SE7600 User Interface Guide

User Guide for HVAC Applications

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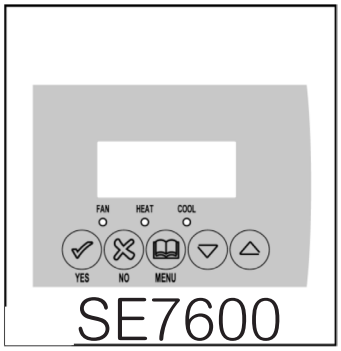
Schneider Electric

USER INTERFACE

User configuring instructions menu

The SE7600 series of Room Controller feature an intuitive, menu-driven, back-lit LCD display that walks users through the configuring steps, making the configuring process extremely simple. This menu is typically accessed by the user to set the parameters such as temperature and time events, system mode, fan mode, etc.



It is possible to bring up the user menu at any time by depressing the MENU key. The status display automatically resumes after exiting the user-configuring menu.

If the user pauses at any given time during configuring, Auto Help text is displayed to help and guide the user through the usage and configuring of the Room Controller.

Ex.:	Press yes key to change cooling temperature setpoint Use the up or down arrow to adjust cooling setpoint

Local keypad interface

Each of the sections in the menu is accessed and configured using 5 keys on the Room Controller cover.

The priority for the alarms is as follows:

YES	The YES key is used to confirm a selection, to move onto the next menu item and to manually scroll through the displayed information.
NO	The NO key is used when you do not desire a parameter change, and to advance to the next menu item. Can also be used to toggle between heating and cooling setpoints.
MENU	The MENU key is used to access the Main User Menu or exit the menu.
	The down arrow key is used to decrease temperature setpoint and to adjust the desired values when configuring the Room Controller.
	The up arrow key is used to increase temperature setpoint and to adjust the desired values when configuring the Room Controller.

When left unattended for 45 seconds, the display will resume automatic status display scrolling.

To turn on the back light, press any key on the front panel. The back lit display will turn off when the Room Controller is left unattended for 45 seconds

Sequence of user menu:

OVERRIDE RESUME	TEMPERATURE SETPOINTS	SYSTEM MODE SETTING	FAN MODE SETTING	SCHEDULES SETTING	CLOCK SETTING	SCHEDULE HOLD
Override schd Y/N	Temperat Set Y/N	Sys mode set Y/N	Fan mode set Y/N	Schedule set Y/N	Clock set Y/N	Schedule hold Y/N
Override schd Y/N						Appears only on stand-alone (Network Ready) models
Appears only in unoccupied mode						
Cancel ovrd Y/N						
Appears only in override mode						

Occupied setpoints adjustments

There is a default profile set in the Room Controller from the factory.

This enables the Room Controller to operate as a non-scheduling unit in day mode operation at start up.

DEFAULT TEMPERATURE SETPOINTS:
Occupied cooling setpoint = 24 °C (75 °F)
Occupied heating setpoint = 22 °C (72 °F)
Unoccupied cooling setpoint = 28 °C (82°F)
Unoccupied heating setpoint = 18 °C (65°F)
Fahrenheit scale
Setpoint type = permanent

DEFAULT MODES:
System mode = Auto
Fan mode = Smart (for models with a communication module or scheduling network ready models) Fan mode = Auto (for non-scheduling network ready models)
DEFAULT SCHEDULES:
Monday through Sunday
Occupied time is: 12 00 AM
Unoccupied time is: 11:59 PM

There will be a 1 minute unoccupied period every night at 11:59 PM with this default configuration.

A) Override an unoccupied period

Override schd Y/N

This menu will appear only when the Room Controller is in unoccupied mode. The unoccupied mode is enabled either by the internal timer scheduling or by a remote NSB contact via DI1 or DI2.

If DI1 or DI2 is configured to operate as a remote temporary override contact, this menu will be disabled.

Answering yes to this prompt will cause the Room Controller to go into occupied mode for an amount of time equal to the parameter “TOccTime” (1 to 12 hours).

B) Resume regular scheduling

Cancel ovrd Y/N

This menu does not appear in regular operation. It will appear only when the Room Controller is in Unoccupied override mode.

Answering “Yes” to this question will cause the Room Controller to resume the regular setpoints & scheduling.

C) Temperature setpoints

Permanent setpoint changes

Temperat set Y/N

This menu permits the adjustment of all permanent temperature setpoints (occupied and unoccupied) as well as the desired temperature units (°F or °C). Permanent setpoints are written to RAM and EEPROM.

Cooling setpoint Occupied mode		Heating setpoint Occupied mode		Cooling setpoint Unoccupied mode		Heating setpoint Unoccupied mode		°F or °C display setting	
Cooling set? Y/N	No next → Yes down ↓	Heating set? Y/N	No next → Yes down ↓	Unocc CL set? Y/N	No next → Yes down ↓	Unocc HT set? Y/N	No next → Yes down ↓	°F or °C set? Y/N	No next → Yes down ↓

Use ▲▼ keys to set value, Yes key to confirm

Cooling setpoint Occupied mode		Heating setpoint Occupied mode		Cooling setpoint Unoccupied mode		Heating setpoint Unoccupied mode		°F or °C display setting	
Cooling 70.0 °F	Use ▲▼ To set value	Heating 68.00 °F	Use ▲▼ To set value	Unocc CL 80.0 °F	Use ▲▼ To set value	Unocc HT 60.0 °F	Use ▲▼ To set value	Units °F	Use ▲▼ To set value

Temporary setpoint changes

Temporary setpoints can be modified through the Up arrow key (▲) and the Down arrow keys (▼).
User will be prompted with the present mode (Heating or Cooling) of the Room Controller and its setpoint.
The Up (▲) arrow key will increment the setpoint by 0.5 degree (F or C).
The Down (▼) arrow key will decrement the setpoint by 0.5 degree (F or C).

Press the Yes key to accept the new setpoint.
Local changes to the heating or cooling setpoints made by the user directly using the up or down arrow are temporary.
They will remain effective for the duration specified by ToccTime.
Setpoints will revert back to their default value after internal timer ToccTime expires.
If a permanent change to the setpoints is required, use the **Temperat set ?** menu

D) System mode setting

Sys mode set Y/N

This menu is accessed to set system mode operation
Use ▲▼ to set value, Yes key to confirm

Sys mode auto	**Automatic mode** Automatic changeover mode between heating and cooling operation
Sys mode cooling	**Cooling mode** Cooling operation mode only
Sys mode heating	**Heating mode** Heating operation mode only
Sys mode emergency	**Emergency heat mode** (heat pump models only) Forced auxiliary heat operation mode only
Sys mode off	**Off mode** Normal cooling or heating operation disabled If enabled in installer parameters, only the automatic heating frost protection at 50 °F (10 °C) is enabled

E) Fan mode setting

Fan mode set Y/N

This section of the menu is permits the setting of the fan mode operation.
Use ▲▼ to set value, Yes key to confirm.

Fan mode On	**On fan mode** Fan is on continuously, even when system mode is OFF.
Fan mode Auto	**Automatic fan mode** Fan cycles on a call for heating or cooling for both occupied & unoccupied periods.

Fan mode Smart	**Smart fan mode** During occupied periods, fan is on continuously. In unoccupied mode, fan cycles on a call for heating or cooling. This selection is available on all models with a communication module, on all stand-alone (Network Ready) scheduling models or if DI1 or DI2 is set to RemNSB on stand-alone non-scheduling models.

F) Schedule set (2 events)

Scheduling can have 2 or 4 events per day. This is set in the configuration menu as per parameter (2/4 event)

Schedule set Y/N

This section of the menu permits the user to set the whether 2 or 4 events is needed.

Each day can be tailored to specific schedules if needed.

- 2 events can be scheduled per day.
- Occupied and unoccupied periods can be set for each day.

Monday timer Schedule set		Tuesday timer Schedule set		Wednesday timer Schedule set		Other days are identical
Monday set? Y/N	No next → Yes down ↓	Tuesday set? Y/N	No next → Yes down ↓	Wednesda set? Y/N	No next → Yes down ↓	Selects the day to be programmed or modified
Yes key to access day scheduling, No key to jump to next day						
Occupied Day? Y/N	No next → Yes down ↓	Occupied Day? Y/N	No next → Yes down ↓	Occupied Day? Y/N	No next → Yes down ↓	Yes = Daily schedules will be accessed No = Unoccupied mode all day
Yes key to access day scheduling, No key to jump to next day						
		Copy Y/N Previous	Yes next → No down ↓	Copy Y/N Previous	Yes next → No down ↓	Yes = Will copy previous day schedule No = Daily schedules will be accessed
Yes key to copy previous day, No key to set new time value for each day						
Occupied 00:00 AM	Use ▲▼ To set value	Occupied 00:00 AM	Use ▲▼ To set value	Occupied 00:00 AM	Use ▲▼ To set value	Sets Event # 1 Occupied time Will activate occupied setpoints
Use ▲▼ to set value, Yes key to confirm						
Unoccup 00:00 AM	Use ▲▼ To set value	Unoccup 00:00 AM	Use ▲▼ To set value	Unoccup 00:00 AM	Use ▲▼ To set value	Sets Event # 2 Unoccupied time Will activate unoccupied setpoints
Use ▲▼ to set value, Yes key to confirm						

Typical examples of a 2 event office schedule

Ex. #1 Office building closed all weekend

Event	Period #1 - Event #1		Period #1 - Event #2		
	Occupied		Unoccupied		
Setpoint	Cool 72 °F	Heat 70 °F	Cool 80 °F	Heat 62 °F	Daily Occupancy
Monday	7.00 AM		6.00 PM		Day time only
Tuesday	7.00 AM		6.00 PM		Day time only
Wednesday	7.00 AM		6.00 PM		Day time only
Thursday	7.00 AM		6.00 PM		Day time only
Friday	7.00 AM		6.00 PM		Day time only
Saturday	12.00 PM *		12.00 PM *		Unoccupied
Sunday	12.00 PM *		12.00 PM *		Unoccupied

* Programming consecutive events to the same time will cause the thermostat to choose the last event as the time at which it will set its schedule. In the above example, the thermostat will control to the unoccupied set point until 7:00 AM Monday.

Ex. #2 Office building open all weekend

Event	Period #1 - Event #1		Period #1 - Event #2		
	Occupied		Unoccupied		
Setpoint	Cool 72 °F	Heat 70 °F	Cool 80 °F	Heat 62 °F	Daily Occupancy
Monday	7.00 AM		6.00 PM		Day time only
Tuesday	7.00 AM		6.00 PM		Day time only
Wednesday	7.00 AM		6.00 PM		Day time only
Thursday	7.00 AM		6.00 PM		Day time only
Friday	7.00 AM		6.00 PM		Day time only
Saturday	12.00 AM		11.59 PM **		Occupied
Sunday	12.00 AM		11.59 PM **		Occupied

** To program a day as occupied for 24 hours, set that day Occupied time to 12:00 AM and Unoccupied time to 11:59 PM There will be a 1 minute unoccupied period every night at 11:59 PM with this schedule configuration.

Note: 12:00 PM = Noon
12:00 AM = Midnight

G) Schedule set (4 events)

Schedule set Y/N

This section of the menu permits the user to set the whether 2 or 4 events is needed. Each day can be tailored to specific schedules if needed.

- 4 events can be scheduled per day.
- Occupied and Unoccupied periods can be set for each day.
- Scheduling the 3rd. & 4th. Events to the same time will cancel the last period.

Monday timer Schedule set		Tuesday timer Schedule set		Wednesday timer Schedule set		Other days are identical
Monday set? Y/N	No next → Yes down ↓	Tuesday set? Y/N	No next → Yes down ↓	Wednesda set? Y/N	No next → Yes down ↓	Selects the day to be programmed or modified
Yes key to access day scheduling, No key to jump to next day						
Occupied Day? Y/N	No next → Yes down ↓	Occupied Day? Y/N	No next → Yes down ↓	Occupied Day? Y/N	No next → Yes down ↓	Yes = Daily schedules will be accessed No = Unoccupied mode all day
Yes key to access day scheduling, No key to jump to next day						
		Copy Y/N Previous	Yes next → No down ↓	Copy Y/N Previous	Yes next → No down ↓	Yes = Will copy previous day schedule No = Daily schedules will be accessed
Yes key to copy previous day, No key to set new time value for each day						
Occupied 00:00 AM	Use ▲▼ To set value	Occupied 00:00 AM	Use ▲▼ To set value	Occupied 00:00 AM	Use ▲▼ To set value	Sets Event # 1 Occupied time Will activate occupied setpoints
Use ▲▼ to set value, Yes key to confirm						
Unoccup 00:00 AM	Use ▲▼ To set value	Unoccup 00:00 AM	Use ▲▼ To set value	Unoccup 00:00 AM	Use ▲▼ To set value	Sets Event # 2 Unoccupied time Will activate unoccupied setpoints
Use ▲▼ to set value, Yes key to confirm						
Occupie2 00:00 AM	Use ▲▼ To set value	Occupie2 00:00 AM	Use ▲▼ To set value	Occupie2 00:00 AM	Use ▲▼ To set value	Sets Event # 3 Occupied time Will activate occupied setpoints
Use ▲▼ to set value, Yes key to confirm						
Unoccu2 00:00 AM	Use ▲▼ To set value	Unoccu2 00:00 AM	Use ▲▼ To set value	Unoccu2 00:00 AM	Use ▲▼ To set value	Sets Event # 4 Unoccupied time Will activate unoccupied setpoints
Use ▲▼ to set value, Yes key to confirm						

Ex. #1 Four event retail establishment schedule

Event	Period #1 - Event #1		Period #1 - Event #2		Period #2 - Event #3		Period #2 - Event #4		
	Occupied		Unoccupied		Occupied		Unoccupied		
Setpoint	Cool 72 °F	Heat 70 °F	Cool 80 °F	Heat 62 °F	Cool 72 °F	Heat 70 °F	Cool 80 °F	Heat 62 °F	Daily Occupancy
Monday	7.00 AM		5.00 PM		12.00 PM *		12.00 PM *		Day time only
Tuesday	7.00 AM		5.00 PM		12.00 PM *		12.00 PM *		Day time only
Wednesday	7.00 AM		5.00 PM		12.00 PM *		12.00 PM *		Day time only
Thursday	7.00 AM		5.00 PM		7.00 PM		10.30 PM		Day/evening time only
Friday	7.00 AM		5.00 PM		7.00 PM		10.30 PM		Day/evening time only
Saturday	12.00 PM *		12.00 PM *		12.00 PM *		12.00 PM *		Occupied
Sunday	12.00 PM *		12.00 PM *		12.00 PM *		12.00 PM *		Occupied

* Programming events to the same time will cancel the last period and leave the thermostat in unoccupied mode

Ex. #2 Residential

Event	Period #1 - Event #1		Period #1 - Event #2		Period #2 - Event #3		Period #2 - Event #4		
	Occupied		Unoccupied		Occupied		Unoccupied		
Setpoint	Cool 72 °F	Heat 70 °F	Cool 80 °F	Heat 62 °F	Cool 72 °F	Heat 70 °F	Cool 80 °F	Heat 62 °F	Daily Occupancy
Monday	6:00 AM		8:00 AM		4:00 PM		10:00 PM		Day/evening time only
Tuesday	6:00 AM		8:00 AM		4:00 PM		10:00 PM		Day/evening time only
Wednesday	6:00 AM		8:00 AM		4:00 PM		10:00 PM		Day/evening time only
Thursday	6:00 AM		8:00 AM		4:00 PM		10:00 PM		Day/evening time only
Friday	6:00 AM		8:00 AM		4:00 PM		11:30 PM		Day/evening time only
Saturday	8:00 AM **		8:00 AM **		8:00 AM **		11:59 PM **		Day time only
Sunday	12:00 AM **		12:00 AM **		12:00 AM **		11:59 PM **		Occupied all day

** Programming consecutive events to the same time will cause the thermostat to choose the last event as the time at which it will set its schedule. In the above example for Saturday, the thermostat will control to the occupied set point from 8:00 AM until 11:59 PM. Since it is desired to be in occupied mode throughout the night, then it is necessary to program the first event on Sunday at 12:00 AM. The thermostat will force a one minute unoccupied period for a one minute period (between 11:59 PM and 12:00 AM on Saturday).

H) Clock/Day Settings

Clock
set Y/N

This section of the menu permits the user to set the time and day.

Time setting		Day setting		Time format setting	
Time set? Y/N	No next → Yes down ↓	Day set? Y/N	No next → Yes down ↓	12/24hrs set? Y/N	No = exit Yes down ↓
Time 0:00	Use ▲▼ To set value	Day Monday	Use ▲▼ To set value	12/24hrs 12 hrs	Use ▲▼ To set value

I) Schedule hold

Schedule
hold Y/N

- This menu will only appear on stand-alone (Network Ready) Room Controller, i.e. without a BACnet® Echelon® module.
- This section of the menu permits the user to set a permanent schedule hold, which bypasses the internal Room Controller scheduling.
- The permanent schedule hold function is typically used for nonscheduled events that extend for various periods of time.
- Enabling a permanent occupied or permanent unoccupied schedule hold will cancel any active override.
- The use of temporary setpoints during permanent hold is permitted. The duration of the temporary setpoint is as set per the TOccTime parameter.
- Ex. 3 hours

Use ▲▼ to set value, yes key to confirm

Schedule resume	**Resume regular scheduling** cancels the permanent hold and re-enables the regular scheduling as set per internal schedule or as per remote NSB via one of the DI's configured as remote NSB. This action can also by accomplished by using the Resume menu. Any temporary setpoint that are active will be left active for the duration of the period as set per the TOccTime parameter.
Schedule occ hold	**Hold permanent occupied** forces the Room Controller into a permanent occupied mode using the occupied setpoints. All timed scheduling functions are by-passed. The PERMANENT OCCUPIED status will appear in the automatic status scroll. To resume to regular scheduling, user must scroll to the Schedule Hold menu and select the Schedule resume option.
Schedule uno hold	**Hold permanent unoccupied** forces the Room Controller into a permanent unoccupied mode using the unoccupied setpoints. All timed scheduling functions are by-passed. The PERMANENT UNOCCUPIED status will appear in the automatic status scroll. To resume to regular scheduling, user must scroll to the Schedule Hold menu and select the Schedule resume option.

INSTALLER CONFIGURATION PARAMETER MENU

- Configuration can be done through the network or locally at the Room Controller.
- To enter configuration, press and hold the middle button “Menu” for 8 seconds
- If a password lockout is active, “Password” is prompted. Enter password value using the “up” and “down” arrows and press “Yes” to gain access to all configuration properties of the Room Controller. A wrong password entered will prevent local access to the configuration menu.
- Once in the configuration menu, press the “No” button repetitively to scroll between all the available parameters.
- When the desired parameter is displayed, press “Yes” to adjust it to the desired value using “up” and “down” arrows. Once set, press “Yes” to scroll to the next parameter.

CONFIGURATION PARAMETERS DEFAULT VALUE	SIGNIFICANCE AND ADJUSTMENTS
PswrdSet Configuration parameters menu access password Default value = **0** Range is: 0 to 1000	This parameter sets a password access to prevent unauthorized access to the configuration menu parameters. A default value of “0” will not prompt a password or lock the access to the configuration menu. Range is: 0 to 1000
Com Addr Room Controller networking address Default value = **254** Range is: 0 to 254	**Conditional parameter to BACnet® MS-TP models SE76xxX5x45B** **Conditional parameter to Wireless models SE76xxX5x45W** This parameter will only appear when a BACnet® or wireless network adapter is present. If the Room Controller is installed as a stand-alone (Network Ready) unit or with an Echelon® adapter, this parameter will not be used or displayed For BACnet® MS-TP models, the valid range to is from 1 to 127. Default value of 254 disables BACnet® communication for the Room Controller. For wireless models valid range is 0 to 254 with a maximum of 30 Room Controllers per VWG
PAN ID Personal Area Network Identification Default value = **0** Range is: 0 to 500	**Conditional parameter to Wireless models SE76xxX5x45W** This parameter will only appear when a wireless network adapter is present. If the Room Controller is installed as a stand-alone (Network Ready) unit or with a BACnet® or Echelon® adapter, this parameter will not be used or displayed. This parameter (Personal Area Network Identification) is used to link specific Room Controllers to a single specific Schneider-Electric wireless gateway (VWG). For every Room Controller reporting to a gateway (maximum of 30 Room Controllers per gateway), be sure you set the SAME PAN ID value both on the gateway and the Room Controller(s). The default value of 0 is NOT a valid PAN ID. The valid range of available PAN ID is from 1 to 500.
Channel Channel selection Default value = **10** Range is: 10 to 26	**Conditional parameter to Wireless models SE76xxX5x45W** This parameter will only appear when a wireless network adapter is present. If the Room Controller is installed as a stand-alone (Network Ready) unit or with a BACnet® or Echelon® adapter, this parameter will not be used or displayed. This parameter (Channel) is used to link specific Room Room Controllers to specific Schneider-Electric wireless gateway(s) (VWG). For every Room Room Controller reporting to a gateway (maximum of 30 Room Controllers per gateway), be sure you set the SAME channel value both on the gateway and the Room Controller(s). **Schneider-Electric recommends using only channels 15 and 25.** The default value of 10 is NOT a valid channel. The valid range of available channel is from 11 to 26

Get From Room Controller Get From another device configuration utility Default value = **0** Range is: 0 to 254	**Conditional parameter to Wireless models SE76xxX5x45W** Entering a MAC address enables an automatic routine that automatically fetches all the required configuration properties of the current device from another already configured device and copies the same required configured property values. If a value other than the default value of 255 is entered, user will then be prompted to exit the Configuration Menu thus leaving all other parameter configuration to be copied from the referenced Room Controller MAC address. Ex.: If you are currently configuring MAC12 and the settings matches exactly the settings of ZN MAC5, then enter 5 as the current parameter value. If the process is successful and all required configuration properties have been copied, the value will revert back to 255 If the process is NOT successful and all required configuration properties have NOT been copied (either the reference device is NOT the same model number or is offline or does not exists) the value will revert back to 254 to indicate the failure of the process **Leaving the Get From parameter to 255 means that every configuration parameters will be set manually.**
DI 1 Digital input no.1 configuration Default value = **None**	**(None)**: No function will be associated with the input. Input can be used for remote network monitoring. **(Rem NSB)**: remote NSB timer clock input. The scheduling will now be set as per the binary input. It provides low cost setback operation via a dry contact ▪ Contact opened = Occupied ▪ Contact closed = Unoccupied **(RemOVR):** Temporary override remote contact. Disables all override menu function of the Room Controller. The override function is now controlled by a manual remote momentarily closed contact. When configured in this mode, the input operates in a toggle mode. With this function enabled it is now possible to toggle between unoccupied & occupied setpoints for the amount of time set by parameter (TOccTime) temporary occupancy time. When Override is enabled, an Override status message will be displayed **(Filter):** a back-lit flashing Filter alarm will be displayed on the Room Controller LCD screen when the input is energized **(Service):** a back-lit flashing Service alarm will be displayed on the Room Controller LCD screen when the input is energized **(Fan lock):** a back-lit flashing Fan lock alarm will be displayed on the Room Controller LCD screen when the input is not energized. Used in conjunction with a local airflow sensor connected to the input. Locks out the Room Controller heating and cooling action if no airflow is detected 10 seconds after the fan (G terminal) is energized. Open contact = no airflow Closed contacts = airflow present
DI 2 Digital input no. 2 configuration Default value = **None**	Same as above. It is possible to configure both inputs to have the same function.
MenuScro Menu scroll Default value = **On = Scroll active**	Removes the scrolling display and displays the room temperature/humidity to the user. With this option enabled, no mode, schedule and outdoor temperature status is given. ▪ On = Scroll active ▪ Off = Scroll not active
Lockout Keypad lockout levels Default value = **0 No lock**	Removes the scrolling display and displays the room temperature/humidity to the user. With this option enabled, no mode, schedule and outdoor temperature status is given. ▪ On = Scroll active ▪ Off = Scroll not active

USER KEY FUNCTIONS								
LEVEL	Resume/ Override scheduling	Permanent Occupied and Unoccupied Setpoints	Temporary setpoints using arrows	System mode setting	Fan mode setting	Schedules setting	Clock setting	Permanent hold
0	🔓	🔓	🔓	🔓	🔓	🔓	🔓	🔓
1	🔓	🔒	🔓	🔒	🔒	🔒	🔓	🔒
2	🔒	🔒	🔒	🔒	🔒	🔒	🔓	🔒

pwr del Power-up delay Default value = **10 seconds**	On initial power up of the Room Controller (each time 24 Vac power supply is removed & re-applied) there is a delay before any operation is authorized (fan, cooling or heating). This can be used to sequence start up multiple units / Room Controller in one location. **10 to 120 seconds**
Frost pr Frost protection enabled Default value = **Off**	**Off**: no room frost protection **On**: room frost protection enabled in all system mode at: 42 °F (5.6 °C) Frost protection is enabled even in system **Off** mode **Off or On** On **heat pump** models the system mode will be forced to EMERGENCY mode if frost protection is activated
Heat max Maximum heating setpoint limit Default value = **90 °F (32 °C)**	Maximum occupied & unoccupied heating setpoint adjustment. Heating setpoint range is: 40 to 90 °F (4.5 to 32.0 °C)
Cool min Minimum cooling setpoint limit Default value = **54 °F (12 °C)**	Minimum occupied & unoccupied cooling setpoint adjustment. Cooling setpoint range is: 54 to 100 °F (12.0 to 37.5 °C)
Pband Proportional band setting Default value **2 = 2.0 °F (1.1 °C)**	Adjust the proportional band used by the Room Controller PI control loop. ⚠ Note that the default value of 2.0 °F (1.1 °C) gives satisfactory operation in most normal installation cases. The use of a proportional band different than the factory one is normally warranted in applications where the Room Controller location is problematic and leads to unwanted cycling of the unit. A typical example is a wall mounted unit where the Room Controller is installed between the return and supply air feeds and is directly influenced by the supply air stream of the unit.
Anticycle Minimum On-Off operation time for stages Default value = **2 minutes**	Minimum On-Off operation time of cooling & heating stages. IMPORTANT, anti-short cycling can be set to 0 minutes for equipment that posses their own anti cycling timer. Do not use this value unless the equipment is equipped with such internal timer. Failure to do so can damage the equipment. **0, 1, 2, 3, 4 & 5 minutes** Anti-short cycling can be set to 0 minutes for equipment that posses their own anti cycling timer. Do not use that value unless the equipment is equipped with such internal timer. Failure to do so can damage the equipment.

VALUE	°F SCALE PBAND	°C SCALE PBAND
2	**2 F**	**1.1 C**
3	**3 F**	**1.7 C**
4	**4 F**	**2.2 C**
5	**5 F**	**2.8 C**
6	**6 F**	**3.3 C**
7	**7 F**	**3.9 C**
8	**8 F**	**4.4 C**

Heat cph Heating stages cycles per hour Default value = **4 C.P.H.**	Will set the maximum number of heating stage cycles per hour under normal control operation. It represents the maximum number of cycles that the equipment will turn ON and OFF in one hour. Note that a higher C.P.H will represent a higher accuracy of control at the expense of wearing mechanical components faster. **3, 4, 5, 6,7 & 8 C.P.H.** **For multi stage models, heat cph applies to W1 & W2** **For heat pump models, heat cph applies to W1 only (Emergency heat)**
Cool cph Cooling stages cycles per hour Default value = **4 C.P.H.**	Will set the maximum number of cooling stage cycles per hour under normal control operation. It represents the maximum number of cycles that the equipment will turned on and off in one hour. Note that a higher C.P.H will represent a higher accuracy of control at the expense of wearing mechanical components faster. **3 or 4 C.P.H.** **For multi stage models, cool cph applies to Y1 & Y2** **For heat pump models, cool cph applies to Y1 & Y2 in cooling and heating independently of the reversing valve position**
Deadband Minimum deadband Default value = **2.0 °F (1.1 °C)**	The minimum deadband value between the heating and cooling setpoints. When modified, it will take effect only when any of the setpoints are modified again. Range is: **2, 3, or 4 °F, 1.0 °F increments (1.0 to 2.0 °C, 0.5 °C increments)**
Fan cont Fan control Default value = **On**	Fan control in heating mode. When selecting On; the Room Controller in all cases will always control the fan (terminal G). Valid for On or Auto fan mode When selecting Off; the fan (terminal G), when heating stages (terminals W1 & W2) are solicited, will not be energized. The fan in this case will be controlled by the equipment fan limit control. Valid only for Auto fan mode. On fan mode will leave the fan always on. ON OR OFF **For multi stage models, fan control applies to W1 & W2** **For heat pump models, fan control applies to W1 only (Emergency heat)**
Fan del Fan delay Default value = **Off**	Fan delay extends fan operation by 60 seconds after the call for heating or cooling ends. Valid only for Auto fan mode. “On” fan mode will leave the fan always on. **Off or On**
TOccTime Temporary occupancy time Default value = **2 hours**	Temporary occupancy time with occupied mode setpoints when override function is enabled. When the Room Controller is in unoccupied mode, function is enabled with either the menu or UI2 configured as remote override input. Range is: **0,1, 2, 3, 4, 5, 6, 7, 8, 9, 10, & up to 24 hours**
Cal RS Room temperature sensor calibration Default value = **0.0 °F or °C**	Offset that can be added/subtracted to the actual displayed room temperature **± 5.0 °F, (± 2.5 °C)**
Cal OS Outside air temperature sensor calibration Default value = **0.0 °F or °C**	Offset that can be added/subtracted to the actual displayed outdoor temperature. **± 5.0 °F, (± 2.5 °C)**

H stage Number of heating stages. Applicable to 2 stage models only Default value = **2 stages**	Will revert the operation of 2 stages Room Controller to single stage operation only when the second heating step is not needed. **1 or 2 stages** **For heat pump models, H stage is limited to 1 stage only (W1 – Aux. Heat)**
C stage or HP stage Number of cooling stages 2 stages model only Default value = **2 stages**	Will revert the operation of 2 stage Room Controller to single stage operation only when the second cooling step is not needed. **1 or 2 stages** **For heat pump models, HP stage selects the number of compressor stages**
H lock Outside air temperature heating lockout Default value = **120 °F (49 °C)**	Disables heating stage operation based on outdoor air temperature. Function will only be enabled if OS (outside air temperature sensor) is connected. **From -15 °F up to 120 °F (-26 °C up to 49 °C)**
C lock Outside air temperature mechanical cooling lockout. Default value = **-40 °F (- 40 °C)**	Disables cooling stage operation based on outdoor air temperature. On economizer model, free cooling will not be disabled by this function. Function will only be enabled if OS (outside air temperature sensor) is connected. **From -40 °F up to 95 °F (-40 °C up to 35 °C)**
Unocc TM Unoccupied Timer value Default **0.5 hours**	Time delay between the moment where the Room Controller toggles from occupied to unoccupied after the last movement has been detected by the PIR. Range is: **0.5 to 24.0 hours** in 0.5 hour increments
2/4event Number of events configuration Default value = **2 event**	**2 events**, will set up scheduling for the following Event 1 is for Occupied setpoints Event 2 is for Unoccupied setpoints **4 events**, will set up scheduling for the following Event 1 is for Occupied setpoints Event 2 is for Unoccupied setpoints Event 3 is for Occupied setpoints Event 4 is for Unoccupied setpoints
Aux cont Auxiliary contact configuration Default value = **N.O. normally open**	This contact can be used to energize peripheral devices such as: lighting equipment, exhaust fans, economizers, etc. This contact will operate in parallel with the internal occupied/unoccupied schedule of the Room Controller or the remote NSB contact if DI1 or DI2 is used. When the system is in **OFF mode**, the contact will remain in its unoccupied status independently of the occupied / unoccupied schedule.

Configured	Contact occupied status	Contact unoccupied status
N.O.	Closed	Opened
N.C.	Opened	Closed

Prog rec Progressive recovery enabled Default value = **Off** Progressive recovery is automatically disabled if DI 1 and / or DI 2 are configured remote NSB	**Off**, = no progressive recovery The occupied schedule time is the time at which the system will restart. **On**, = progressive recovery active. The occupied schedule time is the time at which the desired occupied temperature will be attained. The Room Controller will automatically optimize the equipment start time. In any case, the latest a system will restart is 10 minutes prior to the occupied period time.

Heat Pump models only	
High bp High balance point Default value = **90 °F (32.0 °C)** Function will only be enabled if OS (outside air temperature sensor) is connected.	In Heating or Auto mode, it is the outside air temperature value at which the auxiliary heat will be cut off. Above that value, only the heat pump will be used to maintain the heating setpoint **34 to 90 °F (1.0 to 32.0 °C)**
Low bp Low balance point Default value = **-12 °F (-24 °C)** Function will only be enabled if OS (outside air temperature sensor) is connected.	In Heating, Cooling or Auto mode, it is the outside air temperature value at which the heat pump operation will be cut off. Below that value, only the auxiliary heat will be used to maintain the heating setpoint **-40 to 30 °F (-40 to -1.0 °C)**
Comf/eco Comfort or economy mode Default value = **Comfort**	Sets the operation and interaction mode of the heat pump with the auxiliary heat. **Comfort mode**. In Heating mode. If the heat pump is not able to satisfy the heating setpoint, the auxiliary heat will be energized to satisfy the same heating setpoint. **Economy mode**. In Heating mode. If the heat pump is not able to satisfy the heating setpoint, the auxiliary heat will be energized to satisfy only when the temperature has dropped 2.0 °F (1.1 °C) below the heating setpoint. Selecting economy mode will add a deadband between the heatpump & auxiliary heat in heating mode. The actual temperature maintained will be lower than the true heating setpoint to maximize the heat pump operation. When the outdoor air temperature drops below the low balance point, the deadband will be eliminated and the auxiliary heat will maintain the true heating setpoint alone. **Economy mode**. In Emergency mode. If Emergency heat mode is selected, the setpoint maintained, will be the heating setpoint.
Re valve Reversing valve operation O/B Default value = **O**	Heat pump reversing valve operation **O** will energize the valve in cooling operation. **B** will energize the valve in heating operation O OR B
Comp/aux Compressor/auxiliary interlock Default value = **Off**	Sets the operation and interaction mode of the heat pump with the auxiliary heat. **Interlock Off**. In Heating mode. If the heat pump is not able to satisfy the heating setpoint, the auxiliary heat will be energized at the same time as the heat pump stage. Typically applies when the air handler heat pump coil is installed before the auxiliary heat (all electric systems). **Interlock On**. In Heating mode. If the heat pump is not able to satisfy the heating setpoint, the auxiliary heat will be energized and the heat pump will be cut off. Typically applies when the air handler heat pump coil is installed after the auxiliary heat (add on systems). There is a 2 minute delay to restart the heat pump, when the auxiliary heat is shut down **Off or On**
Notes for Heat Pump models: When the outside air sensor is not connected or is shorted, the Room Controller bypasses the heating / cooling lockouts and the low / high balance points. Also Heat Pump model when set in Emergency system mode bypasses heating lockout and permits auxiliary heating whenever a heating demand occurs.	

<table>
<tr><td>chngstpt
Changeover setpoint
Default value = 55 °F (13.0 °C)</td><td>In Cooling mode.
The outside air temperature value at which the cooling will be switched over from mechanical (compressor) to free cooling (economizer)
14 to 70 °F (-10.0 to 21.0 °C)</td></tr>
<tr><td>min pos
Minimum position
Default value = 0%</td><td>Outside air damper minimum position.
Will be active only when fan is on (G terminal) and the internal or remote scheduling is in occupied mode.
When internal or remote scheduling is in unoccupied mode and/or fan is off, minimum position will be set to 0%
0 to 100 % = 0 to 10 VDC output range
<table>
<tr><td>Outside air percentage</td><td>0%</td><td>5%</td><td>10%</td><td>15%</td><td>20%</td><td>25%</td><td>30%</td></tr>
<tr><td>Setting for 0-10 VDC</td><td>0%</td><td>5%</td><td>10%</td><td>15%</td><td>20%</td><td>25%</td><td>30%</td></tr>
<tr><td>Setting for 2-10 VDC</td><td>0 to 20%</td><td>24%</td><td>28%</td><td>32%</td><td>36%</td><td>40%</td><td>44%</td></tr>
</table></td></tr>
<tr><td>C mech
Mechanical cooling allowed
Default value = Off</td><td>In Cooling mode.
Allows the operation of the mechanical cooling if the free cooling (economizer) cannot maintain the cooling setpoint.
Off Typically applies when the MS (mixed air temperature sensor) is installed after the mechanical cooling refrigeration coils. In this case, mechanical cooling will never operate at the same time as free cooling.
On Typically applies when the MS (mixed air temperature sensor) is installed before the mechanical cooling refrigeration coils in the mixing plenum. In this case, mechanical cooling is allowed when the free cooling (economizer operation) cannot maintain the cooling setpoint.
Off or On</td></tr>
<tr><td>Mix stpt
Mixed air setpoint
Default value = 55 °F (13.0 °C)</td><td>Free cooling mixed air setpoint when economizer mode is enabled.
50 to 90 °F (10.0 to 32.0 °C)</td></tr>
<tr><td>MS dis
Display mixed air temperature</td><td>Used as diagnostic / service help to troubleshoot and diagnose economizer operation.</td></tr>
</table>

TROUBLESHOOTING GUIDE

All models

Symptom	Possible Cause	Corrective Action
No display on the Room Controller	Absent or incorrect supply voltage	Check power supply voltage between C & RC to be from 19-30 VAC Check for tripped fuse or circuit breaker
	Overloaded power transformer	Verify that the transformer used is powerful enough (enough VA's) to supply all controlled devices including the Room Controller
Keyboard menu does not access all functions	Keyboard locked	Change configuration parameter LOCKOUT to value "0" to access all levels of the menu
Temperature setpoints revert to original value after a certain time period	Temporary setpoint option selected	1. The Room Controller needs to be in Permanent setpoint mode for the new setpoint to be kept and memory and used all the time 2. Go to the Set temperature menu. 3. The last prompt is setpoint type. Set it to Permanent setpoint
Room Controller will not call for heating	Wrong mode selected	Select heating mode
	Room Controller in Unoccupied mode	Select Occupied Hold in Schedule hold or Override to force the Room Controller Occupied heating setpoint
	Anticycle delay active	Wait, the anticycling period will end and the equipment will start
	Heating setpoint is satisfied	Raise the Heating setpoint
	Heating lockout attained	1. Mode is locked out based on outside air temperature 2. Change configuration parameter H Lock to value 120 °F (49 °C) to by-pass lockout
	Wiring error	1. Start the Fan by forcing the Fan ON mode 2. Put a jumper across terminals RH & W1. The heating should come ON. If it does not, verify wiring and check if a jumper is required between RC & RH
Room Controller will not call for cooling	Wrong mode selected	Select cooling mode
	Room Controller in Unoccupied mode	Select Occupied Hold in Schedule hold or Override to force the Room Controller Occupied cooling setpoint
	Anticycle delay active	Wait, the anticycling period will end and the equipment will start
	Cooling setpoint is satisfied	Lower the cooling setpoint
	Cooling lockout attained	1. Mode is locked out based on outside air temperature 2. Change configuration parameter C Lock to value -40 °F (-40 °C) to bypass lockout
	Wiring error	1. Start the Fan by forcing the Fan ON mode 2. Put a jumper across terminals RC & Y1. The cooling should come ON. If it does not, verify wiring
The Room Controller will not turn on the fan	Wrong mode selected	1. Start the Fan by forcing the Fan ON mode 2. Put a jumper across terminals RC & G. The fan should come ON. If it does not, verify wiring
	Wiring error	
Digital display shows missing digits or erratic segments	Defective display	Replace Room Controller

Heat pump models

Symptom	Possible Cause	Corrective Action
Auxiliary heat does not operate	Wrong mode selected	Select emergency heat mode
	Room Controller in Unoccupied mode	Select Occupied Hold in Schedule hold or Override to force the Room Controller Occupied heating setpoint
	Anticycle delay active	Wait, the anticycling period will end and the equipment will start
	Heating setpoint is satisfied	Raise the Heating setpoint
	High Balance point attained	1. Mode is locked out based on outside air temperature 2. Change configuration parameter High BP to value 90 °F (32 °C) to by-pass lockout
	Heating lockout attained	1. Mode is locked out based on outside air temperature 2. Change configuration parameter H Lock to value 120 °F (49 °C) to bypass lockout
	Wiring error	1. Start the Fan by forcing the Fan ON mode 2. Put a jumper across terminals RH & W1. The heating should come ON. If it does not, verify wiring and check if a jumper is required between RC & RH
Heat pump does not operate in heating mode	Wrong mode selected	Select heating mode
	Room Controller in Unoccupied mode	Select Occupied Hold in Schedule hold or Override to force the Room Controller Occupied heating setpoint
	Anticycle delay active	Wait, the anticycling period will end and the equipment will start
	Heating setpoint is satisfied	Raise the Heating setpoint
	Low Balance point attained	1. Mode is locked out based on outside air temperature 2. Change configuration parameter Low BP to value -12 °F (-24 °C) to bypass lockout
	Heating lockout attained	1. Mode is locked out based on outside air temperature 2. Change configuration parameter H Lock to value 120 °F (49 °C) to bypass lockout
	Wiring error	1. Start the Fan by forcing the Fan ON mode 2. Put a jumper across terminals RH & W1. The heating should come ON. If it does not, verify wiring and check if a jumper is required between RC & RH
	Wrong reversing valve configuration	1. Wrong selection of parameter Re Valve 2. Select O will energize the valve in cooling operation. Valve is normally heat. 3. Select B will energize the valve in heating operation. Valve is normally cool.