

# SEZ7260X5x45B

## Installation Guide for BACnet MS/TP Zone Controller



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## INSTALLATION

- Remove security screw on bottom of Room Controller cover.
- Open unit by pulling on bottom side of Room Controller (Figure 1).
- Remove wiring terminals from sticker.
- Read FCC ID and IC label installed in cover.

### Location

1. Should not be installed on outside wall.
2. Must be installed away from any direct heat source.
3. Should not be installed near air discharge grill.
4. Should not be affected by direct sun radiation.
5. Nothing should restrict vertical air circulation to Room Controller.

### Installation

1. Swing open Room Controller PCB to left by pressing PCB locking tabs (Figure 2).
2. Pull out cables 6" out from wall. Ensure wall surface is flat and clean.
4. Insert cable in central hole of base.
5. Align base and mark location of two mounting holes on wall ensuring proper side of base is up.
6. Install anchors in wall.
7. Insert screws in mounting holes on each side of base (Figure 2).
8. Gently swing back circuit board on base and push until tabs lock.
9. Strip each wire 1/4 inch from end.
10. Insert each wire according to wiring diagram.
11. Gently push excess wiring back into hole (Figure 3).
12. Re-Install wiring terminals in correct locations (Figure 3).
13. Re-install cover (top side first) and gently push extra wire length back into hole in wall.
14. Install security screw.

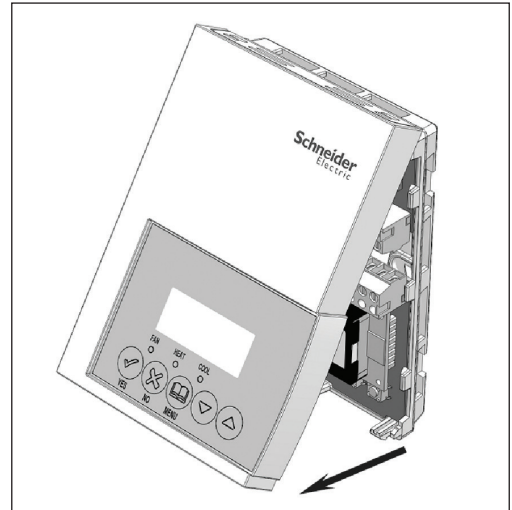


Figure-1 Opening the Cover

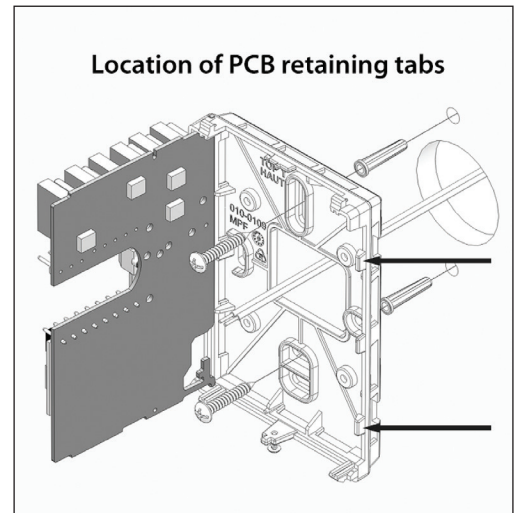


Figure-2 Opening the PCB



- When replacing an existing Room Controller, label the wires before removal of the Room Controller.
- Electronic controls are static sensitive devices. Discharge yourself properly before manipulating and installing the Room Controller.
- A short circuit or improper wiring may permanently damage the Room Controller or the equipment.
- All SEZ7000 series Room Controllers are designed for use as operating controls only and are not safety devices. These instruments have undergone rigorous tests and verification prior to shipping to ensure proper and reliable operation in the field. Whenever a control failure could lead to personal injury and or loss of property, it becomes the responsibility of the user or installer or electrical system designer to incorporate safety devices (such as relays, flow switch, thermal protections, etc...) and or an alarm system to protect the entire system against such catastrophic failures. Tampering with the devices or unintended application of the devices will result in a void of warranty.

### Reinstall terminal blocks

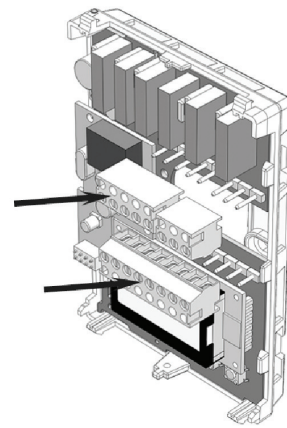


Figure-3 Terminal Block Reinstall

## TERMINAL, IDENTIFICATION AND FUNCTION

### Wiring

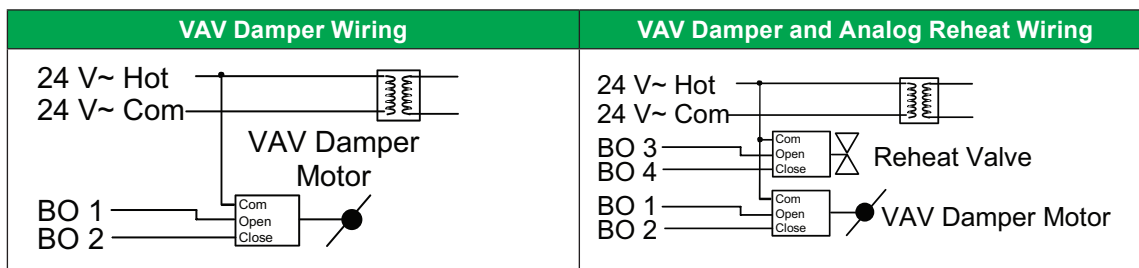
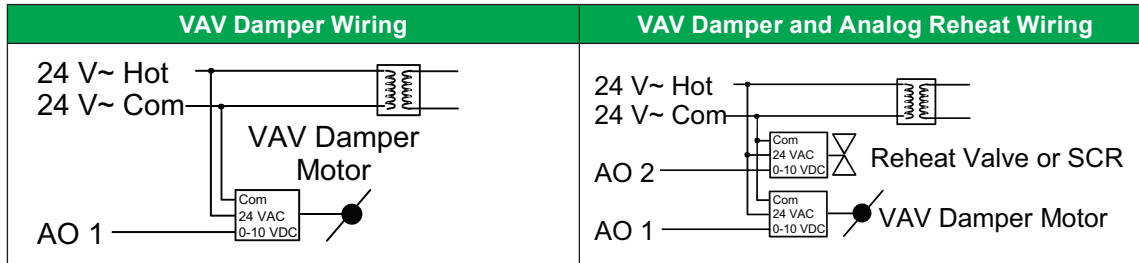
Terminal Use	Terminal Identification SEZ7260F	Terminal Identification SEZ7260C	Description
4 - 24 V ~ Hot	<b>24V ~ Hot</b>	<b>24V ~ Hot</b>	Power supply of controller, hot side (Delivered from the RTU)
5 - 0 V ~ Com	<b>0V~Com</b>	<b>0V~Com</b>	Power supply of controller, common side. Also used as reference for the analog outputs when used
6- On-Off Rht	<b>BO5</b>	<b>BO5</b>	Local isolated triac reheat output when used
7- On-Off Rht	<b>BO5</b>	<b>BO5</b>	Local isolated triac reheat output when used
8- Primary Rht	<b>Not used</b>	<b>BO3</b>	24 VAC triac reheat output (open)
9 – Primary Rht	<b>AO2</b>	<b>BO4</b>	For SEZ7260F: Local analog 0 - 10 VDC reheat output when used For SEZ7260C: 24VAC triac reheat output (close)
10 – VAV Damper	<b>AO1</b>	<b>BO1</b>	For SEZ7260F: Local VAV analog 0 - 10 VDC For SEZ7260C: 24VAC triac VAV output (open)
11 – VAV Damper	<b>Not used</b>	<b>BO2</b>	24VAC triac reheat output (close)
12 – BI1	<b>BI1</b>	<b>BI1</b>	Configurable extra digital input. See parameter section for more information
13 - A14	<b>A14</b>	<b>A14</b>	0-10VDC analog input for remote CO2 or other sensor (airflow, etc...)
14 - Scom	<b>Scom</b>	<b>Scom</b>	Reference input for BI 1, BI 2, UI3 and RS
15 - RS	<b>RS</b>	<b>RS</b>	Remote room sensor input when used. Input auto-detects a remote sensor and will automatically by-pass the internal sensor when used.
16 – UI3 / SS	<b>UI3</b>	<b>UI3</b>	Non-configurable extra analog input for monitoring local discharge or supply temperatures over the network.

### BACnet™ Network Connections

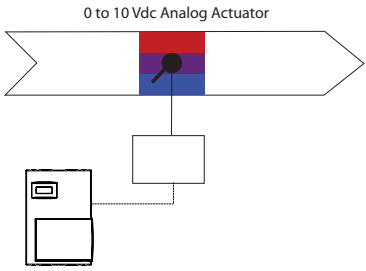
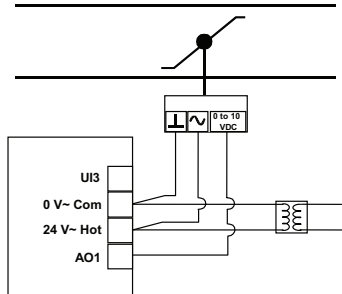
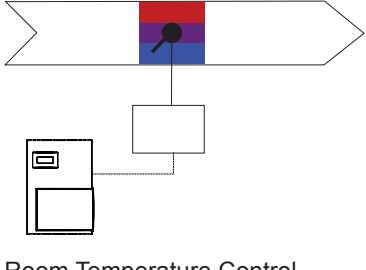
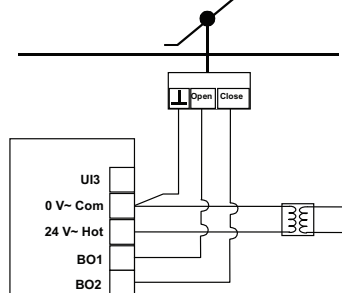
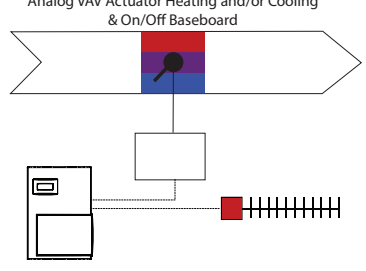
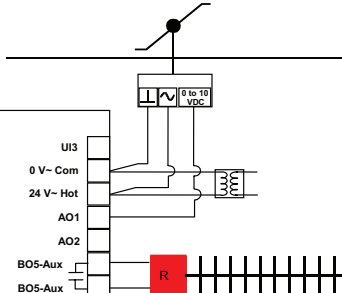
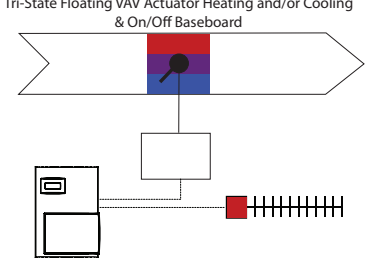
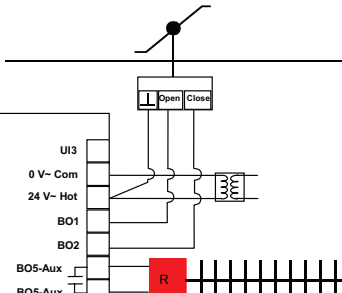
BACnet™ Network Connections		
BACnet™ Com	<b>Com +</b>	BACnet™ communication bus + connection.
BACnet™ Com	<b>Com -</b>	BACnet™ communication bus – connection.
Ref	<b>Ref</b>	Communication bus reference terminal. <ul style="list-style-type: none"> <li>• DO NOT USE FOR OTHER THAN SERVICING ISSUES</li> <li>• DO NOT WIRE SHIELD TO THIS TERMINAL</li> </ul>

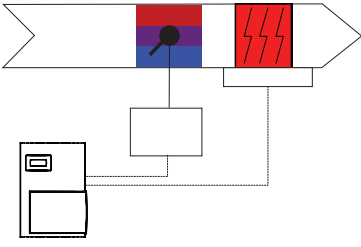
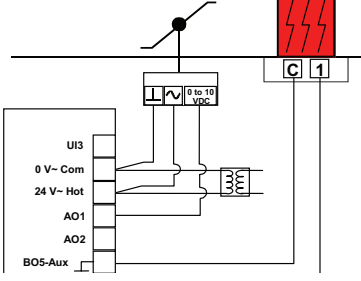
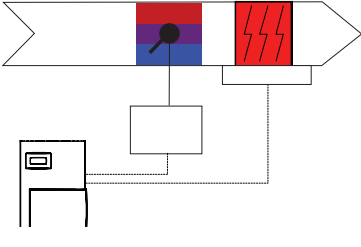
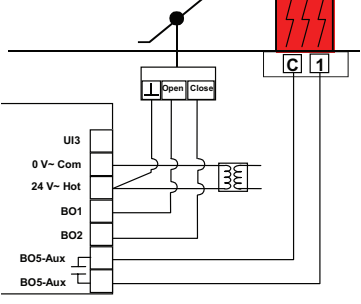
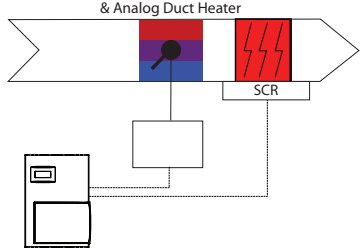
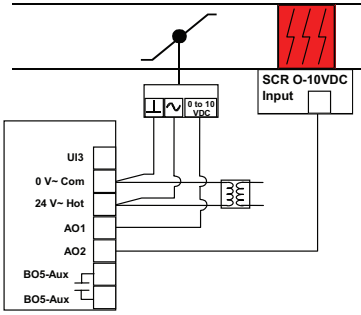
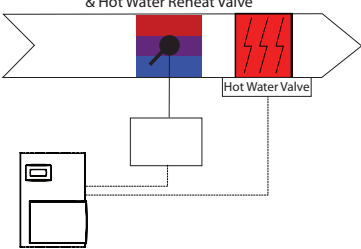
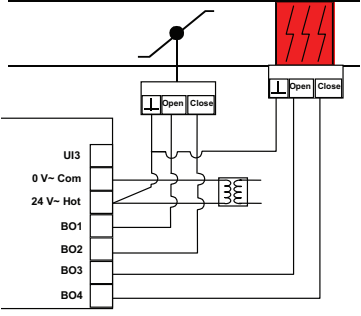
## TYPICAL APPLICATIONS

### Main outputs wiring



Schematic	Wiring	Settings
<b>Pressure dependent VAV cooling only system</b>		
<p>Analog VAV Actuator</p> <p>Room Temperature Control Minimum &amp; Maximum Position Adjusted at Controller</p>	<p>UI3 0 V- Com 24 V- Hot AO1</p>	<p><b>Mandatory</b></p> <p>RehtConf= 0 None</p>
<p>Floating VAV Actuator</p> <p>Room Temperature Control Minimum &amp; Maximum Position Adjusted at Controller</p>	<p>UI3 0 V- Com 24 V- Hot BO1 BO2</p>	<p><b>Mandatory</b></p> <p>RehtConf = 0 None</p>

Schematic	Wiring	Settings
<b>Pressure dependent VAV cooling/heating system with central changeover</b>		
<p>0 to 10 Vdc Analog Actuator</p>  <p>Room Temperature Control Minimum &amp; Maximum Position Adjusted at Controller</p>		<p><b>Mandatory</b></p> <p>RehtConf= 0 None</p>
<p>Tri-State Floating Actuator</p>  <p>Room Temperature Control Minimum &amp; Maximum Position Adjusted at Controller</p>		<p><b>Mandatory</b></p> <p>RehtConf = 0 None</p>
<b>Pressure dependent VAV cooling or heating system with local On-Off perimeter reheat and central changeover</b>		
<p>Analog VAV Actuator Heating and/or Cooling &amp; On/Off Baseboard</p>  <p>Room Temperature Control Minimum &amp; Maximum Position Adjusted at Controller</p>		<p><b>Mandatory</b></p> <p>RehtConf = 3 = On-Off Perimeter Reheat Only</p> <p>Set BO5 Time to 0= 15 minutes if using regular 24 VAC relays</p> <p>Set BO5 Time to 1= 10 seconds if using 24 VAC Solid State Relays (SSRs) for proportional control</p>
<p>Tri-State Floating VAV Actuator Heating and/or Cooling &amp; On/Off Baseboard</p>  <p>Room Temperature Control Minimum &amp; Maximum Position Adjusted at Controller</p>		<p><b>Mandatory</b></p> <p>RehtConf = 3 = On-Off Perimeter Reheat Only</p> <p>Set BO5 Time to 0= 15 minutes if using regular 24 VAC relays</p> <p>Set BO5 Time to 1= 10 seconds if using 24 VAC Solid State Relays (SSRs) for proportional control</p>

Schematic	Wiring	Settings
<b>Pressure dependent VAV cooling or heating system with local On-Off duct reheat and central changeover</b>		
<p>Analog VAV Actuator Heating and/or Cooling &amp; On/Off Duct Heater</p>  <p>Room Temperature Control Min. Max. and HeatFlow Positions Adjusted at Controller</p>		<p><b>Mandatory</b></p> <p>RehtConf = 2 = On-Off Duct Reheat Only</p> <p>Set BO5 Time to 0= 15 minutes if using regular 24 VAC relays</p> <p>Set BO5 Time to 1=10 seconds if using 24 VAC Solid State Relays (SSRs) for proportional control</p>
<p>Tri-State Floating VAV Heating and/or Cooling &amp; On/Off Duct Heater</p>  <p>Room Temperature Control Min. Max. and HeatFlow Positions Adjusted at Thermostat</p>		<p><b>Mandatory</b></p> <p>RehtConf = 2 = On-Off Duct Reheat Only</p> <p>Set BO5 Time to 0= 15 minutes if using regular 24 VAC relays</p> <p>Set BO5 Time to 1= 10 seconds if using 24 VAC Solid State Relays (SSRs) for proportional control</p>
<b>Pressure dependent VAV cooling or heating system with local Analog duct reheat and central changeover</b>		
<p>Analog VAV Actuator Heating and/or Cooling &amp; Analog Duct Heater</p>  <p>Room Temperature Control Min. Max. and HeatFlow Positions Adjusted at Thermostat</p>		<p><b>Mandatory</b></p> <p>RehtConf = 1 = Analog Duct Reheat Only</p> <p>Set AO2RA/DA to DA if SCR input signal is Direct Acting 0 to 10 VDC</p> <p>Set AO2RA/DA to RA if SCR input signal is Reverse Acting 10 to 0 VDC</p>
<p>Tri-State Floating VAV Heating and/or Cooling &amp; Hot Water Reheat Valve</p>  <p>Room Temperature Control Min. Max. and HeatFlow Positions Adjusted at Thermostat</p>		<p><b>Mandatory</b></p> <p>RehtConf = 1 = Analog Duct Reheat Only</p>

## Temperature vs. Resistance Chart for 10K Type 2 NTC Thermistor

$$(R_{25^{\circ}\text{C}} = 10\text{K}\Omega \pm 3\% - B_{25/85^{\circ}\text{C}} = 3975\text{K} \pm 1.5\%)$$

°C	°F	Kohm
-40	-40	324.3197
-39	-38	303.6427
-38	-36	284.4189
-37	-35	266.5373
-36	-33	249.8958
-35	-31	234.4009
-34	-29	219.9666
-33	-27	206.5140
-32	-26	193.9703
-31	-24	182.2686
-30	-22	171.3474
-29	-20	161.1499
-28	-18	151.6239
-27	-17	142.7211
-26	-15	134.3971
-25	-13	126.6109
-24	-11	119.3244
-23	-9	112.5028
-22	-8	106.1135
-21	-6	100.1268

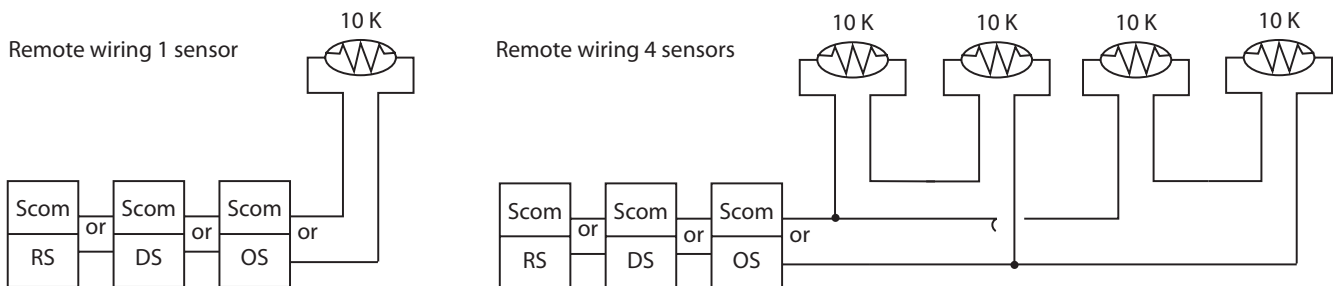
°C	°F	Kohm
-20	-4	94.5149
-19	-2	89.2521
-18	0	84.3147
-17	1	79.6808
-16	3	75.3299
-15	5	71.2430
-14	7	67.4028
-13	9	63.7928
-12	10	60.3980
-11	12	57.2044
-10	14	54.1988
-9	16	51.3692
-8	18	48.7042
-7	19	46.1933
-6	21	43.8268
-5	23	41.5956
-4	25	39.4921
-3	27	37.5056
-2	28	35.6316
-1	30	33.8622

°C	°F	Kohm
0	32	32.1910
1	34	30.6120
2	36	29.1197
3	37	27.7088
4	39	26.3744
5	41	25.1119
6	43	23.9172
7	45	22.7861
8	46	21.7151
9	48	20.7004
10	50	19.7390
11	52	18.8277
12	54	17.9636
13	55	17.1440
14	57	16.3665
15	59	15.6286
16	61	14.9280
17	63	14.2629
18	64	13.6310
19	66	13.0307

°C	°F	Kohm
20	68	12.4601
21	70	11.9177
22	72	11.4018
23	73	10.9112
24	75	10.4443
25	77	10.0000
26	79	9.5754
27	81	9.1711
28	82	8.7860
29	84	8.4190
30	86	8.0694
31	88	7.7360
32	90	7.4182
33	91	7.1150
34	93	6.8259
35	95	6.5499
36	97	6.2866
37	99	6.0351
38	100	5.7950
39	102	5.5657

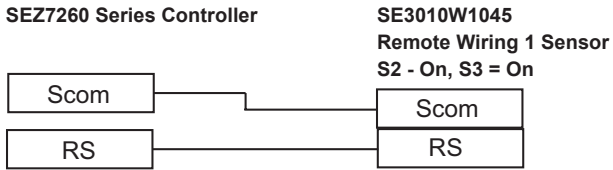
°C	°F	Kohm
40	104	5.3467
41	106	5.1373
42	108	4.9373
43	109	4.7460
44	111	4.5631
45	113	4.3881
46	115	4.2208
47	117	4.0607
48	118	3.9074
49	120	3.7607
50	122	3.6202
51	124	3.4857
52	126	3.3568
53	127	3.2333
54	129	3.1150
55	131	3.0016
56	133	2.8928
57	135	2.7886
58	136	2.6886
59	138	2.5926

## Wiring for 10K Type 2 NTC Thermistor Sensors

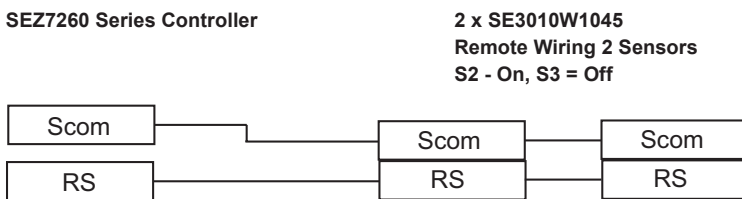


**Wiring examples**

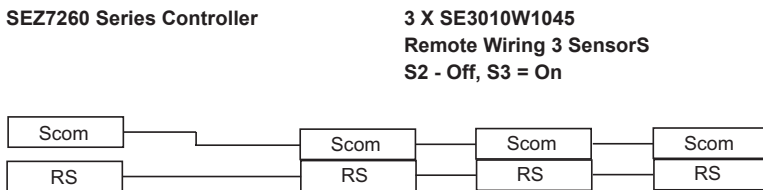
**Wiring example of single remote room sensor:**



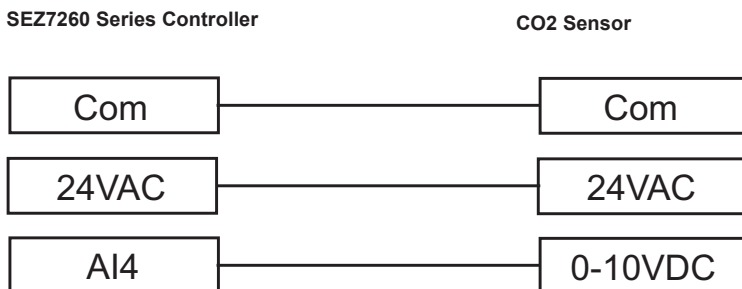
**Wiring examples of 2 remote room sensors for averaging applications:**



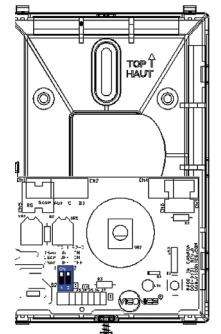
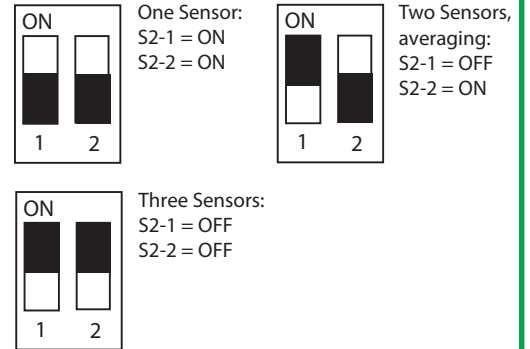
**Wiring examples of 3 remote room sensors for averaging applications:**



**Wiring example of CO2 sensor:**



**Temp. Sensor DIP Switch Settings**



SE3020W1045  
 Remote temperature sensor DIP switch location

## CONFIGURING AND STATUS DISPLAY INSTRUCTIONS

### Status display

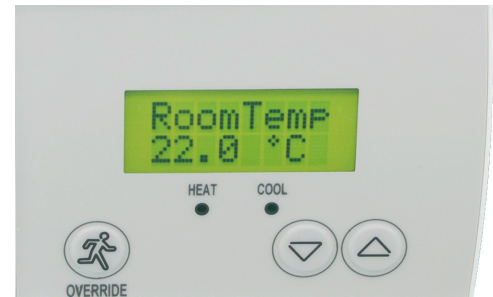
The Room Controller features a two-line, eight-character display. There is a low level backlight that is always active and can only be seen at night. When left unattended, the Room Controller has an auto scrolling display that shows the current status of the system.

Each item is scrolled sequentially with the back light in low level mode. Pressing any key will cause the back light to come on to high level.

Manual scrolling of each menu item is achieved by pressing the Yes (scroll) key repetitively. The last item viewed will be shown on the display for 30 seconds before returning to automatic scrolling. Temperature is automatically updated when scrolling is held.

### Sequence of auto-scroll status display:

ROOM TEMPERATURE	OCCUPANCY STATUS	OUTDOOR TEMPERATURE
RoomTemp x.x °C or °F	Occupied	Outdoor x.x °C or °F
	Stand-By	
	Unoccup	
	Override	





### Outdoor air temperature

- Outdoor air temperature display is only enabled when outdoor air temperature sensor is connected.
- A maximum range status display of 50 °C (122 °F) indicates a shorted sensor. Associated functions, such as mode lockouts and economizer function are automatically disabled.
- A minimum range status -40 °C (-40 °F) is not displayed and indicates a opened sensor or a sensor not connected. Associated functions, such as mode lockouts and economizer function are automatically disabled.

### Occupancy Status

- Occupied, Stand-By, Unoccupied and Override status are displayed on the scrolling display.
- Two status LED's on the controller cover are used to indicate a call for heat or a call for cooling

HEAT 	When heating and reheat is <b>ON</b> , the <b>HEAT LED will illuminate.</b>
COOL 	When cooling is <b>ON</b> , the <b>COOL LED will illuminate.</b>




## USER INTERFACE

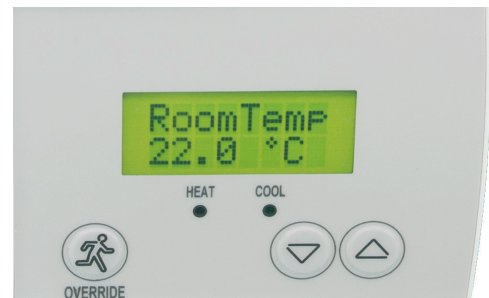
### User configuring instructions menu

#### Unoccupied mode Override

An Override can be made during an unoccupied period. If the Override option is enabled in the lockout configuration pressing the Override button will resume occupied setpoints for a time specified by the parameter; "ToccTime."

#### Local keypad interface

	<p>An <b>OVERRIDE</b> can be made during an Unoccupied period. If the Override option is enabled in the lockout configuration pressing the override key will resume occupied setpoints for a time specified by the parameter; "ToccTime."</p>
	<p>Adjust the setpoints <b>DOWN</b>;</p> <ul style="list-style-type: none"> <li>• In cooling mode only the cooling setpoint displayed.</li> <li>• In heating mode only the heating setpoint displayed.</li> <li>• In auto mode; (See below).</li> </ul>
	<p>Adjust the setpoints <b>UP</b>;</p> <ul style="list-style-type: none"> <li>• In cooling mode only the cooling setpoint displayed.</li> <li>• In heating mode only the heating setpoint displayed.</li> <li>• In auto mode; (See below).</li> </ul>



#### Unoccupied and Stand-By setpoints adjustments

Setting the Unoccupied and Stand-By setpoints is done through the network or through configuration setup only.

When in Unoccupied period, pressing the up or down button will display the following message on the display: "Press Override First".

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 automatically after 45 seconds.

1. Any setpoint change can be permanent or temporary based on configuration parameter (Setpoint Type).
2. Any setpoint written through the network will be permanent and cancel any active temporary setpoints.
3. Lockouts to access certain functions are made with configuration parameter (lockout).
4. If in Unoccupied period, pressing the Down button will display the following message on the display: "Press Override First".

#### Occupied setpoint adjustments

LOCAL ZONE MODE AS DICTATED BY ATTACHED MASTER RTU CONTROLLER		
<p><b>RTU in cooling mode</b></p>	<p><b>RTU in heating mode</b></p>	<p><b>RTU in cooling mode with Local Reheat enabled</b></p> <ul style="list-style-type: none"> <li>• Setpoint presented to user is the setpoint from the last action taken by the controller or the one currently in use.</li> <li>• Both heating and cooling setpoints are changed simultaneously while respecting the minimum configured deadband.</li> <li>• If the other setpoint is the one desired, then the <b>OVERRIDE</b> button is used to toggle between the current displayed one and the other.</li> </ul>
<p><b>COOL XX.X °F OR °C</b></p>	<p><b>HEAT XX.X °F OR °C</b></p>	<p><b>Cool XX.X °F or °C and Heat XX.X °F or °C</b></p> <p>Both heating &amp; cooling setpoints are changed simultaneously</p>

