INSTALLATION

Location
• Do not install on outside wall.
• Do not install in areas with direct heat source.
• Do not install near any air discharge grill.
• Do not install in areas exposed to direct sunlight.
• Ensure Controller has sufficient air circulation.
• Ensure wall surface is flat and clean.

Installation
1. Remove security screw (if any) on bottom of Room Controller cover.
2. Open unit by pulling on bottom side of Room Controller (Figure 1).
3. Read FCC ID and IC label installed in cover before installing any wireless product.
4. Ensure correct side of base faces up.
5. Pull cables 6in (15cm) out from wall.
6. Align base and mark location of two mounting holes on wall.
7. Install anchors in wall (Figure 2).
8. Insert cable in central hole of base.
9. Insert screws in mounting holes on each side of base.
10. Strip each wire 1/4in (0.6cm) from end.
11. Insert each wire and screw according to wiring chart.
12. Gently push excess wiring back into hole.
13. Gently align cover to top of base and snap in place from bottom (Figure 3).

- If replacing an existing Room Controller, label wires before removal of Controller.
- Electronic controls are static sensitive devices. Discharge yourself correctly before manipulating and installing Room Controller.
- A short circuit or wrong wiring may permanently damage Room Controller or equipment.
- All SE8300 series controls are designed for use as operating controls only and are not safety devices. Tampering with the devices or unintended application of the devices will result in a void of warranty.
- This device must be installed to provide a separation distance of at least 8in (20cm) from all persons and must not be located or operating in conjunction with any other antenna or transmitter.
CLEANING SE8300 ROOM CONTROLLER

• Use a soft, pre-moistened lint-free cloth for cleaning.
• Avoid getting moisture in openings.
• Do not spray anything directly on SE8000 Room Controller or use compressed air.
• Do not use caustic/corrosive products, ammonia, solvents or any cleaning product containing alcohol or grit.
• Never use tools directly on the touchscreen.
• Never use paint on SE8000 Room Controller.
• Do not drop or crush SE8000 Room Controller, or allow SE8000 Room Controller to come into contact with liquids.
• Do not use a damaged device (such as one with a cracked screen).
• Functionality guarantees are no longer valid if the glass on the screen is broken.

Failure to comply with these recommendations will result in damage to the unit and void the manufacturer's warranty.
## TERMINAL IDENTIFICATION AND FUNCTION

### Terminal identification

<table>
<thead>
<tr>
<th>SE83xxU</th>
<th>Description / Application</th>
<th>Used in applications</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>2 &amp; 4 Pipe</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Control Type = On/Off</td>
</tr>
<tr>
<td>Internal Temperature</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Internal Humidity</td>
<td>Model Dependent</td>
<td>Model Dependent</td>
</tr>
<tr>
<td>1- BO1</td>
<td>Not used</td>
<td>Not used</td>
</tr>
<tr>
<td>2- BO2</td>
<td>Fan-L</td>
<td>Fan-L</td>
</tr>
<tr>
<td>3- BO3</td>
<td>Fan-M</td>
<td>Fan-M</td>
</tr>
<tr>
<td>4- BO4</td>
<td>Fan-H</td>
<td>Fan-H</td>
</tr>
<tr>
<td>5- RC / 24 V~ Hot</td>
<td>24 V~ Hot</td>
<td>24 V~ Hot</td>
</tr>
<tr>
<td>6- C / 24 V~ Com</td>
<td>24 V~ Com</td>
<td>24 V~ Com</td>
</tr>
<tr>
<td>7- RH</td>
<td>Aux Heat</td>
<td>Aux Heat</td>
</tr>
<tr>
<td>8- BO8</td>
<td>Aux Heat</td>
<td>Aux Heat</td>
</tr>
<tr>
<td>9- UO9</td>
<td>Normally Close Cool Valve</td>
<td>Close Cool Valve</td>
</tr>
<tr>
<td>10- UO10</td>
<td>Normally Close Heat Valve</td>
<td>Close Heat Valve</td>
</tr>
<tr>
<td>11- UO11</td>
<td>Normally Open Cool Valve</td>
<td>Open Cool Valve</td>
</tr>
<tr>
<td>12- UO12</td>
<td>Normally Open Heat Valve</td>
<td>Open Heat Valve</td>
</tr>
<tr>
<td>13- RS485 +</td>
<td>BACnet MS-TP +</td>
<td>BACnet MS-TP +</td>
</tr>
<tr>
<td>14- RS485 -</td>
<td>BACnet MS-TP -</td>
<td>BACnet MS-TP -</td>
</tr>
<tr>
<td>15- RS485 Ref</td>
<td>BACnet MS-TP Ref</td>
<td>BACnet MS-TP Ref</td>
</tr>
<tr>
<td>16- UI16</td>
<td>UI16 Function</td>
<td>UI16 Function</td>
</tr>
<tr>
<td>17- UI17</td>
<td>UI17 Function</td>
<td>UI17 Function</td>
</tr>
<tr>
<td>18 Scom</td>
<td>Common</td>
<td>Common</td>
</tr>
<tr>
<td>19- UI19</td>
<td>UI19 Function</td>
<td>UI19 Function</td>
</tr>
<tr>
<td>20- UI20</td>
<td>Remote Room Sensor</td>
<td>Remote Room Sensor</td>
</tr>
<tr>
<td>21 Scom</td>
<td>Common</td>
<td>Common</td>
</tr>
<tr>
<td>23- UI23</td>
<td>Not used</td>
<td>Not used</td>
</tr>
<tr>
<td>24- UI24</td>
<td>Not used</td>
<td>Not used</td>
</tr>
</tbody>
</table>
Wiring

Power & Fan (All models)

Main outputs wiring

2 Pipe Applications | 4 Pipe Applications

Control type = On-Off

BO8 Auxiliary output wiring

Dry contact to end device 24 Vac maximum

24 Vac power to relay

Floating control

Analog control

BO2 - Fan L
BO3 - Fan M
BO4 - Fan H

RC (24 Vac)
C (Common)

3 Speed
2 Speed
Single speed

BO8 - Aux Heat

Heating / Cooling valve

UO9
UO11

COM
Open
Close

24 Vac Transformer

BO8 Auxiliary output wiring

Dry contact to end device 24 Vac maximum

24 Vac power to relay

RC (24 Vac)
C (Common)

R

RH

BO8 - Aux Heat

Heating / Cooling valve

UO9
UO11

COM
Open
Close

24 Vac Transformer
## TYPICAL APPLICATIONS

### 2 pipe system cooling and/or heating

**Control type = On / Off**

<table>
<thead>
<tr>
<th>Schematic</th>
<th>Wiring</th>
<th>Settings</th>
</tr>
</thead>
</table>
| ![Schematic Diagram](image) | ![Wiring Diagram](image) | **Mandatory**  
• Pipe no = 2 pipes  
• CntrltTyp = On/Off  
• Fan Menu = 0 (L-M-H)  
• FL time = N/A  
If **cooling only** set:  
• SeqOpera = Cooling only  
If **heating only** set:  
• SeqOpera = Heating only  
If **heat / cool auto-changeover** with a local water temperature sensor set:  
• SeqOpera = Cooling only  
• UI19 = COS  

**2 pipe system cooling and/or heating**

**Control type = Floating**
### Schematic

#### 3 Speed Fan
- Modulating Floating
- Cooling / Heating
- Sensor
- Room Temperature Control Thermostat

### Wiring

![Wiring Diagram]

#### Settings

**Mandatory**
- Pipe no = 2 pipes
- CntrltTyp = Floating
- Fan Menu = (L-M-H)
- FL time = as per actuator

**If cooling only set:**
- SeqOpera = Cooling only

**If heating only set:**
- SeqOpera = Heating only

**If heat / cool auto-changeover**
with a local water temperature sensor set:
- SeqOpera = Cooling only
  - UI19 = COS

### 2 pipe system cooling and/or heating

**Control type = Analog**

![Schematic Diagram]

### 4 pipe system cooling and heating

**Control type = On / Off**

![Schematic Diagram]
### 4 pipe system cooling and heating
**Control type = Floating**

<table>
<thead>
<tr>
<th>Schematic</th>
<th>Wiring</th>
<th>Settings</th>
</tr>
</thead>
</table>
| ![Schematic Diagram](image1) | ![Wiring Diagram](image2) | **Mandatory**
- Pipe no = 4 pipes
- Cntrntyp = Floating
- Fan Menu = (L-M-H)
- FL time = as per actuator
- SeqOpera = Cool/Heat |

<table>
<thead>
<tr>
<th>Schematic</th>
<th>Wiring</th>
<th>Settings</th>
</tr>
</thead>
</table>
| ![Schematic Diagram](image3) | ![Wiring Diagram](image4) | **Mandatory**
- Pipe no = 4 pipes
- Cntrntyp = Analog
- Fan Menu = (L-M-H)
- RA/DA = as per actuator
- SeqOpera = Cool/Heat |

<table>
<thead>
<tr>
<th>Schematic</th>
<th>Wiring</th>
<th>Settings</th>
</tr>
</thead>
</table>
| ![Schematic Diagram](image5) | ![Wiring Diagram](image6) | **Mandatory**
- Pipe no = 2 pipes
- Cntrntyp = Floating
- Fan Menu = (L-M-H)
- FL time = as per actuator
- SeqOpera = Cool/Reheat
- UI19 = COS |
REMOTE SENSOR ACCESSORIES

<table>
<thead>
<tr>
<th>Model no.</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>S3010W1000</td>
<td>Wall mounted temperature sensor</td>
</tr>
<tr>
<td>S3020W1000</td>
<td>Wall mounted temperature sensor with override button and occupancy status LED</td>
</tr>
</tbody>
</table>

The SE8300 Room Controller is compatible with remote mount temperature sensors using 10K type 2 NTC thermistors.

**Note:**
If one or multiple sensor(s) is/are connected into the RS terminal, the internal temperature sensor is automatically disabled. Disconnecting the sensor(s) in the RS terminal will re-activate the internal sensor.

**Features:**
- Each sensor can be configured for various averaging combinations (refer to S3000 series remote sensors for more details)
- Optional occupancy led
- Optional override key

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

**SE8300**
Series Controller

**S3020W1045**
Remote wiring 1 sensor
S2-1= On, S2-2=On

**S3010W1045**
Remote wiring 1 sensor
S2-1= On, S2-2=On

Temperature vs. resistance chart for 10 Kohm NTC thermistor (R25°C = 10KΩ±3%, B25/85°C = 3975K±1.5%)

<table>
<thead>
<tr>
<th>°C</th>
<th>°F</th>
<th>Kohm</th>
<th>°C</th>
<th>°F</th>
<th>Kohm</th>
<th>°C</th>
<th>°F</th>
<th>Kohm</th>
<th>°C</th>
<th>°F</th>
<th>Kohm</th>
<th>°C</th>
<th>°F</th>
<th>Kohm</th>
</tr>
</thead>
<tbody>
<tr>
<td>-40</td>
<td>-40</td>
<td>324.3197</td>
<td>-20</td>
<td>-4</td>
<td>94.5149</td>
<td>0</td>
<td>32</td>
<td>32.1910</td>
<td>20</td>
<td>68</td>
<td>12.4601</td>
<td>40</td>
<td>104</td>
<td>5.3467</td>
</tr>
<tr>
<td>-35</td>
<td>-31</td>
<td>234.4009</td>
<td>-15</td>
<td>5</td>
<td>71.2430</td>
<td>5</td>
<td>41</td>
<td>25.1119</td>
<td>25</td>
<td>77</td>
<td>10.0000</td>
<td>45</td>
<td>113</td>
<td>4.3881</td>
</tr>
<tr>
<td>-30</td>
<td>-22</td>
<td>171.3474</td>
<td>-10</td>
<td>14</td>
<td>54.1988</td>
<td>10</td>
<td>50</td>
<td>19.7390</td>
<td>30</td>
<td>86</td>
<td>8.0694</td>
<td>50</td>
<td>122</td>
<td>3.6202</td>
</tr>
</tbody>
</table>
HOME SCREEN DISPLAY

Hospitality User Interface Shown

Date
Short Network Message
Occupancy Status
Room Indoor Temperature
Room Indoor Humidity
Outdoor Temperature
System Status
Fan Status
Time
Up Arrow
Raise Temperature Setpoint
Actual Setpoint
Down Arrow
Lower Temperature Setpoint
System Mode
Select system mode
Fan Mode
Select fan mode
Help
Enter help screen
Language
Select preferred language
Temperature Units
Select Celsius or Fahrenheit

Note: User HMI is configurable and allows display functions such as Date, Time, Humidity, Outdoor Temperature, Setpoint, and others to be enabled or disabled by setting various parameters.
HOW TO ENTER SET-UP SCREEN

Touch and hold this point for 3 seconds to enter set-up mode

Note: If a configuration/installer password is activated to prevent unauthorised access to the configuration menu parameters, a password entry prompt shows to prevent access to device configuration components.

For more information on using and configuring the functions of the HMI, refer to the following document: SE8300 User Interface Guide

SET-UP SCREEN DISPLAY

1/2 Setup

- Network
- Configuration
- Setpoints - Display
- Service view
- Test outputs
- Language selection

Return to home screen

Discover Mode: The Controller becomes discoverable on the wireless ZigBee® network for 1 minute (this button is hidden if ZigBee® settings are not configured)

Enter BACnet® & ZigBee® network settings
Enter parameter configuration menu
Enter setpoint & display settings
Enter status and service view
Enter output testing mode
Enter language selection

General Note:
- Adjustable parameter
- Non-adjustable parameter
APPENDIX A TERMINAL CORRESPONDENCE

The terminals of a SE8300 are identified differently and have a wider range of possible functions compared to those of any of the SE7000 series Room Controllers. Nonetheless, there is a direct correspondence of functions between the terminals of the SE7000 series and the SE8300 series. Consult the table below to verify the appropriate terminal when replacing a SE7000 Room Controller with a SE8300 Room Controller.

<table>
<thead>
<tr>
<th>Terminal name</th>
<th>Terminal ID</th>
<th>Terminal name</th>
<th>Terminal ID</th>
</tr>
</thead>
<tbody>
<tr>
<td>Binary Input 1</td>
<td>BI1</td>
<td>Universal Input 16</td>
<td>UI16</td>
</tr>
<tr>
<td>Binary Input 2</td>
<td>BI2</td>
<td>Universal Input 17</td>
<td>UI17</td>
</tr>
<tr>
<td>Universal Input 3</td>
<td>UI3</td>
<td>Universal Input 19</td>
<td>UI19</td>
</tr>
<tr>
<td>Sensor Common</td>
<td>Scom</td>
<td>Terminal 18 Common</td>
<td>COM</td>
</tr>
<tr>
<td>Remote Sensor</td>
<td>RS</td>
<td>Universal Input 20</td>
<td>UI20 - RS</td>
</tr>
<tr>
<td>Sensor Common</td>
<td>Scom</td>
<td>Terminal 21 Common</td>
<td>COM</td>
</tr>
<tr>
<td>Mix/Supply Sensor</td>
<td>MS</td>
<td>Universal Input 22</td>
<td>UI22 - SS</td>
</tr>
</tbody>
</table>

APPENDIX B POWER OUTAGE CLOCK RESET

In the event of a power outage, SE8300 Room Controllers retain the correct time as long as the duration of the power outage is not prolonged. Depending on the duration of the power outage, the Room Controllers internal clock may need to be updated or reset completely. The following table gives an indication of the expected clock performance after a power outage of a given duration.

<table>
<thead>
<tr>
<th>Outage duration</th>
<th>Room Controller behavior</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 - 24 hours</td>
<td>Clock functions are normal</td>
</tr>
<tr>
<td>24 - 36 hours</td>
<td>Clock accuracy not guaranteed, time may need to be adjusted</td>
</tr>
<tr>
<td>36 - 72 hours</td>
<td>Clock no longer increments and will need to be adjusted when power is restored.</td>
</tr>
<tr>
<td>72+ hours</td>
<td>Clock functions are fully reset, and will need to be reinitialized as per a new installation.</td>
</tr>
</tbody>
</table>
Technical Support

For any issues with SmartStruxure Solution or SmartStruxure Lite, contact Schneider Electric Technical Support according to your region.

North America (NAM) Product Support
Building Management Systems
productsupport.NAM-BMS@schneider-electric.com
Field Devices
productsupport.NAM-HVAC@schneider-electric.com

Global Product Support
Building Management Systems
productsupport.BMS@schneider-electric.com
Field Devices
productsupport.HVAC@schneider-electric.com

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