7763C to the LonSpec Tool Database using the command sequence: Controller, Upload, Available Controllers: W7763C_1 ... W7763_n, Add, Start.
10. Verify the Upload Controllers Status Window Indicates: W7763C_1 Uploaded.
11. Logically disconnect the network using the command sequence: Network, Disconnect.
12. Review the W7763C controller configuration using the command sequence: Controller, Application Selection, W7763C_1, OK.
13. Verify this configuration with the York FlexSys document in Appendix C.

APPENDIX B

Using Honeywell LonSpec to Set W7763 SubNet/ Node ID

LonSpec version 3.1.3 or 4.x is required to configure and commission W7763 controllers. Version 3.1.3 has been tested and supports W7763 features identified in the York document "W7763 Configuration For FlexSys Applications". Additional W7763 configuration features are unsupported in LonSpec Version 3.1.3. E-Vision or LonSpec 4.x can be used to fully configure all features of the W7763 controller.

1. Connect LonSpec to each channel and perform an Online Status Report.
2. Use the Online Status Report to:
 - Verify devices connected to the Channel.
 - Identify duplicate node IDs.
 - Identify invalid Subnet IDs.
 - Identify Domain ID assignments.
 - Record the neuron ID for each MITI2/XL15a device. Note this is required if user chooses not to use the service pin method for the ID assignment task.
 - Count and record the number of MITI2/XL15a devices connected to the channel.
3. Reset the ID of all devices with a duplicate (0/0 is not considered a duplicate) subnet/node ID. Use the

following Online Status Report command sequence to reset the ID: Select device with duplicate ID, mouse click “Reset Subnet/Node ID” button.

4. If the job includes MITI2 devices, restore LonSpec project “York UF Library”. The York UF Library project includes “York” configured MITI2/XL15a and W7763/CHC controls.
 - Rename the project using a customer specific name.
 - Delete unneeded MITI2/XL15a and all W7763 CHC model devices.
 - Replicate the required number of MITI2/XL15a model devices based on the recorded number obtained from the Online Status Report.
 - Assign neuron IDs to each MITI2/XL15a device using the online Service Pin method or the offline device edit procedure. A neuron ID list can be obtained from the LonSpec Online Status Report.
5. If the job does not include MITI2 devices, create a new LonSpec project using a customer specific
 - Create a network within the project using the command sequence: Network, New.
 - Logically and physically connect to the network.
 - Discover the W7763 controllers using the command sequence: Network, Create Network.
 - LonSpec displays a list of discovered W7763 devices.
 - Check the Add column for each W7763 and click Update Network.
 - Transfer the configuration parameters from the W7763C to the LonSpec Tool Database using the command sequence: Controller, Upload, AvailableControllers: W7763C_1... W7763_n, Add, Start.
6. Backup the project using a file name associated with the customer project.
7. Use LonSpec to commission all W7763 and MITI-2 controllers.

APPENDIX C

USING NODEUTIL OR LONMAKER WITH W7763

NODEUTIL

NODEUTIL - LONWORKS® Node Configuration Utility. NODEUTIL is a simple DOS-based utility that can be used to diagnose and configure LONWORKS network interface nodes, LONWORKS routers, and application nodes.

- A (R)eboot command will return the W7763 to the factory default configuration. This results in the changes to custom York configuration.

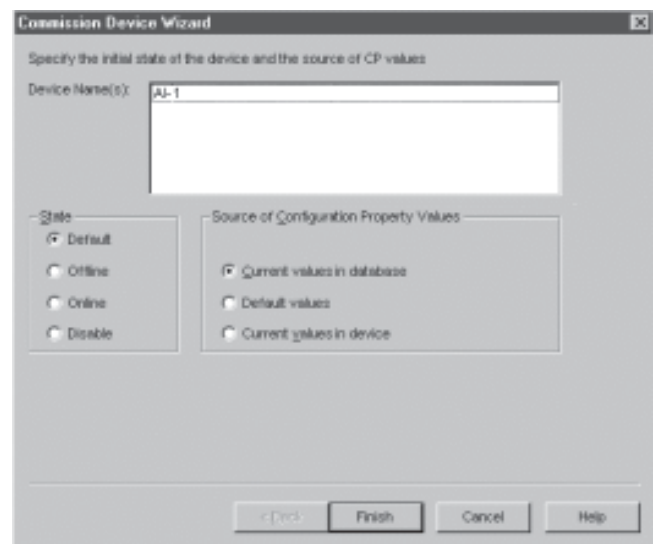
```

NODEUTIL> (H)elp with commands
A -- (A)dd node to list.
D -- Set the (D)omain of the network interface.
E -- (E)xit this application and return to DOS.
F -- (F)ind nodes in the current domain.
G -- (G)o to node menu.....
H -- (H)elp with commands.
L -- Display node (L)ist.
M -- Change node (M)ode or state.
O -- Redirect (O)utput to a file.
P -- Send a service (P)in message.
R -- (R)eboot 3150 node.
S -- Report node (S)tatus and statistics.
T -- (T)ransceiver parameters.
V -- Control (V)erbose nodes.
W -- (W)ink a node.
Z -- Shell out to DOS.
NODEUTIL> (R)eboot 3150 node
Enter node id for reboot (0-1) [1] :1
*** Nauren 3150: Rebooting will reset comm. params, node state
on-chip EEPROM variables and buffer configuration.
Are you sure you really want to do this? (Y/N):Y
Successfully rebooted node
NODEUTIL> Received an ID message from node 1.
NODEUTIL>
  
```

LonMaker

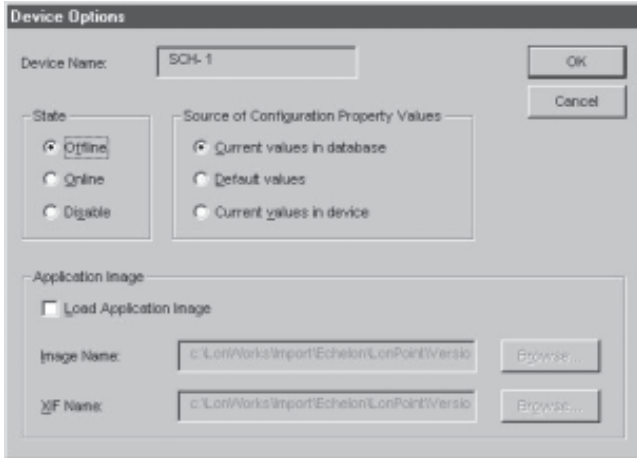
The LonMaker Integration Tool is a PC based application for designing, installing, operating and maintaining multi-vendor interoperable Lon networks.

Example 1



The user must select “Current values in device” in order to avoid changing the custom York W7763 configuration.

Example 2



The user must select “Current values in device” in order to avoid changing the custom York W7763 configuration.

Example 3



The user must select “Upload values from device” in order to avoid changing the custom York W7763 configuration.

APPENDIX D

W7763 CONFIGURATION FOR FLEXSYS APPLICATIONS:

General:

The W77631081 and W77631099 as shipped from the factory have default programs **specifically configured for FlexSys applications**.

It should be noted **this is not** the standard application that would typically be downloaded by the Honeywell E-vision software. E-vision can be used to configure W7763 thermostats to a large variety of HVAC applications including the FlexSys application, however the default program in E-vision **is not** the FlexSys application. A contractor connecting to a W7763 with E-vision must know the specific configuration for the FlexSys application or E-vision will automatically download an inappropriate application that will cause the W7763 to appear to fail.

Unique to the FlexSys application is the nominal 7-minute drive time for the floating actuator on the MIT boxes, and tri-state control of two contacts for Fan and two steps of heat (W77631081) or floating control of perimeter radiation for heat (W77631099). The following are the recommended configurations for W7763 thermostats applied to FlexSys applications. The configurations marked “Standard” are the application programs as shipped from the York factory, and should be provided to any contractor attempting to communicate with the W7763 using E-vision. The applications marked “with Occupancy Bypass” are the application changes (using E-vision software) that are recommended to activate the after-hours override button.

W77631081 STANDARD FLEXSYS APPLICATION:

FOR USE WITH MIT AND MFT 1-2 STEPS HEAT

Output		
Application	Safety	CEIL_NO_PROTECT
	System	FOUR_PIPE
Control Output 1	Mode	OUTP_HEATING
	Type	THREE_STAGE
Control Output 2	Mode	OUTP_COOLING
	Type	FLOATING

Input		
Controller / Wall Module	Space Temp Sensor	YES
	Override Button	NO_BYPASS
	LED/LCD	LED_OVERRIDE
	Setpoint Knob	Relative
	Setpoint Limit Min	- 5 DDF
	Setpoint Limit Max	+ 5 DDF
Input Points	Analog Input 1	DI_NOT_USED
	Analog Input 2	AI2_NOT_USED
	Analog Input 3	AI3_NOT_USED

Equipment Control		
Output Options	Output 1 Valve Direction	DIRECT
	Output 1 Min Stage Off Time	180 sec
	Output 1 Min On/Valve Runtime	180 sec
	Output 2 Valve Direction	DIRECT
	Output 2 Min Stage Off Time	90 sec
	Output 2 Valve Runtime	450 sec
	PWM Options	Zero
Full		100 %

Switching Levels		
Switching Levels	Cooling First Stage	5 %
	Cooling Second Stage	50 %
	Cooling Third Stage	75 %
	Cooling Hysteresis	10 %
	Heating First Stage	5 %
	Heating Second Stage	50 %
	Heating Third Stage	75 %
	Heating Hysteresis	10 %

NOTE:

Black Color = Standard e-vision default

Black Color = Change

Grey Color = Not relevant for that configuraton

Zone Options		
Temperature Setpoints	Cooling Occupied	75.0 °F
	Cooling Standby	77.0 °F (25.00°C)
	Cooling Unoccupied	82.0 °F (27.78°C)
	Heating Occupied	73.0 °F (21.11°C)
	Heating Standby	66.0 °F (18.89°C)
	Heating Unoccupied	65.0 °F (16.11°C)
Dewpoint Setpoints	Dewpoint Setpoint	95.0 °F (35.0°C)
	Dewpoint Safety	1.8 DDF (1.0 K)

Miscellaneous		
Miscellaneous	Bypass Time	180 min
	Override Priority	LAST_WINS
Energy Management	DLC Stpt Bump	4.0 DDF (2.22K)
	Cool. Rec. Ramp	0 DDF/h
	Heat. Rec. Ramp	0 DDF/h

PID		
PID	Cooling Proportional Band	7.0 DDF (3.89K)
	Cooling Reset Time	300 s
	Cooling Derivative Time	0 s
	Heating Proportional Band	7.0 DDF (3.89K)
	Heating Reset Time	300 s
	Heating Derivative Time	0 s
Thermal Switch/PID Boost	Cooling Boost Temp	2.0 DDF (1.11K)
	Heating Boost Temp	2.0 DDF (1.11K)

NOTE:

Black Color = Standard e-vision default

Black Color = Change

Grey Color = Not relevant for that configuraton

W77631099 STANDARD FLEXSYS APPLICATION:

FOR USE WITH MIT AND FLOATING WATER VALVE (PERIMETER RADIATION)

Output		
Setting		
Application	Safety	CEIL_NO_PROTECT
	System	FOUR_PIPE
Control Output 1	Mode	OUTP_HEATING
	Type	FLOATING
Control Output 2	Mode	OUTP_COOLING
	Type	FLOATING

Input		
Setting		
Controller / Wall Module	Space Temp Sensor	YES
	Override Button	NO_BYPASS
	LED/LCD	LED_OVERRIDE
	Setpoint Knob	Relative
	Setpoint Limit Min	- 5 DDF
	Setpoint Limit Max	+ 5 DDF
Input Points	Analog Input 1	DI_NOT_USED
	Analog Input 2	AI2_NOT_USED
	Analog Input 3	AI3_NOT_USED

Equipment Control		
Setting		
Output Options	Output 1 Valve Direction	DIRECT
	Output 1 Min Stage Off Time	(90 sec)
	Output 1 Valve Runtime	90 sec
	Output 2 Valve Direction	DIRECT
	Output 2 Min Stage Off Time	(90 sec)
	Output 2 Valve Runtime	450 sec
PWM Options	Zero	(0 %)
	Full	(100 %)

Switching Levels		
Setting		
Switching Levels	Cooling First Stage	(5 %)
	Cooling Second Stage	(50 %)
	Cooling Third Stage	(75 %)
	Cooling Hysteresis	(10 %)
	Heating First Stage	(5 %)
	Heating Second Stage	(50 %)
	Heating Third Stage	(75 %)
	Heating Hysteresis	(10 %)

NOTE:

Black Color = Standard e-vision default

Black Color = Change

Grey Color = Not relevant for that configuraton

Zone Options		
Setting		
Temperature Setpoints	Cooling Occupied	75.0 °F (23.33°C)
	Cooling Standby	77.0 °F (25.00°C)
	Cooling Unoccupied	82.0 °F (27.78°C)
	Heating Occupied	73.0 °F (21.11°C)
	Heating Standby	66.0 °F (18.89°C)
	Heating Unoccupied	65.0 °F (16.11°C)
Dewpoint Setpoints	Dewpoint Setpoint	95.0 °F (35.0°C)
	Dewpoint Safety	1.8 DDF (1.0 K)

Miscellaneous		
Setting		
Miscellaneous	Bypass Time	180 min
	Override Priority	LAST_WINS
Energy Management	DLC Stpt Bump	4.0 DDF (2.22K)
	Cool. Rec. Ramp	0 DDF/h
	Heat. Rec. Ramp	0 DDF/h

NOTE:

Black Color = Standard e-vision default

Black Color = Change

Grey Color = Not relevant for that configuraton

W7763 CONFIGURATION FOR USE OF OVERRIDE BUTTON:**General**

Several options are available for setting up the Pushbutton for after-hours-override. To keep it simple for the occupant it is recommended that the option for override back to “Occupied” set points when the central BAS has the unit in the “Unoccupied Mode” be the option selected. However, the option for the occupant to switch the unit to the unoccupied mode when the BAS is in “Occupied” mode will also be discussed.

Settings: (Using “E-VISION” software)

1. Under “INPUT”. The selection for Override Button currently is “No-BUTTON” Change this to “BYPASS”. (Changing it to “Bypass-Unoccupied” would allow the occupant to switch to occupied or unoccupied but this probably will cause confusion for the average occupant.)
2. Under “INPUT” The selection for LED/LCD Display is currently not relevant. Change it to “LED_OCCUPANCY” This will cause the LED to light whenever the thermostat is in the Occu-

piated mode. If the LED is off because the BAS has the system in the Unoccupied Mode, pushing the override button will cause the Thermostat to return to the occupied setting and the LED to light. Pushing the button for 4 seconds will cancel the override timer and turn the LED off. NOTE: If “Bypass-Unoccupied” was selected in (1) above, the option for LED/LCD display should be “LED_OVERRIDE”. With this selection, the LED will flash when overridden to “Unoccupied”, be off in normal occupancy and on steady when in the Override Occupied Mode.(Not Recommended)

Under “Miscellaneous” the “BYPASS TIME” has a default of 180 Minutes for 3 hours of override when the occupant depresses the button when the BAS has the system in the Unoccupied mode. Change this to whatever the owner desires (typically 60 or 120 minutes).

3. Under “Miscellaneous” the “BYPASS TIME” has a default of 180 Minutes for 3 hours of override when the occupant depresses the button when the BAS has the system in the Unoccupied mode. Change this to whatever the owner desires (typically 60 or 120 minutes).

FOR USE WITH MFT 1-2 STEPS HEAT (W/UNOCCUPIED BYPASS)

Output		
Application	Safety	CEIL_NO_PROTECT
	System	FOUR_PIPE
Control Output 1	Mode	OUTP_HEATING
	Type	THREE_STAGE
Control Output 2	Mode	OUTP_COOLING
	Type	FLOATING

Input		
Controller / Wall Module	Space Temp Sensor	YES
	Override Button	BYPASS
	LED/LCD	LED_OCCUPANCY
	Setpoint Knob	Relative
	Setpoint Limit Min	- 5 DDF
	Setpoint Limit Max	+ 5 DDF
Input Points	Analog Input 1	DI_NOT_USED
	Analog Input 2	AI2_NOT_USED
	Analog Input 3	AI3_NOT_USED

Equipment Control		
Output Options	Output 1 Valve Direction	DIRECT
	Output 1 Min Stage Off Time	180 sec
	Output 1 Min On/Valve Runtime	180 sec
	Output 2 Valve Direction	DIRECT
	Output 2 Min Stage Off Time	90 sec
	Output 2 Valve Runtime	450 sec
PWM Options	Zero	0 %
	Full	100 %

Switching Levels		
Switching Levels	Cooling First Stage	5 %
	Cooling Second Stage	50 %
	Cooling Third Stage	75 %
	Cooling Hysteresis	10 %
	Heating First Stage	5 %
	Heating Second Stage	50 %
	Heating Third Stage	75 %
	Heating Hysteresis	10 %

NOTE:

Black Color = Standard e-vision default

Black Color = Change

Grey Color = Not relevant for that configuraton

Zone Options		
Temperature Setpoints	Cooling Occupied	75.0 °F
	Cooling Standby	77.0 °F (25.00°C)
	Cooling Unoccupied	82.0 °F (27.78°C)
	Heating Occupied	73.0 °F (21.11°C)
	Heating Standby	66.0 °F (18.89°C)
	Heating Unoccupied	65.0 °F (16.11°C)
Dewpoint Setpoints	Dewpoint Setpoint	95.0 °F (35.0°C)
	Dewpoint Safety	1.8 DDF (1.0 K)

Miscellaneous		
Miscellaneous	Bypass Time	180 min
	Override Priority	LAST_WINS
Energy Management	DLC Stpt Bump	4.0 DDF (2.22K)
	Cool. Rec. Ramp	0 DDF/h
	Heat. Rec. Ramp	0 DDF/h

PID		
PID	Cooling Proportional Band	7.0 DDF (3.89K)
	Cooling Reset Time	300 s
	Cooling Derivative Time	0 s
	Heating Proportional Band	7.0 DDF (3.89K)
	Heating Reset Time	300 s
	Heating Derivative Time	0 s
Thermal Switch/PID Boost	Cooling Boost Temp	2.0 DDF (1.11K)
	Heating Boost Temp	2.0 DDF (1.11K)

NOTE:

Black Color = Standard e-vision default

Black Color = Change

Grey Color = Not relevant for that configuraton

FOR USE WITH MIT AND FLOATING WATER VALVE (PERIMETER RADIATION W/UNOCCUPIED BYPASS)

Output		
Setting		
Application	Safety	CEIL_NO_PROTECT
	System	FOUR_PIPE
Control Output 1	Mode	OUTP_HEATING
	Type	FLOATING
Control Output 2	Mode	OUTP_COOLING
	Type	FLOATING

Input		
Setting		
Controller / Wall Module	Space Temp Sensor	YES
	Override Button	BYPASS
	LED/LCD	LED_OCCUPANCY
	Setpoint Knob	Relative
	Setpoint Limit Min	- 5 DDF
	Setpoint Limit Max	+ 5 DDF
Input Points	Analog Input 1	DI_NOT_USED
	Analog Input 2	AI2_NOT_USED
	Analog Input 3	AI3_NOT_USED

Equipment Control		
Setting		
Output Options	Output 1 Valve Direction	DIRECT
	Output 1 Min Stage Off Time	(90 sec)
	Output 1 Valve Runtime	90 sec
	Output 2 Valve Direction	DIRECT
	Output 2 Min Stage Off Time	(90 sec)
	Output 2 Valve Runtime	450 sec
PWM Options	Zero	(0 %)
	Full	(100 %)

Switching Levels		
Setting		
Switching Levels	Cooling First Stage	(5 %)
	Cooling Second Stage	(50 %)
	Cooling Third Stage	(75 %)
	Cooling Hysteresis	(10 %)
	Heating First Stage	(5 %)
	Heating Second Stage	(50 %)
	Heating Third Stage	(75 %)
	Heating Hysteresis	(10 %)

NOTE:

Black Color = Standard e-vision default

Black Color = Change

Grey Color = Not relevant for that configuraton

Zone Options		
Setting		
Temperature Setpoints	Cooling Occupied	75.0 °F (23.33°C)
	Cooling Standby	77.0 °F (25.00°C)
	Cooling Unoccupied	82.0 °F (27.78°C)
	Heating Occupied	73.0 °F (21.11°C)
	Heating Standby	66.0 °F (18.89°C)
	Heating Unoccupied	65.0 °F (16.11°C)
Dewpoint Setpoints	Dewpoint Setpoint	95.0 °F (35.0°C)
	Dewpoint Safety	1.8 DDF (1.0 K)

Miscellaneous		
Setting		
Miscellaneous	Bypass Time	180 min
	Override Priority	LAST_WINS
Energy Management	DLC Stpt Bump	4.0 DDF (2.22K)
	Cool. Rec. Ramp	0 DDF/h
	Heat. Rec. Ramp	0 DDF/h

PID		
Setting		
PID	Cooling Proportional Band	7.0 DDF (3.89K)
	Cooling Reset Time	300 s
	Cooling Derivative Time	0 s
	Heating Proportional Band	7.0 DDF (3.89K)
	Heating Reset Time	300 s
	Heating Derivative Time	0 s
Thermal Switch/PID Boost	Cooling Boost Temp	2.0 DDF (1.11K)
	Heating Boost Temp	2.0 DDF (1.11K)

NOTE:

Black Color = Standard e-vision default

Black Color = Change

Grey Color = Not relevant for that configurator

