



# Connected Wireless System Guide

## *Module 5 – Connected Fan Coil Controls*



| Section  | Page |
|--|------|
| <b>1 Introduction</b>  |      |
| Using this Manual.....   | 1-1  |
| System Overview .....  | 1-2  |
| <b>2 Keypad &amp; Display – Fan Coil Controls</b>                                |      |
| Keypad.....  | 2-1  |
| Display .....  | 2-1  |
| <b>3 ST100ZB Line Power Fan Coil Thermostat</b>                                  |      |
| Included Parts / Tools Required.....   | 3-1  |
| Remove Thermostat (if replacing existing thermostat).....                        | 3-2  |
| Thermostat Installation .....  | 3-4  |
| <b>4 ST101ZB Low Voltage Fan Coil Thermostat</b>                                 |      |
| Included Parts / Tools Required.....   | 4-1  |
| Remove Thermostat (if replacing existing thermostat).....                        | 4-2  |
| Thermostat Installation .....  | 4-4  |
| <b>5 SC102ZB Wireless Fan Coil Controller / ST103ZB Wireless Fan Coil Remote</b> |      |
| Included Parts / Tools Required.....   | 5-1  |
| Remove Thermostat (if replacing existing thermostat).....                        | 5-2  |
| SC102ZB Fan Coil Controller Installation .....                                   | 5-3  |
| Optional External Antenna (Sold Separately).....                                 | 5-5  |
| ST103ZB Wireless Fan Coil Remote Installation .....                              | 5-6  |
| <b>6 Pairing Instructions – Fan Coil Controls</b>                                |      |
| Pairing Instructions .....   | 6-1  |
| Joining the SG888ZB Gateway Network.....   | 6-1  |
| Linking SC102ZB Fan Coil Controller to ST103ZB Remote.....                       | 6-3  |
| Configuring Fan Coil Controls with SALUS Smart Home Application.....             | 6-4  |
| <b>7 Device Configuration – Fan Coil Controls</b>                                |      |
| Settings Button Operation .....  | 7-1  |
| Special Function Codes .....   | 7-4  |
| <b>8 Operation</b>   |      |
| Operating Modes .....  | 8-1  |
| Programmable Thermostat (Standalone or Local Mode Only).....                     | 8-2  |
| Set Point Override .....   | 8-2  |
| Heating/Cooling Modes.....   | 8-2  |
| Fan Modes.....   | 8-3  |
| Accessory Function .....   | 8-4  |
| AWAY Mode .....  | 8-5  |
| <b>9 Device Troubleshooting</b>  |      |
| Troubleshooting.....   | 9-1  |
| <b>Appendix A – Parameter List</b>   |      |
| Parameter List .....   | A-1  |

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## Using this Manual

For the latest Instructions go to: [WWW.SALUSINC.COM](http://WWW.SALUSINC.COM)

To cover all SALUS Wireless Products without requiring customers to download unnecessary documentation, the Wireless System Guide has been divided into 5 Modules. Module 1 is required for all connected systems since it covers installation of the SG888ZB Gateway and the SALUS Smart Home application. The remaining modules are specific to a particular group of controls.

Below is a description of several icons used to direct the reader's attention.

### Special Attention Boxes

This manual uses special attention icons to alert the reader of important safety concerns, information important to reliable operation of the controls or helpful installation/setup information.

**Safety:**

Indicates a condition which may cause severe personal injury, death or major property damage

**Important Information:**

Indicates information which requires special attention for correct operation of the control

**Your Benefit:**

Indicates helpful installation or setup information

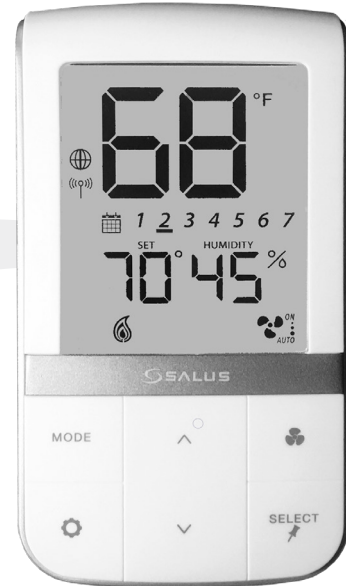
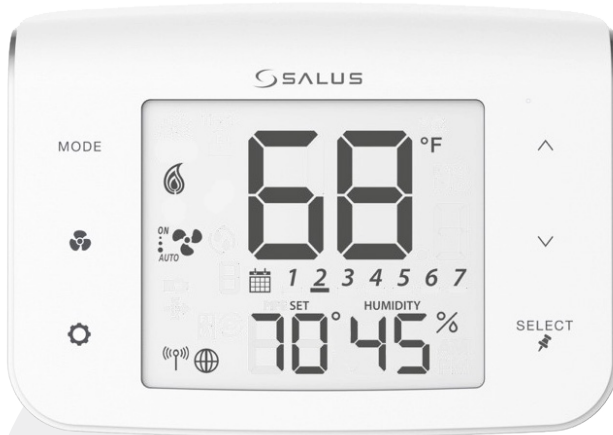
## System Overview

SALUS connected Fan Coil control systems use Zigbee-based communications protocol to provide a universal language for smart components to work together seamlessly and securely with an internet connection.



By connecting the SG888ZB Gateway to your home network, the system is connected to the worldwide web. Monitor or adjust your Fan Coil system from anywhere via the SALUS Smart Home application from a smart device or computer. If the connection to the internet is lost, the system continues to function with the settings selected.

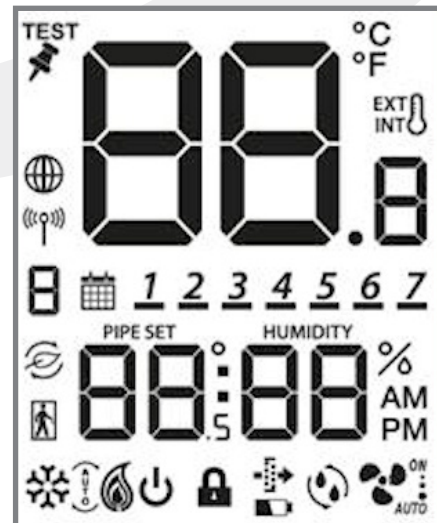
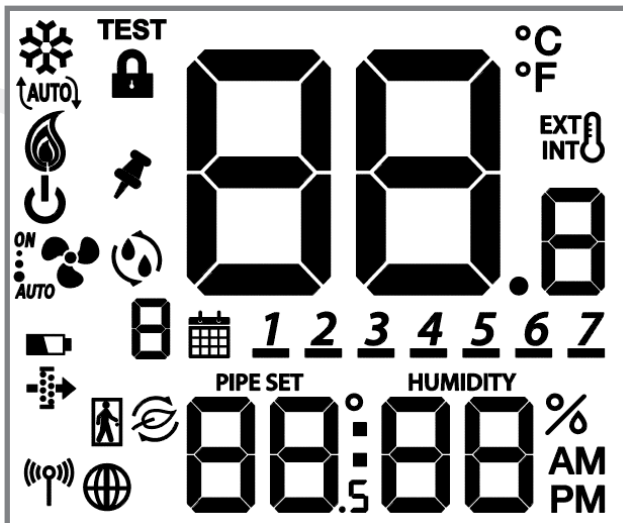
### Keypad

























**Table 2.1: Keypad Functions**

|             |   |                   |   |
|-------------|---|-------------------|---|
| <b>MODE</b> | Heat, Cool, Auto, Off selection                     |                   | Increase Value                                      |
|             | Fan On/Auto, Low Speed, Medium Speed, or High Speed |                   | Decrease Value                                      |
|             | Enter/Exit Settings mode                            | <b>SELECT</b><br> | Confirm/Change Display Mode/Activate Permanent Hold |

### Display



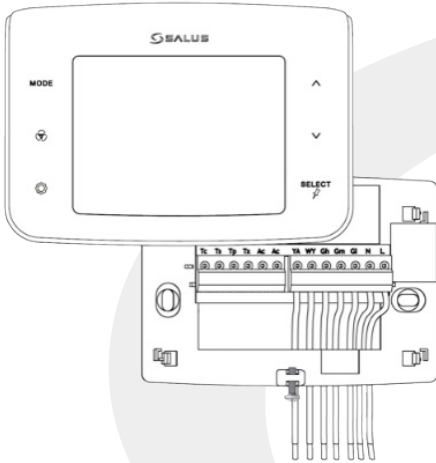
**Table 2.2: Display Icons**

| Heat/Cool/Off Modes   |  |  |  |
|---|--|--|--|
|    | Cooling (Animated when cooling is on)  |               | Heating (Animated when heat is on)   |
|    | Auto Heat/Cool Changeover  |               | Off  |
| Fan Modes   |  |  |  |
|    | ON – Indicates Constant Fan Enabled<br>3 Dots – High Speed<br>AUTO – Automatic Fan Speed |               | – Constant Fan Disabled<br>1 Dot – Low Speed<br>AUTO – Automatic Fan Speed                               |
|    | Fixed Fan Speed – Low  |               | Fixed Fan Speed – Medium   |
|    |  |             | Fixed Fan Speed – High   |
| Wireless/Internet Indications   |  |  |  |
|    | Device connected to local network  |               | Device connected to SALUS Smart Home Service   |
| Test/Key Lock/Battery/Filter  |  |  |  |
| <b>TEST</b>   | Test Mode (Special Code 22)  |             | Keys Locked Mode   |
|    | Battery Low (ST103 Wireless Remote Only)   |             | Change Filter (Timer expired)  |
|    | Accessory Output On (Humidifier, Dehumidifier, ERV or HRV)                               |  |  |
| Internal/External Temperature Sensor  |  |  |  |
| <b>EXT</b>   | External Sensor Indication (wired or wireless)   | <b>INT</b>  | Internal Sensor Indication (Only visible in TEST Mode)   |
| Schedule Indications  |  |  |  |
| <b><u>1</u> <u>2</u> <u>3</u> <u>4</u> <u>5</u> <u>6</u> <u>7</u></b> Day of the week (Mon = 1, Tue = 2, Wed = 3, Thu = 4, Fri = 5, Sat = 6, Sun = 7) |  |  |  |
|    | Schedule Interval (1-6) - Specifies time interval of scheduled temperature changes       |             | Schedule Indicator – When shown, the Thermostat is following a schedule                                  |
|    | Setback Indicator – Setback input is activated   |             | AWAY State Indicator – Displayed when the Fan Coil Thermostat is set to AWAY, using setback temperatures |
| Multifunction Temperature Indication  |  |  |  |
| <b>PIPE</b>   | Pipe temperature reading shown   | <b>SET</b>   | Setpoint temperature reading shown   |

### Included Parts



Be sure that all parts listed are included and available before starting installation.



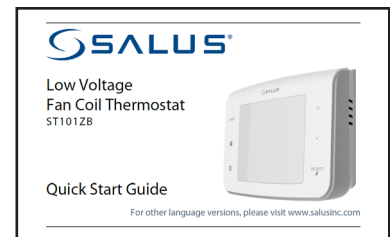
Thermostat with Wiring Mount

| AC Power Fan Coil Wiring Labels |    |
|---------------------------------|----|
| L                               | L  |
| N                               | N  |
| W                               | W  |
| Y                               | Y  |
| A                               | A  |
| Gh                              | Gh |
| Gm                              | Gm |
| Gl                              | Gl |
| Tp                              | Tp |
| Tx                              | Tx |
| Ts                              | Ts |
| Tc                              | Tc |
| Tc                              | Tc |
| Tc                              | Tc |
| Ac                              | Ac |
| Ac                              | Ac |

Wiring Labels

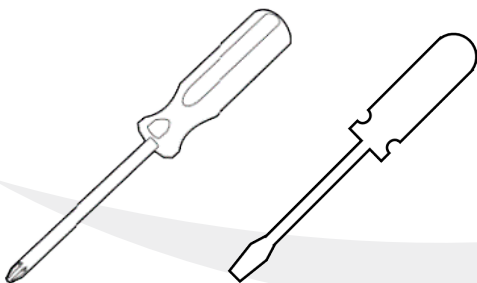


Mounting Screws



Installation/Quick Start Guide (English & French)

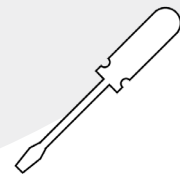
### Tools Required



#1 Phillips or flathead screwdriver



Smartphone or digital camera – (optional for wiring reference photos)



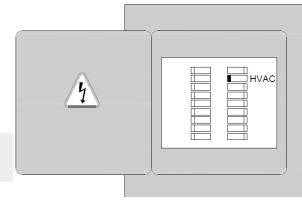
Small screwdriver (optional for existing thermostat terminals)



## Remove Thermostat (if replacing existing thermostat)



Before removing the existing thermostat, turn off power to the fan coil system.



**Step 1.** Review and record the existing thermostat wiring configuration:

- Remove thermostat from wall plate to expose wiring terminals
- Take a photograph or note the wire colors and connections (see wiring reference table below)
- Attach wire labels to each of the wires

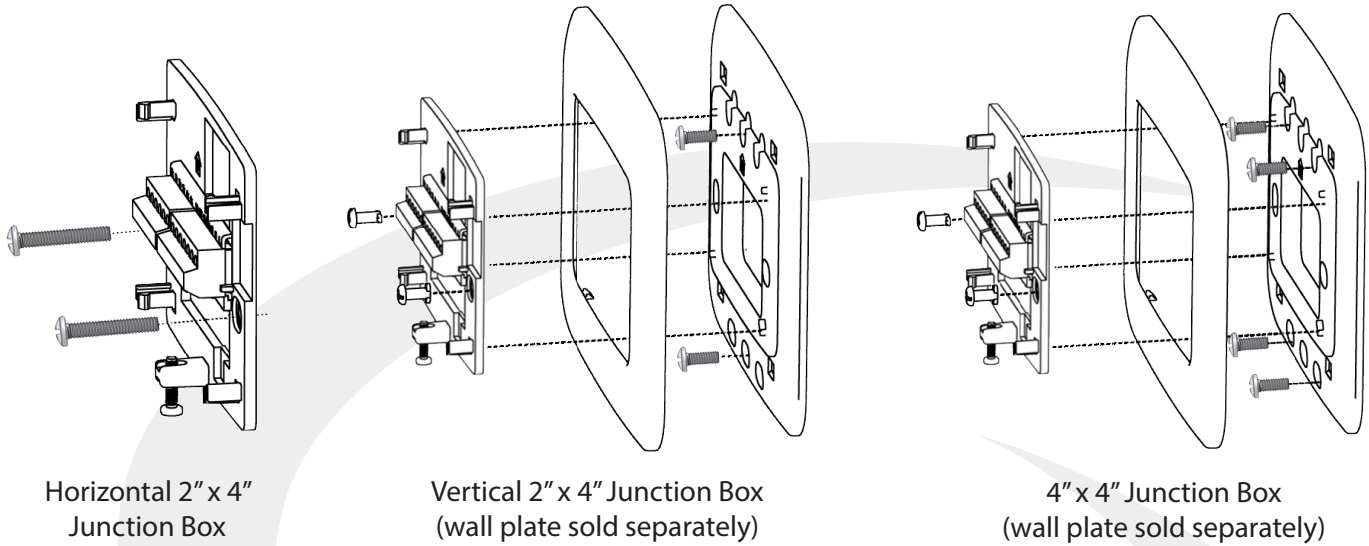
| Terminal Designation | Wire Color | Function                       |                                |
|----------------------|------------|--------------------------------|--------------------------------|
|                      |            | 4-Pipe System                  | 2-Pipe System                  |
| L                    | Black      | 120/240 VAC Line Power         | 120/240 VAC Line Power         |
| N                    | White      | 120/240 Neutral                | 120/240 Neutral                |
| WY                   | Red        | Heating Valve Actuator         | Heating/Cooling Valve Actuator |
| YA                   | Blue       | Cooling Valve Actuator         | Auxiliary Heat                 |
| Gl                   | Brown      | Fan Signal – Low Speed         | Fan Signal – Low Speed         |
| Gm                   | Orange     | Fan Signal – Medium Speed      | Fan Signal – Medium Speed      |
| Gh                   | Yellow     | Fan Signal – High Speed        | Fan Signal – High Speed        |
| Ac                   |            | Accessory Contact              | Accessory Contact              |
| Ac                   |            | Accessory Contact              | Accessory Contact              |
| Tp                   |            | Supply Pipe Temperature Sensor | Supply Pipe Temperature Sensor |
| Tx                   |            | External Temperature Sensor    | External Temperature Sensor    |
| Ts                   |            | Temperature Setback            | Temperature Setback            |
| Tc                   |            | Tp/Tx/Ts Common                | Tp/Tx/Ts Common                |

**Step 2.** Label each wire when disconnecting them from thermostat terminals and remove the thermostat mounting plate.



Paint the mounting surface, if desired, before mounting the new thermostat back plate to ensure complete wall coverage.

## Thermostat Installation



**Step 1.** Install the Wiring Mount in the desired location using the junction box screws provided, making sure the wires go through the center opening. An optional wall plate (sold separately) is available for mounting to other junction box configurations.

**Step 2.** Connect the wiring to the ST100ZB Back Plate. Use the chart below to identify the desired configuration. Schematic diagrams for 4-Pipe, 2-Pipe and 2-Pipe Applications are provided on the following page.

**Table 3.2: Wiring Configuration Checklist**

| Configuration                                | L | N | WY  | YA | GI | Gm | Gh | Ac | Ac | Tp | Tx | Ts | Tc* |
|--|---|---|-----|----|----|----|----|----|----|----|----|----|-----|
| 2-Pipe Heat Only                             | ✓ | ✓ | W   |    | ✓  | ✓  | ✓  | o  | o  | o  | o  | o  | o   |
| 2-Pipe Cool Only                             | ✓ | ✓ | Y   |    | ✓  | ✓  | ✓  | o  | o  | o  | o  | o  | o   |
| 2-Pipe Heat/Cool Manual Changeover           | ✓ | ✓ | W/Y |    | ✓  | ✓  | ✓  | o  | o  | o  | o  | o  | o   |
| 2-Pipe Heat/Cool Seasonal Changeover         | ✓ | ✓ | W/Y |    | ✓  | ✓  | ✓  | o  | o  | ✓  | o  | o  | ✓   |
| 2-Pipe Heat/Cool w/Auxiliary Heat            | ✓ | ✓ | W/Y | A  | ✓  | ✓  | ✓  | o  | o  | ✓  | o  | o  | ✓   |
| 4-Pipe Heat/Cool w/Manual or Auto Changeover | ✓ | ✓ | W   | Y  | ✓  | ✓  | ✓  | o  | o  | o  | o  | o  | o   |

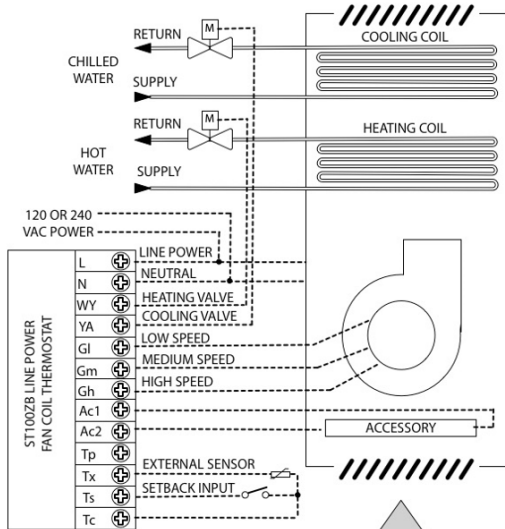
✓=Required / o=Optional / W=Heat Valve Actuator / Y=Cool Valve Actuator / A=Auxiliary Heat

\* If using more than one (Tp/Tx/Ts) terminal, it may be necessary to splice Tc.

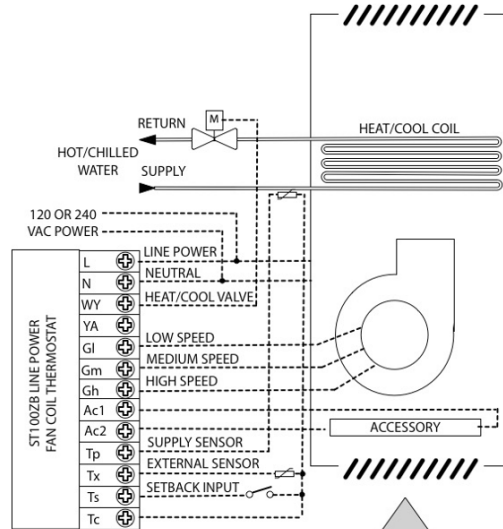
# Section 3

# Module 5 – Connected Fan Coil Controls ST100ZB Line Power Fan Coil Thermostat

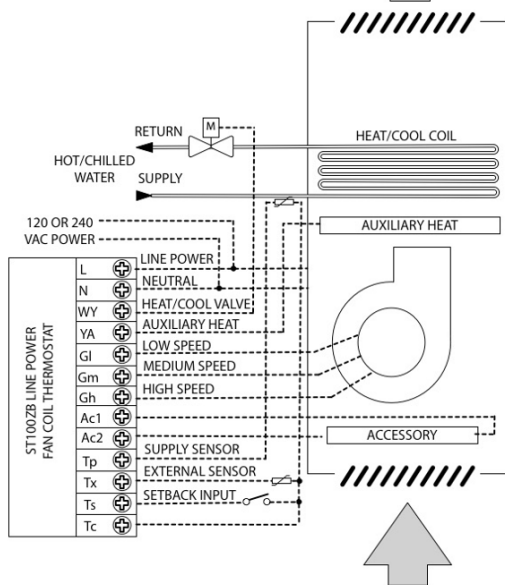
**ST100ZB  
4-Pipe Application**



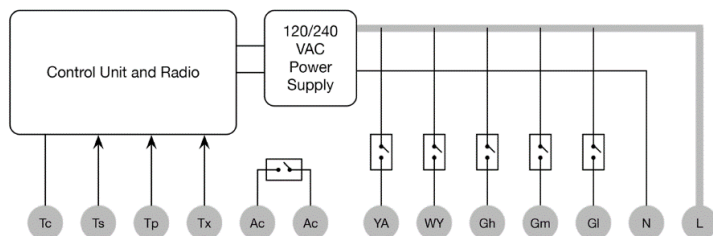
**ST100ZB  
2-Pipe Application**



**ST100ZB  
2-Pipe Auxiliary  
Heat Application**

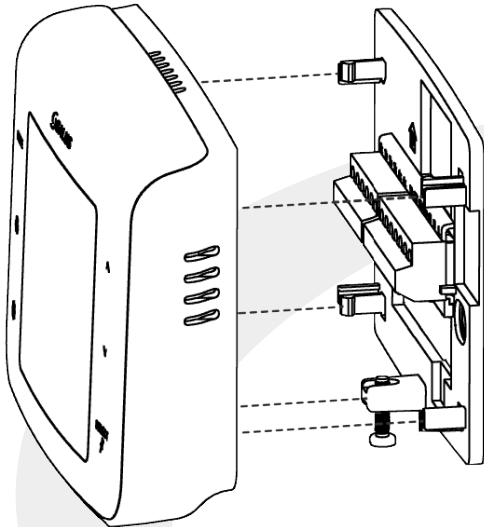


**ST100ZB  
Internal Block  
Diagram**

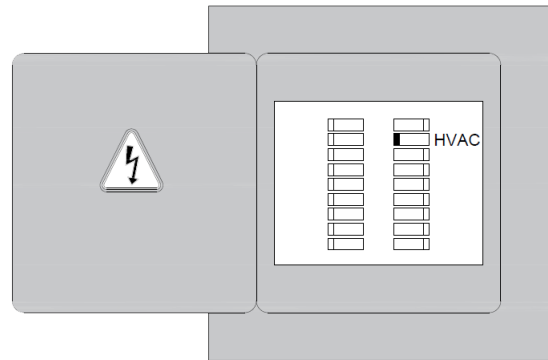




Remove any unused, pre-wired leads or add wire nut cap to isolate line voltage.



**Step 3.** Attach Thermostat to the Wiring Mount by aligning the connector pins.



**Step 4.** Turn on power to the fan coil system and thermostat.

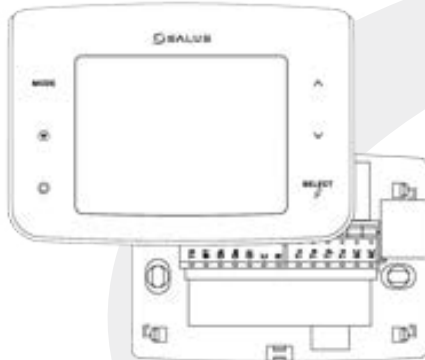


Make sure the connector pins are not bent and that the Thermostat is fully seated on the wiring mount.

### Included Parts



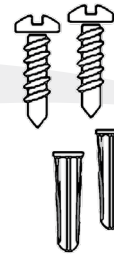
Be sure that all parts listed are included and available before starting installation.



Thermostat with Wiring Mount

|    |    |
|----|----|
| R  | R  |
| C  | C  |
| W  | W  |
| Y  | Y  |
| A  | A  |
| Gh | Gh |
| Gm | Gm |
| Gl | Gl |
| Tp | Tp |
| Tx | Tx |
| Ts | Ts |
| Tc | Tc |
| Tc | Tc |
| Tc | Tc |
| Ac | Ac |
| Ac | Ac |

Wiring Labels

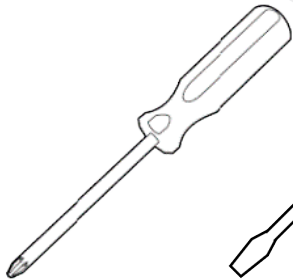


Mounting Screws

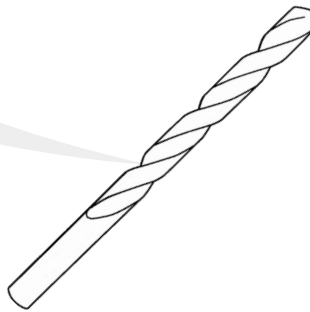
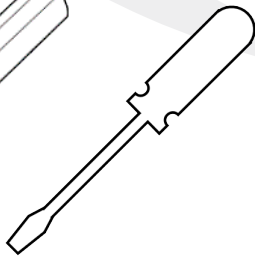


Installation/Quick Start Guide (English & French)

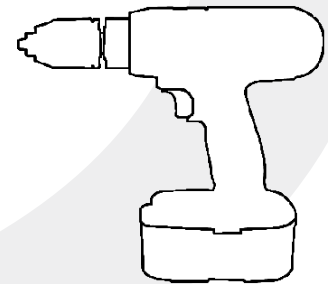
### Tools Required



#1 Phillips or flathead screwdriver



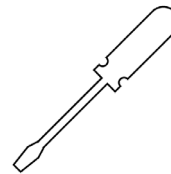
3/16" drill bit (optional)



Power Drill (optional)



Smartphone or digital camera – (optional for wiring reference photos)

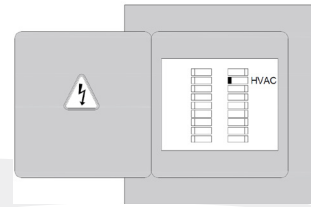


Small screwdriver (optional for existing thermostat terminals)

## Remove Thermostat (if replacing existing thermostat)



Before removing the existing thermostat, turn off power to the fan coil system.

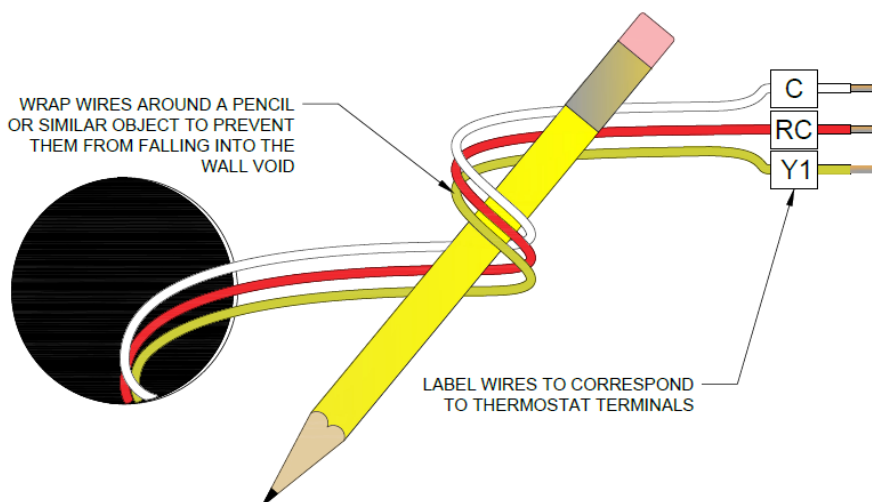


**Step 1.** Review and record the existing thermostat wiring configuration:

- Remove thermostat from wall plate to expose wiring terminals
- Take a photograph or note the wire colors and connections (see wiring reference table below)
- Attach wire labels to each of the wires

**Table 4.1: Wire Designation Record**

| Terminal Designation | Wire Color | Function                       |                                |
|----------------------|------------|--------------------------------|--------------------------------|
|                      |            | 4-Pipe System                  | 2-Pipe System                  |
| L                    |            | 24 VAC Input                   | 24 VAC Input                   |
| C                    |            | 24 VAC Common                  | 24 VAC Common                  |
| WY                   |            | Heating Valve Actuator         | Heating/Cooling Valve Actuator |
| YA                   |            | Cooling Valve Actuator         | Auxiliary Heat                 |
| Gl                   |            | Fan Signal – Low Speed         | Fan Signal – Low Speed         |
| Gm                   |            | Fan Signal – Medium Speed      | Fan Signal – Medium Speed      |
| Gh                   |            | Fan Signal – High Speed        | Fan Signal – High Speed        |
| Ac                   |            | Accessory Contact              | Accessory Contact              |
| Ac                   |            | Accessory Contact              | Accessory Contact              |
| Tp                   |            | Supply Pipe Temperature Sensor | Supply Pipe Temperature Sensor |
| Tx                   |            | External Temperature Sensor    | External Temperature Sensor    |
| Ts                   |            | Temperature Setback            | Temperature Setback            |
| Tc                   |            | Tp/Tx/Ts Common                | Tp/Tx/Ts Common                |

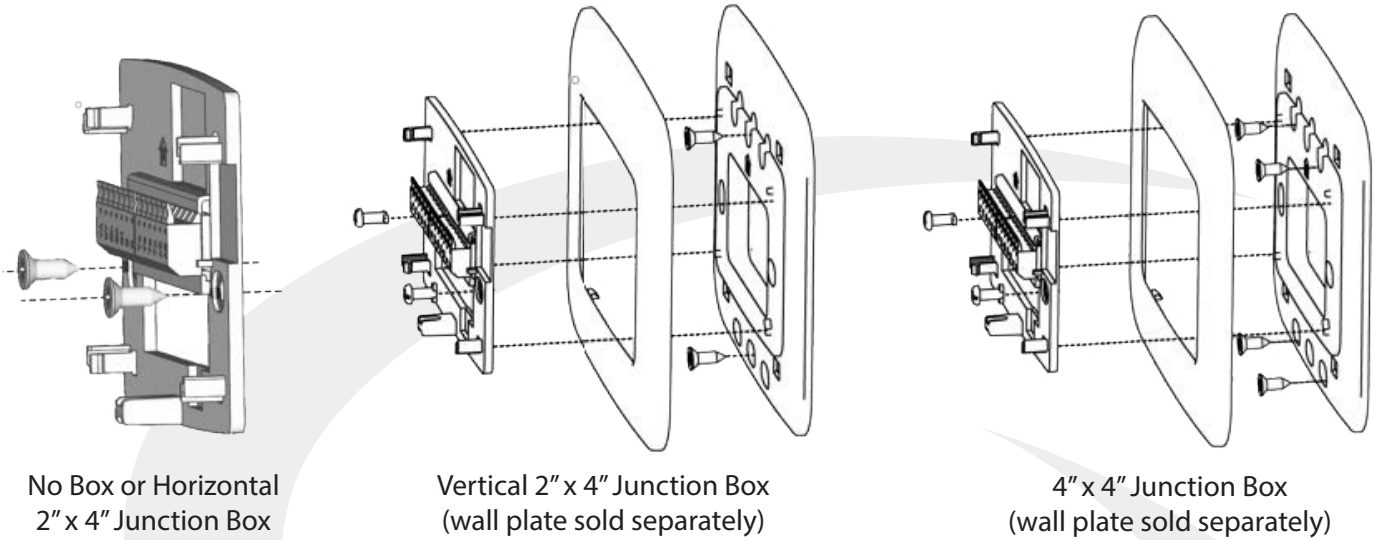


**Step 2.** Label each wire when disconnecting them from thermostat terminals and remove the thermostat mounting plate.



Paint the mounting surface, if desired, before mounting the new thermostat back plate to ensure complete wall coverage.

## Thermostat Installation



No Box or Horizontal  
2" x 4" Junction Box

Vertical 2" x 4" Junction Box  
(wall plate sold separately)

4" x 4" Junction Box  
(wall plate sold separately)

**Step 1.** Install the Wiring Mount in the desired location using the junction box screws provided, making sure the wires go through the center opening. An optional wall plate (sold separately) is available for mounting to other junction box configurations.

**Step 2.** Connect the wiring to the ST101ZB Back Plate. Use the chart below to identify the desired configuration. Schematic diagrams for 4-Pipe, 2-Pipe and 2-Pipe Applications are provided on the following page.

**Table 3.2: Wiring Configuration Checklist**

| Configuration                                | R | C | WY  | YA | GI | Gm | Gh | Ac | Ac | Tp | Tx | Ts | Tc* |
|--|---|---|-----|----|----|----|----|----|----|----|----|----|-----|
| 2-Pipe Heat Only                             | ✓ | ✓ | W   |    | ✓  | ✓  | ✓  | o  | o  | o  | o  | o  | o   |
| 2-Pipe Cool Only                             | ✓ | ✓ | Y   |    | ✓  | ✓  | ✓  | o  | o  | o  | o  | o  | o   |
| 2-Pipe Heat/Cool Manual Changeover           | ✓ | ✓ | W/Y |    | ✓  | ✓  | ✓  | o  | o  | o  | o  | o  | o   |
| 2-Pipe Heat/Cool Seasonal Changeover         | ✓ | ✓ | W/Y |    | ✓  | ✓  | ✓  | o  | o  | ✓  | o  | o  | ✓   |
| 2-Pipe Heat/Cool w/Auxiliary Heat            | ✓ | ✓ | W/Y | A  | ✓  | ✓  | ✓  | o  | o  | ✓  | o  | o  | ✓   |
| 4-Pipe Heat/Cool w/Manual or Auto Changeover | ✓ | ✓ | W   | Y  | ✓  | ✓  | ✓  | o  | o  | o  | o  | o  | o   |

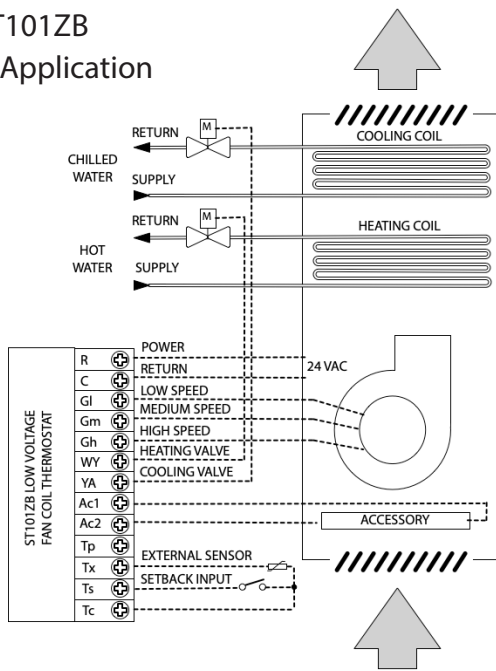
✓=Required / o=Optional / W=Heat Valve Actuator / Y=Cool Valve Actuator / A=Auxiliary Heat

\* If using more than one (Tp/Tx/Ts) terminal, it may be necessary to splice Tc.

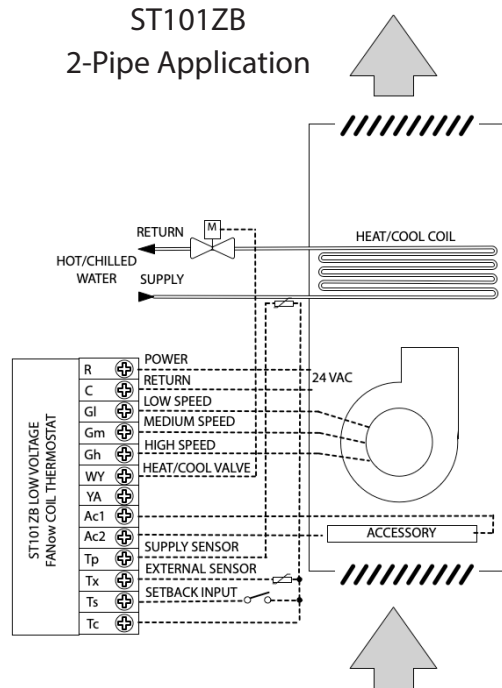
# Section 4

# Module 5 – Connected Fan Coil Controls ST101ZB Low Voltage Fan Coil Thermostat

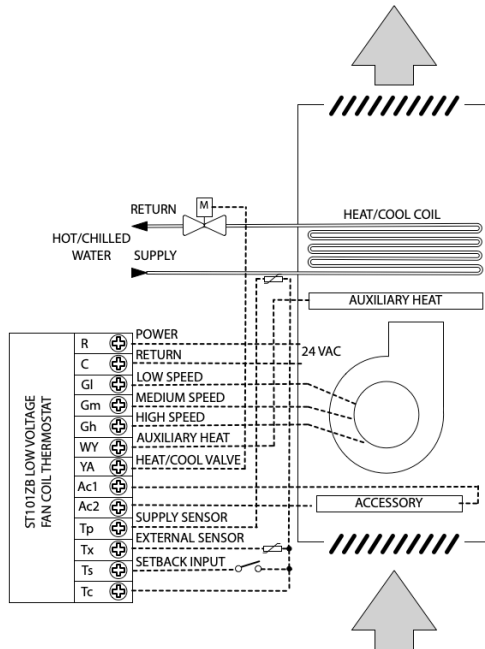
### ST101ZB 4-Pipe Application



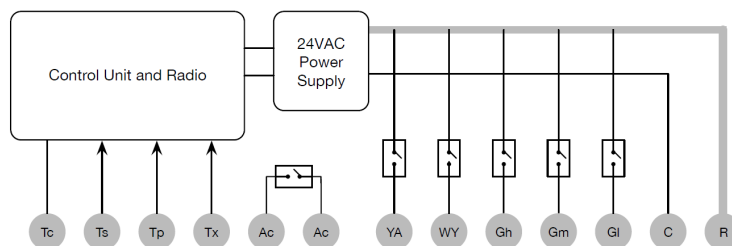
### ST101ZB 2-Pipe Application



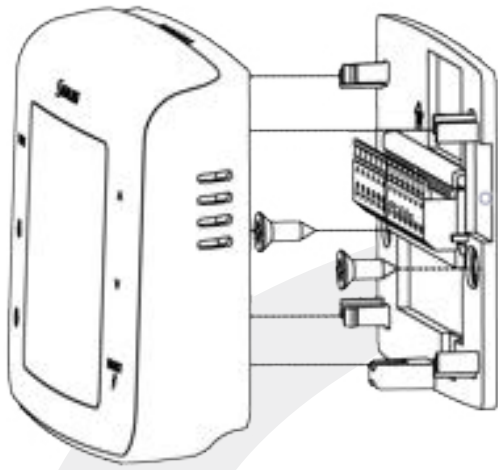
### ST101ZB 2-Pipe Auxiliary Heat Application



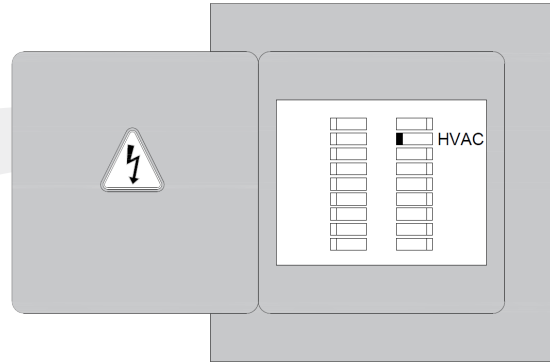
### ST101ZB Internal Block Diagram







**Step 3.** Attach Thermostat to the Wiring Mount by aligning the connector pins.



**Step 4.** Turn on power to the fan coil system and thermostat.



Make sure the connector pins are not bent and that the Thermostat is fully seated on the wiring mount.

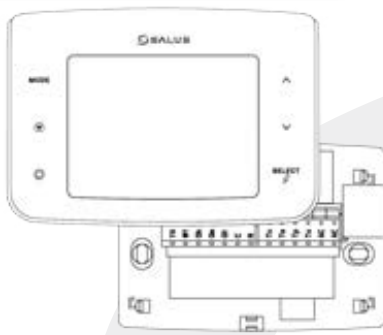
# Section 5

## Module 5 – Connected Fan Coil Controls SC102ZB Wireless Fan Coil Controller / ST103ZB Wireless Fan Coil Remote

### Included Parts



Be sure that all parts listed are included and available before starting installation.



SC102ZB Wireless Fan Coil Controller with Wiring Mount

|    |    |
|----|----|
| R  | R  |
| C  | C  |
| W  | W  |
| Y  | Y  |
| A  | A  |
| Gh | Gh |
| Gm | Gm |
| Gl | Gl |
| Tp | Tp |
| Tx | Tx |
| Ts | Ts |
| Tc | Tc |
| Tc | Tc |
| Tc | Tc |
| Ac | Ac |
| Ac | Ac |

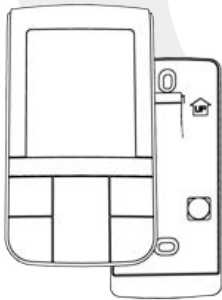
Wiring Labels



Mounting Screws



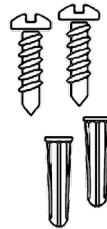
Installation/Quick Start Guide (English & French)



ST103ZB Wireless Fan Coil Remote with Batteries and Wall Mount



Desk Stand

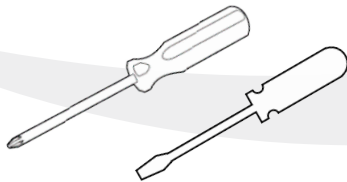


Mounting Screws

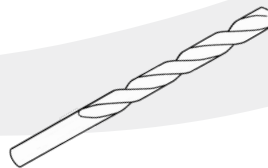


Installation/Quick Start Guide (English & French)

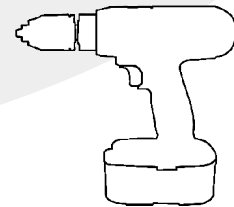
### Tools Required



#1 Phillips or flathead screwdriver **(required)**



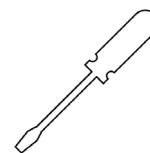
3/16" drill bit **(optional)**



Power Drill **(optional)**



Smartphone or digital camera **(optional - for wiring reference photos)**

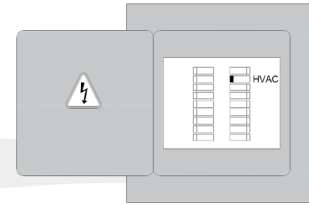


Small screwdriver **(optional)** - for existing thermostat terminals

## Remove Thermostat (if replacing existing thermostat)



Before removing the existing thermostat, turn off power to the fan coil system.

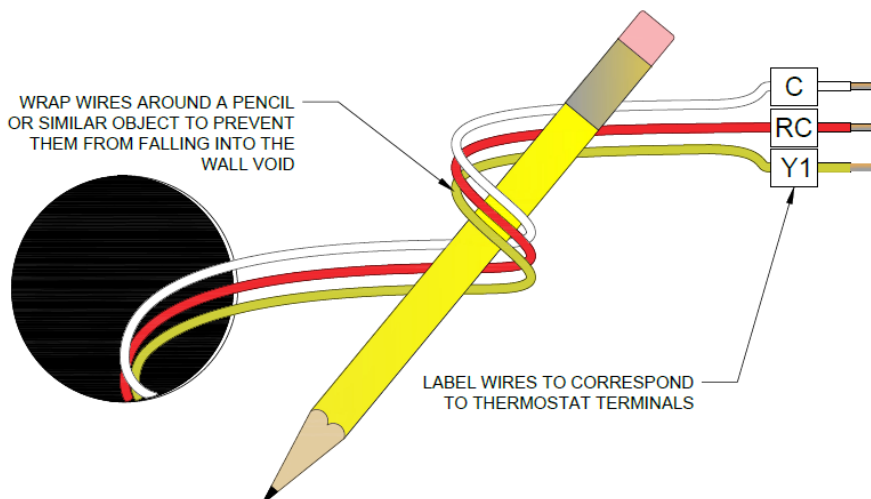


**Step 1.** Review and record the existing thermostat wiring configuration:

- Remove thermostat from wall plate to expose wiring terminals
- Take a photograph or note the wire colors and connections (see wiring reference table below)

**Table 5.1: Wire Designation Record**

| Terminal Designation | Wire Color | Function                       |                                |
|----------------------|------------|--------------------------------|--------------------------------|
|                      |            | 4-Pipe System                  | 2-Pipe System                  |
| R                    |            | 24 VAC Input                   | 24 VAC Input                   |
| C                    |            | 24 VAC Common                  | 24 VAC Common                  |
| WY                   |            | Heating Valve Actuator         | Heating/Cooling Valve Actuator |
| YA                   |            | Cooling Valve Actuator         | Auxiliary Heat                 |
| Gl                   |            | Fan Signal – Low Speed         | Fan Signal – Low Speed         |
| Gm                   |            | Fan Signal – Medium Speed      | Fan Signal – Medium Speed      |
| Gh                   |            | Fan Signal – High Speed        | Fan Signal – High Speed        |
| Ac                   |            | Accessory Contact              | Accessory Contact              |
| Ac                   |            | Accessory Contact              | Accessory Contact              |
| Tp                   |            | Supply Pipe Temperature Sensor | Supply Pipe Temperature Sensor |
| Tx                   |            | External Temperature Sensor    | External Temperature Sensor    |
| Ts                   |            | Temperature Setback            | Temperature Setback            |
| Tc                   |            | Tp/Tx/Ts Common                | Tp/Tx/Ts Common                |

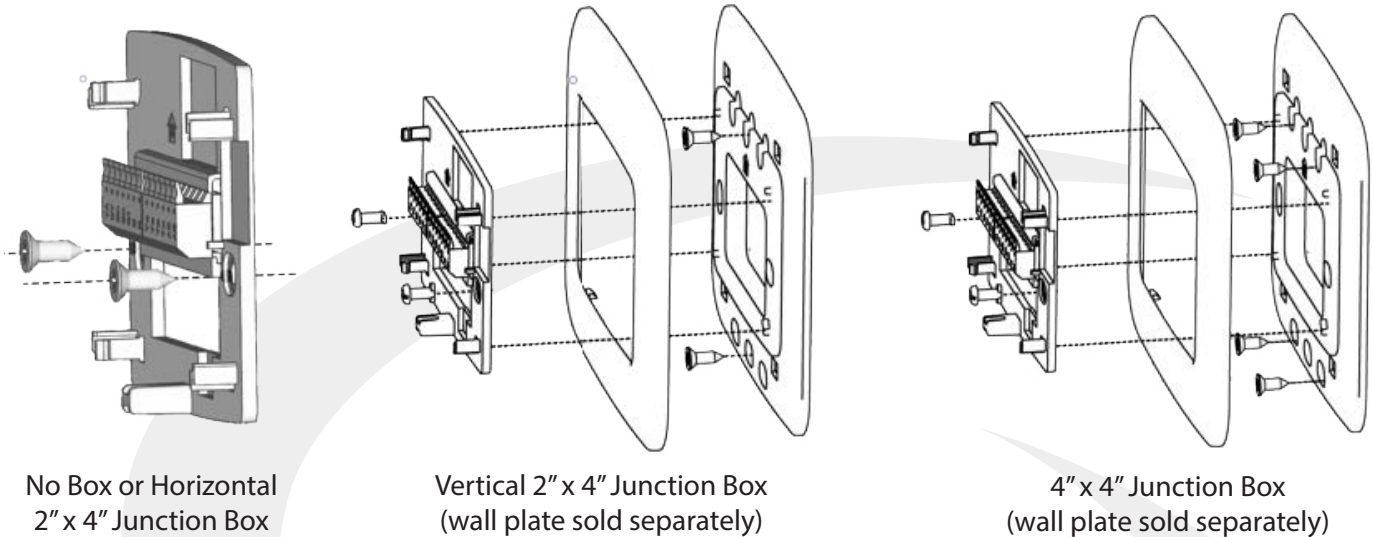


**Step 2.** Label each wire when disconnecting them from thermostat terminals and remove the thermostat mounting plate.



Paint the mounting surface, if desired, before mounting the new thermostat back plate to ensure complete wall coverage.

## SC102ZB Fan Coil Controller Installation



No Box or Horizontal  
2" x 4" Junction Box

Vertical 2" x 4" Junction Box  
(wall plate sold separately)

4" x 4" Junction Box  
(wall plate sold separately)

**Step 1.** Install the Wiring Mount in the desired location using the junction box screws provided, making sure the wires go through the center opening. An optional wall plate (sold separately) is available for mounting to other junction box configurations.

**Step 2.** Connect the wiring to the SC102ZB Back Plate. Use the chart below to identify the desired configuration. Schematic diagrams for 4-Pipe, 2-Pipe and 2-Pipe Applications are provided on the following page.

**Table 5.2: Wiring Configuration Checklist**

| Configuration                                | R | C | WY  | YA | GI | Gm | Gh | Ac | Ac | Tp | Tx | Ts | Tc* |
|--|---|---|-----|----|----|----|----|----|----|----|----|----|-----|
| 2-Pipe Heat Only                             | ✓ | ✓ | W   |    | ✓  | ✓  | ✓  | o  | o  | o  | o  | o  | o   |
| 2-Pipe Cool Only                             | ✓ | ✓ | Y   |    | ✓  | ✓  | ✓  | o  | o  | o  | o  | o  | o   |
| 2-Pipe Heat/Cool Manual Changeover           | ✓ | ✓ | W/Y |    | ✓  | ✓  | ✓  | o  | o  | o  | o  | o  | o   |
| 2-Pipe Heat/Cool Seasonal Changeover         | ✓ | ✓ | W/Y |    | ✓  | ✓  | ✓  | o  | o  | ✓  | o  | o  | ✓   |
| 2-Pipe Heat/Cool w/Auxiliary Heat            | ✓ | ✓ | W/Y | A  | ✓  | ✓  | ✓  | o  | o  | ✓  | o  | o  | ✓   |
| 4-Pipe Heat/Cool w/Manual or Auto Changeover | ✓ | ✓ | W   | Y  | ✓  | ✓  | ✓  | o  | o  | o  | o  | o  | o   |

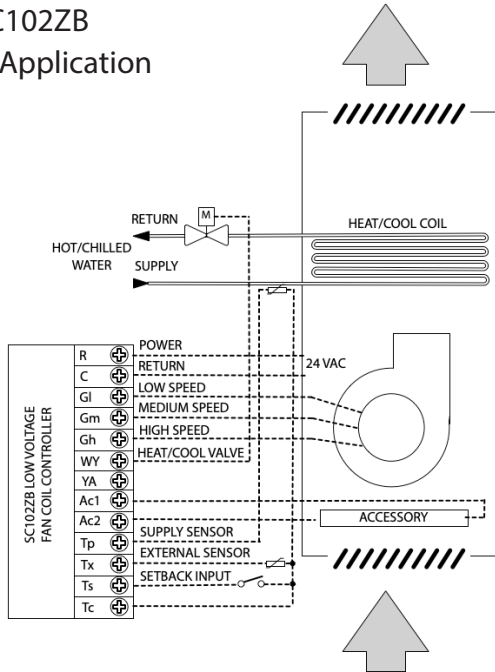
✓=Required / o=Optional / W=Heat Valve Actuator / Y=Cool Valve Actuator / A=Auxiliary Heat

\* If using more than one (Tp/Tx/Ts) terminal, it may be necessary to splice Tc.

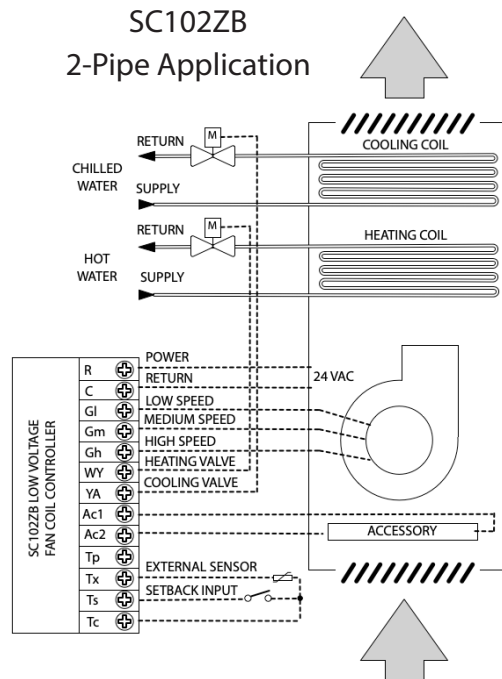
# Section 5

## Module 5 – Connected Fan Coil Controls SC102ZB Wireless Fan Coil Controller / ST103ZB Wireless Fan Coil Remote

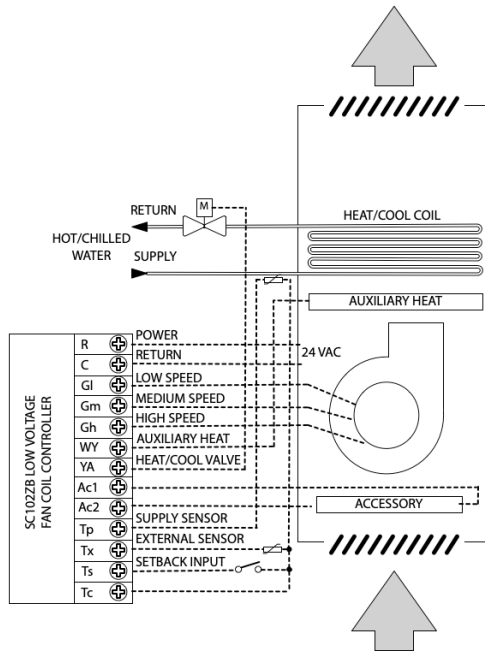
SC102ZB  
4-Pipe Application



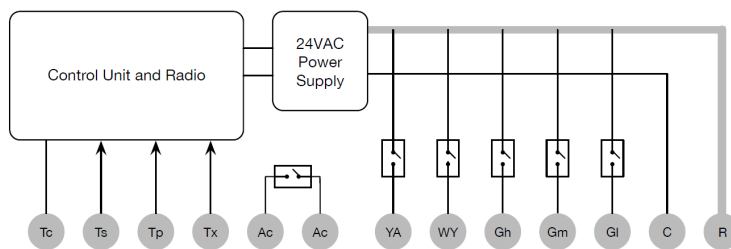
SC102ZB  
2-Pipe Application



SC102ZB  
2-Pipe Auxiliary  
Heat Application

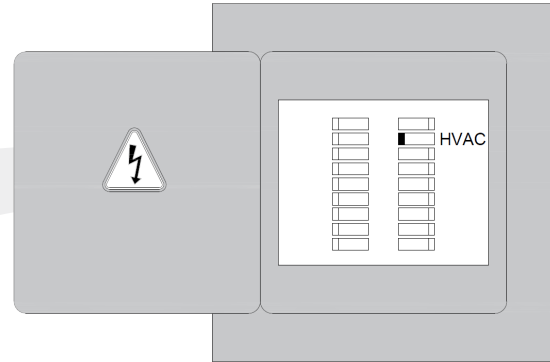
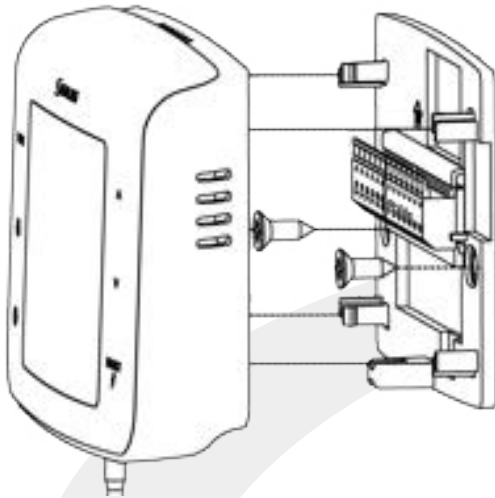


SC102ZB  
Internal Block  
Diagram



## Section 5

# Module 5 – Connected Fan Coil Controls SC102ZB Wireless Fan Coil Controller / ST103ZB Wireless Fan Coil Remote



**Step 3.** Attach Thermostat to the Wiring Mount by aligning the connector pins.

**Step 4.** Turn on power to the fan coil system and thermostat.



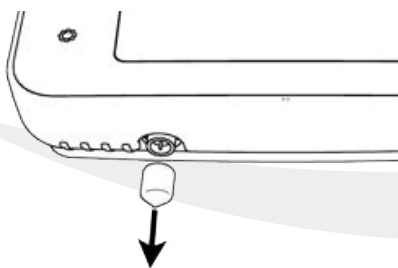
Make sure the connector pins are not bent and that the Thermostat is fully seated on the wiring mount.



If an external antenna (sold separately) is required due to insufficient radio coverage, attach the antenna, as follows, before attaching the controller to the wiring mount.

## Optional External Antenna (Sold Separately):

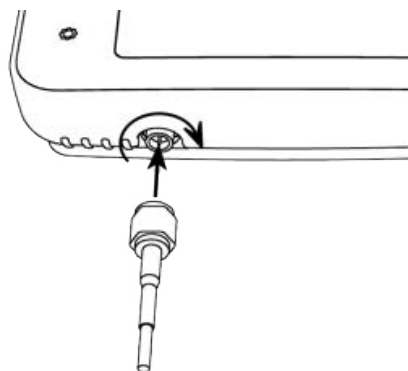
Use the ANT10RF External Antenna if there is insufficient radio signal at the ST103ZB Wireless Remote or SS909ZB Remote Temperature Sensor.



**Step 1.** Remove the antenna connector cover located on the bottom of the SC102ZB Fan Coil Controller.



Avoid locations that place large metal enclosures, piping or dense electrical wires between the SC102ZB Fan Coil Controller and the ST103ZB Wireless Fan Coil Remote.

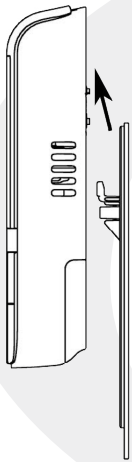


**Step 2.** Attach the external antenna to the connector, making sure the nut is finger tight.  
**DO NOT OVERTIGHTEN** the nut.

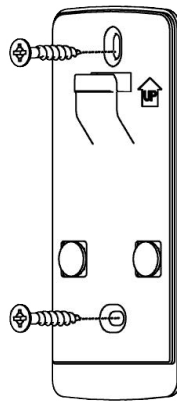
## ST103ZB Wireless Fan Coil Remote Installation

The ST103ZB Wireless Fan Coil Remote acts as a remote thermostat which can be wall mounted or placed in a stand for desk or cabinet top operation. The Wireless Remote can be paired prior to mounting (see Section 6, Pairing Instructions for details). For desk top operation, the ST103ZB can be moved to a different location at any time.

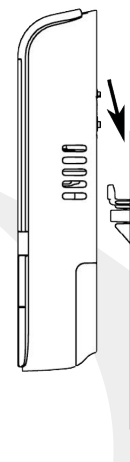
### Wall Mounting



**Step 1.** Remove the Wall Mount from the back of the ST103ZB Wireless Fan Coil Remote.

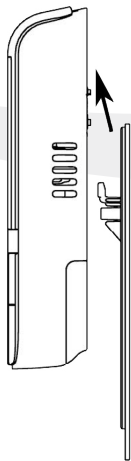


**Step 2.** Attach the Wall Mount in the desired location using the screws and anchors provided.

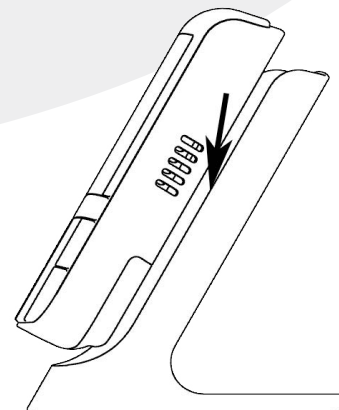


**Step 3.** Slip the ST103ZB Wireless Fan Coil Remote onto the Wall Mount.

### Desk or Cabinet Top Mounting



**Step 3.** Remove the Wall Mount from the back of the ST103ZB Wireless Fan Coil Remote.



**Step 4.** Slip the ST103ZB Wireless Fan Coil Remote onto the Desk Stand.

## Pairing Instructions



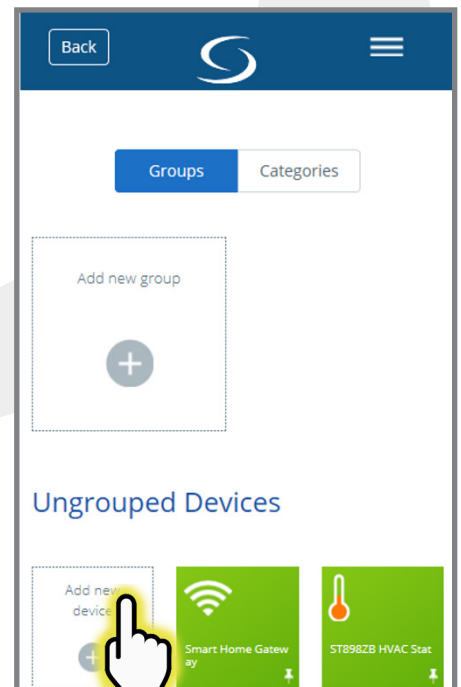
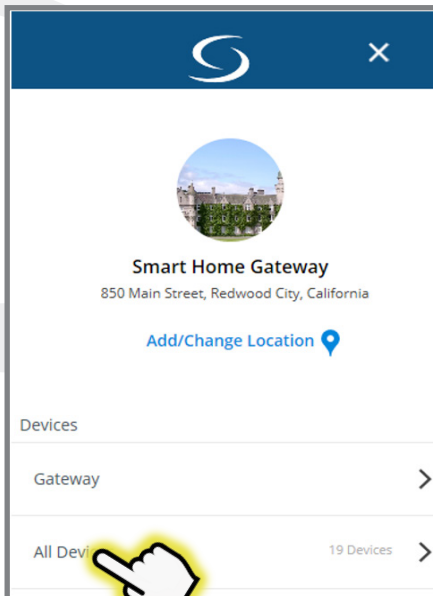
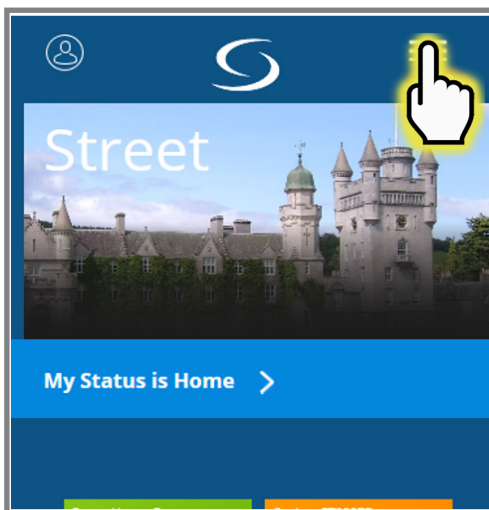
After installing Fan Coil Thermostats or Controllers and any optional SS909ZB Temperature Sensors, be sure that power has been restored to the fan coil system and Fan Coil Thermostat.



When the Fan Coil Thermostat, Controller or Remote is first powered, all segments will be briefly displayed. The boot sequence described previously will be displayed.

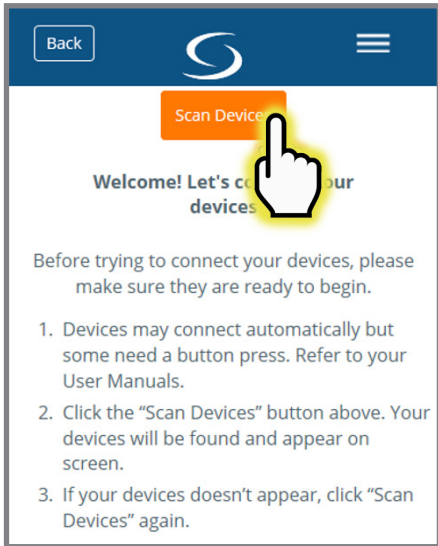
If the device is not connected to a network, the device will display PAIR and a 10 minute countdown timer will start.

## Joining the SG888ZB Gateway Network

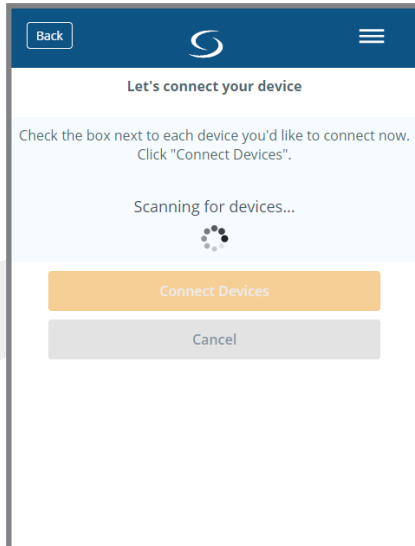


**Step 1.** Open the SALUS Smart Home application, select the drop-down menu from the upper right of the screen and select: All Devices → Add new device.

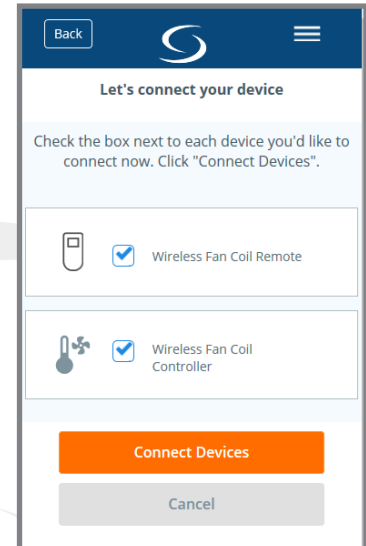




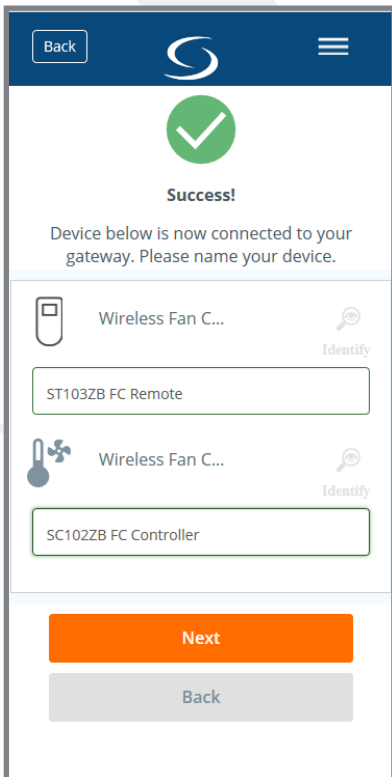
**Step 2.** Click “Scan Devices”



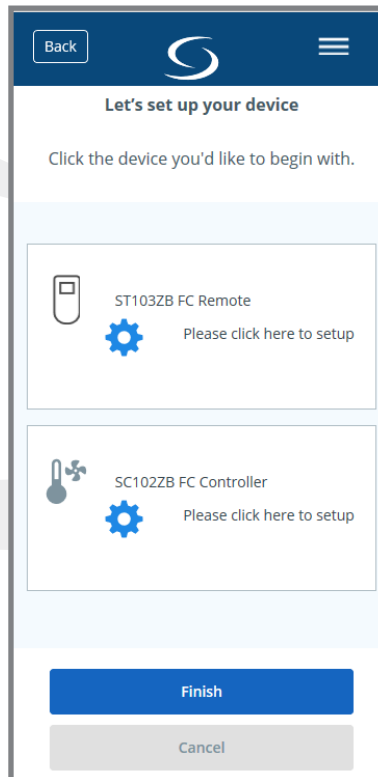
The SALUS Smart Home application scans for devices as displayed.



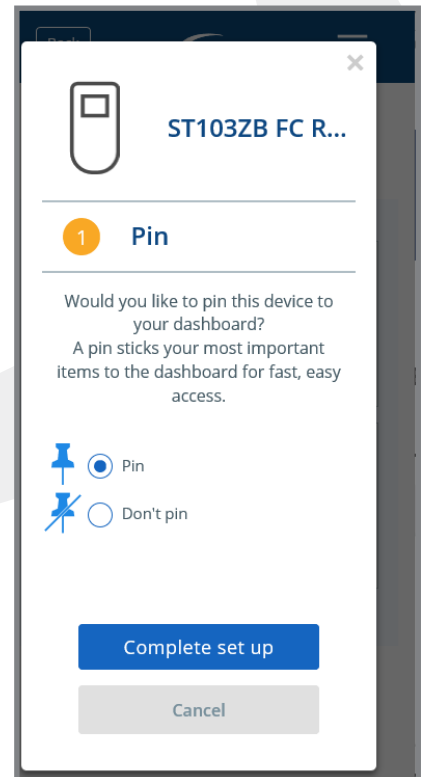
**Step 3.** Choose the check box that corresponds to the device to connect. Note that multiple devices can be connected at the same time.



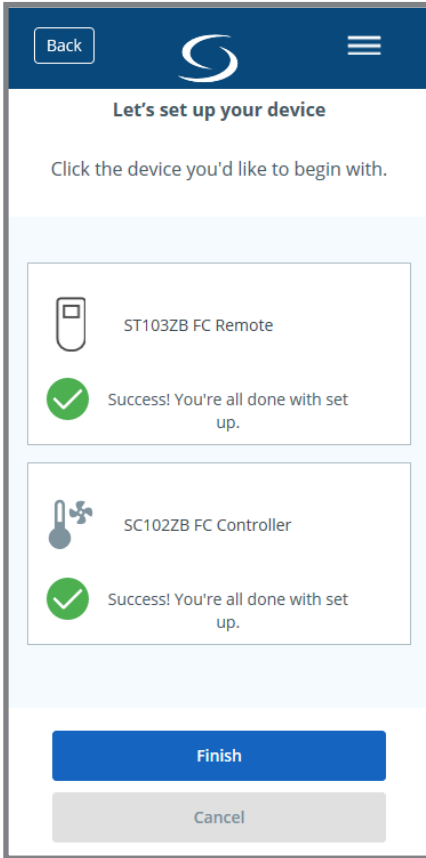
**Step 4.** Enter a unique descriptive name to identify each device. Press “Next”.



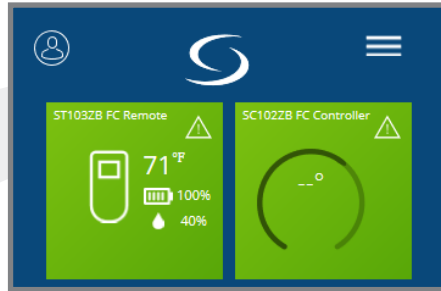
**Step 5.** Press “Please click here to setup”.



**Step 6.** Choose from setup options specific to the device. Press “Complete setup and repeat this for each device.

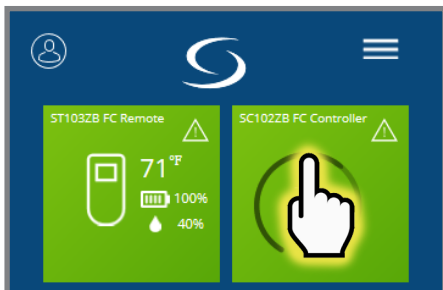


**Step 7.** Press Finish to complete connection.

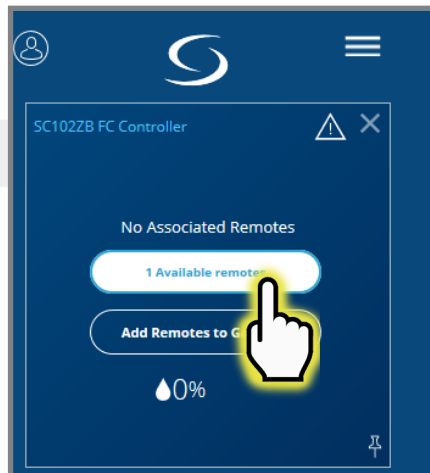


The devices will appear on the SALUS Smart Home dashboard when the connection is complete.

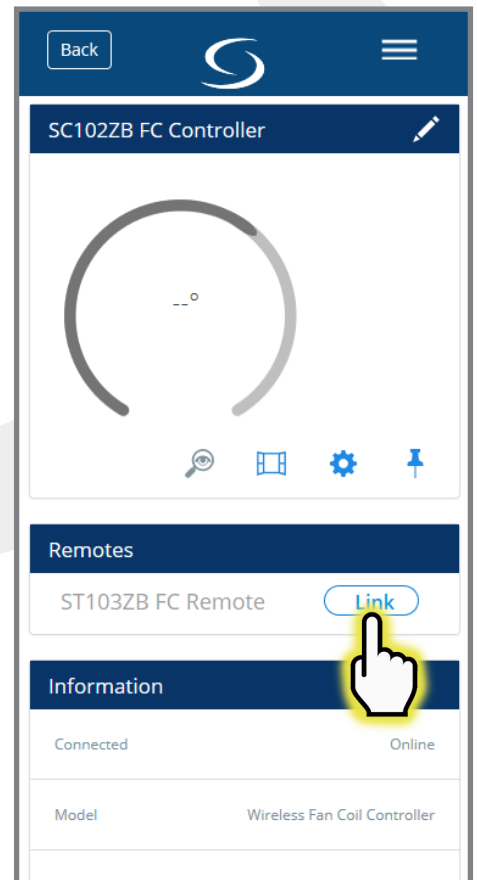
## Linking SC102ZB Fan Coil Controller to ST103ZB Remote



**Step 8.** Click the SC102ZB tile to make it flip on the screen.

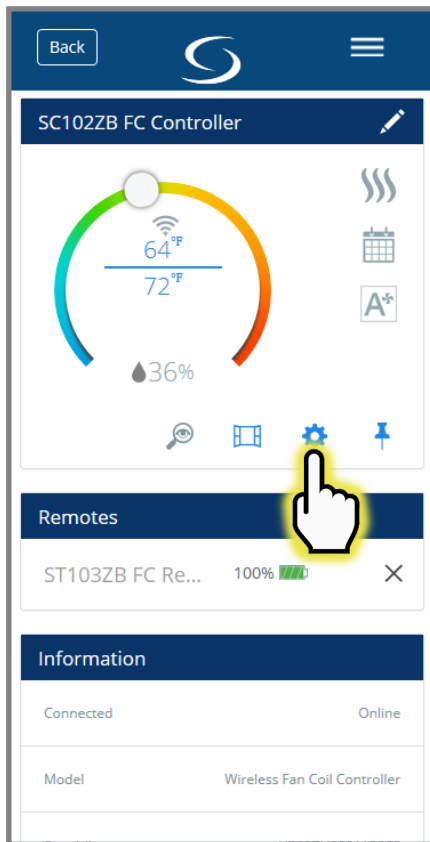


**Step 9.** Click "1 Available remotes"

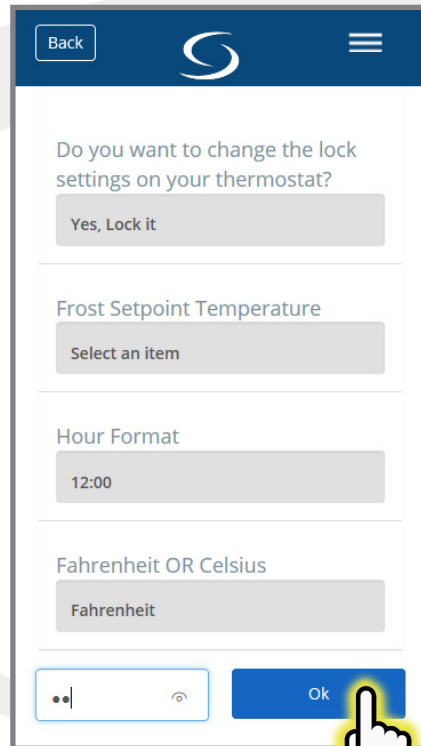


**Step 10.** Choose "Link" next to the desired remote.

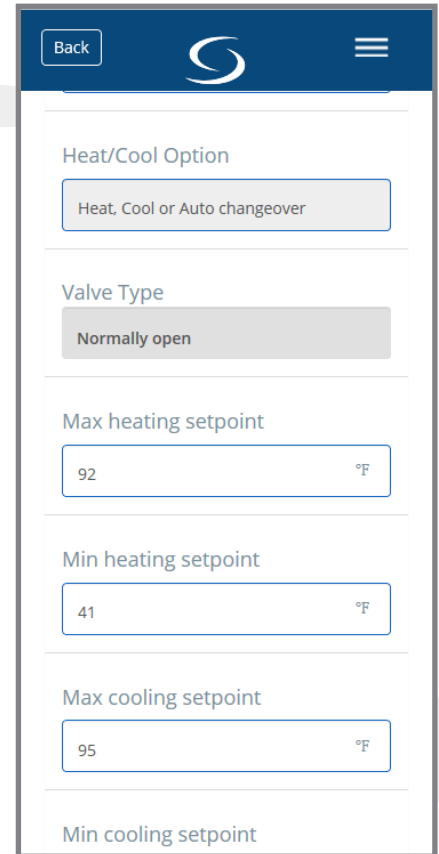
## Configuring Fan Coil Controls with SALUS Smart Home Application



To change configuration settings, choose the setup icon from the SC102ZB menu.





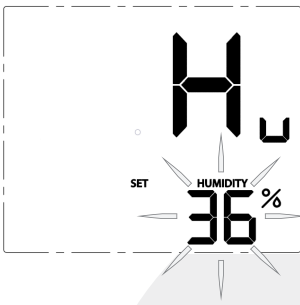

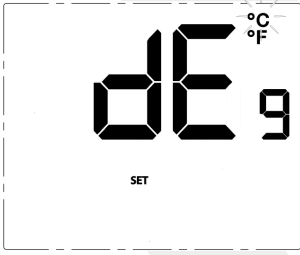
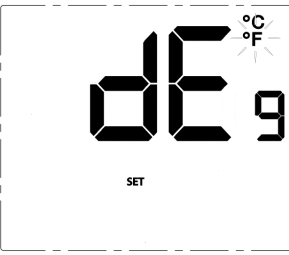
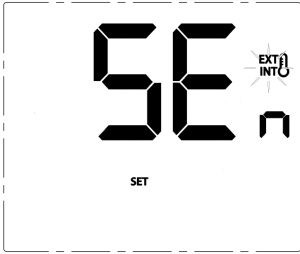
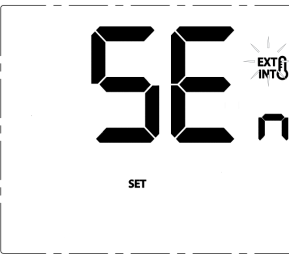
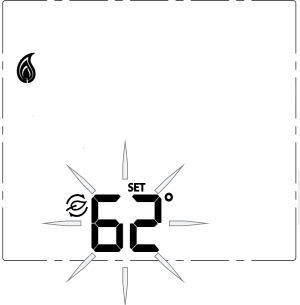

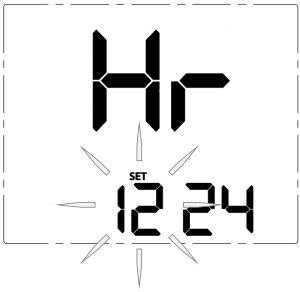
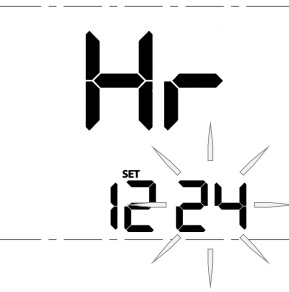
For more configuration settings, enter 49 for the device password and click "Ok".



Detailed descriptions of these settings can be found in Section 7, Configuration.

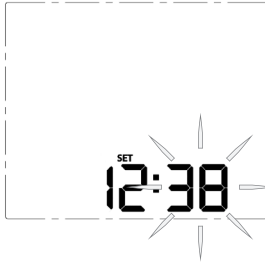
**Settings  Button Operation**

Press  to adjust the settings in Table 7.1. Some of these settings are not accessible depending on the parameter configuration listed in Appendix A. Press select to choose the current value and move to the next available setting. Press  to exit the settings menu.

|   |   |   |
|---|---|---|
|    |    | <p><b>* Humidity:</b> This setting allows users to adjust the relative humidity setpoint.</p> <p><b>Range:</b> Humidifier – 20% to 50%<br/>Dehumidifier – 40% to 80%</p> <p>The ^ and v keys adjust the flashing relative humidity setpoint. Press SELECT to choose the displayed value and move to the next setting.</p> <p>* This setting is only available if the accessory parameter (P22) is set to Humidifier (H<sub>u</sub>) or Dehumidifier (dH<sub>u</sub>).</p> |
|   |   | <p><b>Temperature Units:</b> Use this setting to choose between SI Metric and US Customary temperature units.</p> <p>Use the ^ and v keys to toggle between °C and °F. Press SELECT to choose the flashing value and move to the next setting.</p>  |
|  |  | <p><b>Sensor Location:</b> Use this setting to choose between internal (INT) and external (EXT) sensor location.</p> <p>Use the ^ and v keys to toggle between INT and EXT. Press SELECT to choose the flashing value and move to the next setting (If INT is chosen, INT will not be displayed on the home screen).</p>  |
|  |  | <p><b>* Setback:</b> Use this setting to choose a setback temperature for heating and/or cooling.</p> <p><b>Range:</b> Heat – 50-68°F (10-20°C)<br/>Cooling – 73-90°F (23-32°C)</p> <p>Use the ^ and v keys to change the setback temperature. Press SELECT to choose the flashing value and move to the next setting.</p> <p>* This setting is only available if the setback input parameter (P16) is enabled.</p>   |
|  |  | <p><b>Clock Format:</b> This setting is used to change the clock format between 12 hour with am/pm and 24 hour.</p> <p>Use the ^ and v keys to toggle between 12 and 24 hour clock.</p> <p>Press SELECT to choose the value displayed and move on to the next setting.</p>  |

# Section 7

## Module 5 – Connected Fan Coil Controls Device Configuration – Fan Coil Controls

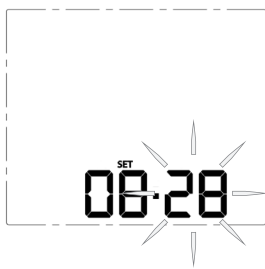


**Time:** To set the time, use the  $\wedge$  or  $\vee$  keys to change the flashing hour value, then press SELECT to choose the value displayed and select minutes.

With the minute value flashing, use the  $\wedge$  or  $\vee$  keys to change the value.

Press SELECT to choose the value displayed and move to the next setting.

*Note: This setting is available in standalone or local mode only.*



**Date:** To set the date, use the  $\wedge$  or  $\vee$  keys to change the flashing month value, then press SELECT to choose the value displayed and select date.

With the date value flashing, use the  $\wedge$  or  $\vee$  keys to change the value.

Press SELECT to choose the value displayed and move to the next setting.

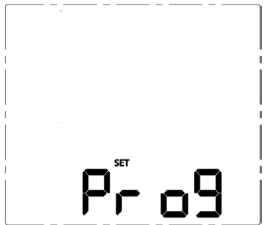
*Note: This setting is available in standalone or local mode only.*



**Year:** To set the year, use the  $\wedge$  or  $\vee$  keys to change the flashing year value.

Press SELECT to choose the value displayed and move to the next setting.

*Note: This setting is available in standalone or local mode only.*



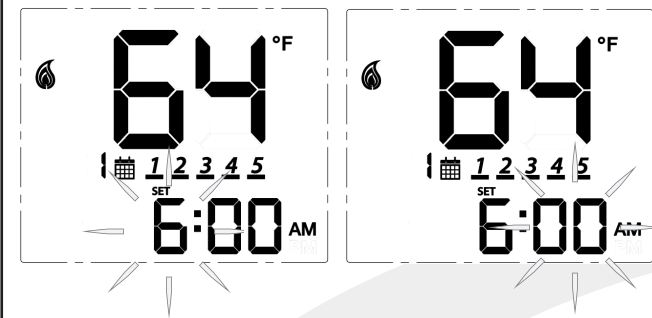
Note: Schedule parameters are only available in standalone or local mode. If the Fan Coil Thermostat is connected to the SALUS Smart Home application, the schedule must be programmed on your PC or smart device.

**Schedule:** While Prog is displayed, press the  $\wedge$  or  $\vee$  keys to change the day group to be edited. See the following table that describes which days are programmed based on the display.

After selecting the day group, press SELECT to move to setting temperatures for each interval during the day.

| Program Mode                         | Day Group Displayed         | Schedule Description  |
|--------------------------------------|-----------------------------|-----------------------|
| Weekly                               | <b>1 2 3 4 5 6 7</b><br>SET | Every day of the week |
| 5+2<br>Weekdays/Weekend<br>(Default) | <b>1 2 3 4 5</b><br>SET     | Monday through Friday |
|                                      | <b>6 7</b><br>SET           | Saturday and Sunday   |
| Daily                                | <b>1</b><br>SET             | Monday                |
|                                      | <b>2</b><br>SET             | Tuesday               |
|                                      | <b>3</b><br>SET             | Wednesday             |
|                                      | <b>4</b><br>SET             | Thursday              |
|                                      | <b>5</b><br>SET             | Friday                |
|                                      | <b>6</b><br>SET             | Saturday              |
|                                      | <b>7</b><br>SET             | Sunday                |

**Schedule (Continued)**

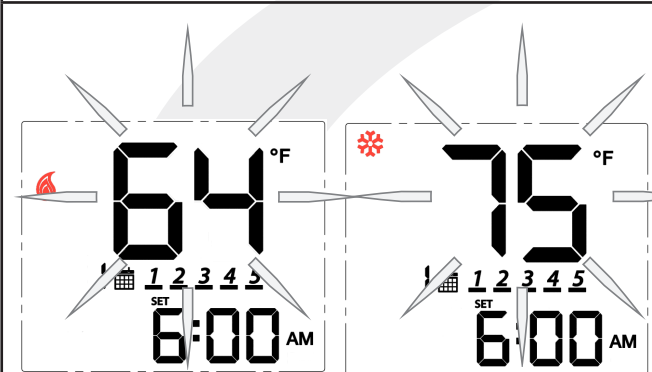


**Time Interval:** Use the  $\wedge$  or  $\vee$  keys to set the start time for each time interval, displayed next to the calendar icon.

1st: Set the hour for the time interval start

2nd: Set the minutes for time interval start

Press SELECT to move on to the heating setpoint.



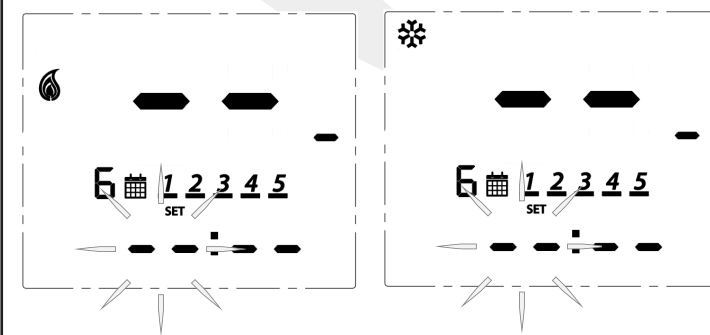
**Set Point:** Use the  $\wedge$  or  $\vee$  keys to adjust the desired heating temperature set point for the time interval displayed.

Press SELECT to accept the set point and move on to the cooling temperature set point.

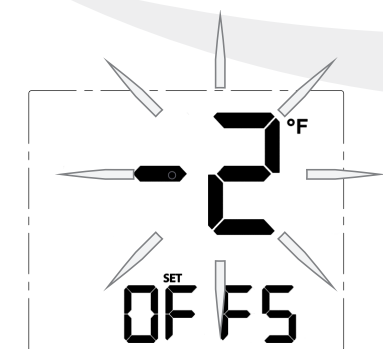
Use the  $\wedge$  or  $\vee$  keys to adjust the desired cooling temperature set point for the time interval displayed.

Press SELECT to accept the set point and move on to the next interval.

**Set points for remaining time intervals:** Set the start time and heating and/or cooling temperature for the remaining interval for a total of 6 intervals.



**Skipping a Time Interval:** To skip a time interval, press the  $\wedge$  key in the hour setting mode until each of the time and temperature digits change to a " - ". When time intervals are completed, the schedule will return to the first time interval at the scheduled time.




**Temperature Offset:** Change the temperature offset value to adjust the display of the sensed temperature. This will affect the sensor selected by the INT/EXT sensor setting.

Use the  $\wedge$  and  $\vee$  keys to set the offset in 1°F (0.5°C) increments. The available range is -6 to 6°F (-3 to 3°C).

Press SELECT to accept the set point and return to the first item in the Settings Menu.

**Special Function Codes**

To access special functions, press and hold the **MODE**, ,  keys simultaneously. Use the  and  keys to scroll through the available codes.



**Identify Mode** – Press  to initiate Identify Mode


00

CODE

10

Id

A 10 minute timer begins with the screen back-light flashing. If a network is available, the  icon will flash. The internet  will be visible if a connection is established.

**Test Mode** – Press  to initiate Test Mode












22


CODE

TEST

70 °F

68 °F HUMIDITY 48%

| Key   | Function  |
|---|---|
| MODE  |  Heat /  Cool /  Accessory relay select    |
|  | Turn on   |
|  | Turn off  |
|  | Fan Speed  Lo /  Med /  Hi relay control |
|  | Toggle HUMIDITY or Zigbee Channel   |
|  | Exit Test Mode  |




**Parameter Setup Mode** – Press  to initiate Parameter Setup Mode

49

CODE

0

SET P 00

Use the  and  keys to change the value of the parameter that is flashing. Press  to save the current parameter value and advance to the next parameter. A complete list of parameters is included in Appendix A.



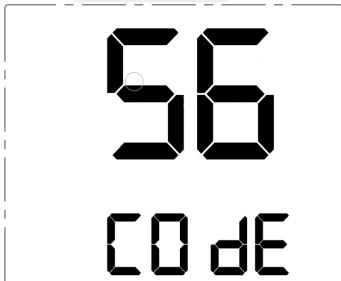
**Join/Leave Network** – Press **SELECT** to join or leave a network.



If the thermostat has not joined a network, the display will enter the pairing sequence. Follow the steps under Pairing in Section 3.



If the thermostat is paired with a network, UnPAir is displayed with “n” flashing. Press the  $\nabla$  or  $\wedge$  key to change the flashing letter to “y”. Press **SELECT** to remove the thermostat from the network.



**SC102ZB Fan Coil Controller Only**

**Unpair from Remote** - Press **SELECT** Press to initiate unpairing with ST103ZB while remaining on the network.



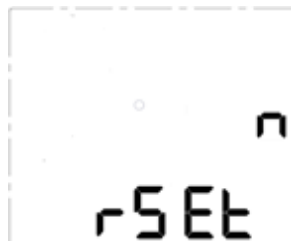
UnPAir is displayed with “n” flashing. Press the  $\nabla$  or  $\wedge$  key to change the flashing letter to “y”.



Press **SELECT** to disconnect from the ST103ZB Fan Coil Remote.



**Factory Reset** - Press **SELECT** to initiate a factory reset.



rSEt is displayed with a flashing “n”. Use the  $\nabla$  or  $\wedge$  key to change the flashing letter to “y”. Press **SELECT** to reset the thermostat to all of the factory default settings.







## Operating Modes

Fan Coil Thermostats, Controllers and Remotes can be operated in the following operating modes:

- Standalone Mode\* – when not part of a network
- Local Mode – when disconnected from the gateway
- Simple Mode – when connected to the gateway
- Remote: Not Connected – when remote is not on a network and/or not paired with a controller

\* For SC102ZB & ST103ZB, Standalone Mode is when the SC102ZB Controller and ST103ZB Remote are paired but not connected to a network.


**Table 8.1: Operating Modes**

| Operation             | Remote:<br>Not<br>Connected | Standalone Mode                     |   | Local Mode   | Simple Mode   |
|-----------------------|-----------------------------|-------------------------------------|---|--|---|
|                       |                             | ST100ZB/<br>ST101ZB                 | SC102ZB/<br>ST103ZB   |  |   |
| Network State         | None                        | Thermostat is not part of a network | SC102ZB acts as a Zigbee coordinator  | Thermostat is part of a network, disconnected from SG888ZB                                       | Thermostat is connected to SG888ZB Universal Gateway                                  |
| RF Icon Display       | None                        | None                                |  |  (Flashing) |  |
| SALUS Smart Home Icon | None                        | None                                | None  | None   |  |
| SetPoint Change       | Not Available               | Device Only                         |   | Device Only  | Device or SALUS Smart Home application  |
| Schedule              | Not Available               | In Device, if enabled               |   | In Device, if enabled  | In SALUS Smart Home application   |
| Change Fan Speed      | Not Available               | Device Only                         |   | Device Only  | Device or SALUS Smart Home application  |
| Mode Change           | Not Available               | Device Only                         |   | Device Only  | Device or SALUS Smart Home application  |
| Installation Setup    | Not Available               | Device Only                         |   | Device Only  | Device or SALUS Smart Home application  |
| Rule based operation  | Not Available               | No                                  |   | No   | Through SALUS Smart Home application  |

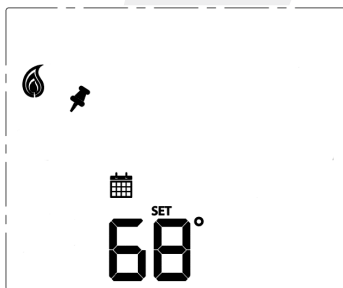
## Programmable Thermostat (Standalone or Local Mode Only)




When in Standalone or Local mode, the default operation of the Fan Coil Thermostat is as a Non-Programmable Thermostat with no scheduling capability. Changing the value of Parameter P00 (See Appendix A) to 1, changes the device to Programmable, allowing users to program a wide variety of schedule options. Instructions for setting up a schedule are covered in Section 7: Configuration.

### Set Point Override

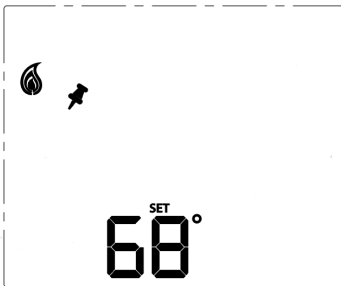
While following a temperature schedule in any mode, the Fan Coil Thermostat will display the  icon. The schedule may be overridden temporarily until the next programmed time period, or permanently until the user returns the device to the programmed schedule.


#### • Temporary Hold








To temporarily override the schedule, simply use the ^ or v keys to change the setpoint. When in Temporary Hold, the LCD display on the Fan Coil Thermostat will show  in addition to the  icon. The schedule will resume when the next scheduled time interval begins. Change the temperature to the scheduled temperature and the  icon will turn off, indicating that the thermostat is following the schedule.

#### • Permanent Hold















Once in Temporary Hold, press SELECT to toggle between temporary and permanent override. When in permanent override, the LCD display on the Fan Coil Thermostat the  icon will turn off. The schedule will be suspended until the user returns it to the schedule changing the temperature to the scheduled temperature and pressing SELECT.

## Heating/Cooling Modes

Heating/Cooling mode selection works the same for both programmable and non-programmable Fan Coil Thermostats. Parameter P02 (see appendix) determines which heating and/or cooling modes are available. Pressing the MODE key, will cycle through  →  →  →  depending on Parameter P02 (Appendix A) settings. When in  mode, the Fan Coil Thermostat will maintain a temperature between the heating and cooling setpoints.

**Fan Modes**

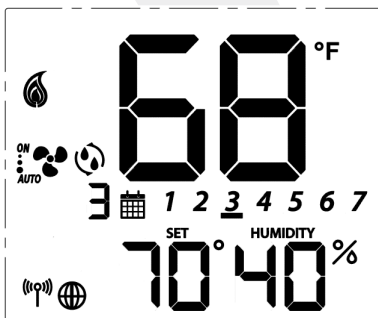
| Fan Mode  | Speed  | Display   | Output Terminal |
|-----------|--|---|-----------------|
|           | Fan output is only activated when a thermostat call is present (On Call Fan).<br>When a call is present the fan runs at the selected speed.  |   |                 |
|           | High   |    | Gh              |
|           | Medium   |    | Gm              |
|           | Low  |    | Gl              |
| AUTO      | Fan output is only activated when a thermostat call is present (On Call Fan).<br>When a call is present the fan speed is determined by the TPI/Span algorithm selected in Parameter 23 (See Appendix A). |   |                 |
|           | High   |    | Gh              |
|           | Medium   |   | Gm              |
|           | Low  |  | Gl              |
| ON *      | Fan output is constant at the selected speed.<br>The fan will remain running when a thermostat call is not present.  |   |                 |
|           | High   |  | Gh              |
|           | Medium   |  | Gm              |
|           | Low  |  | Gl              |
| ON-AUTO * | Fan output is only activated when a thermostat call is present (On Call Fan). When a call is present, the fan speed is determined by the TPI/Span algorithm selected in Parameter 23 (See Appendix A).   |   |                 |
|           | High   |  | Gh              |
|           | Medium   |  | Gm              |
|           | Low  |  | Gl              |

\* When in constant fan output, the fan coil will automatically switch to On Call Fan 2 or 4 hours after the initial call for heat or cool is satisfied (P35).

## Accessory Function

Terminals Ac1 and Ac2 on the Fan Coil Thermostat provide output to an accessory such as a Humidifier, Dehumidifier, Heat Recovery Ventilator (HRV) or Energy Recovery Ventilator (ERV). The built-in humidity monitor continually samples humidity at the thermostat and will operate a humidifier or dehumidifier to maintain the specified value. The following table shows the function of the accessory output depending on which accessory is selected under parameter 22 (See Appendix A).

| Parameter P22 Setting | Operation of Ac1/Ac2 dry contacts                 |   |
|-----------------------|---|---|
| 0 (No Function)       | Open  |   |
| 1 (Humidifier)        | Closed when humidity is at or below the set point | Open when the humidity exceeds the set point      |
| 2 (Dehumidifier)      | Closed when humidity is at or above the set point | Open when the humidity is less than the set point |
| 3 (ERV/HRV)           | Closed when fan relay is on                       | Open when fan relay is off                        |

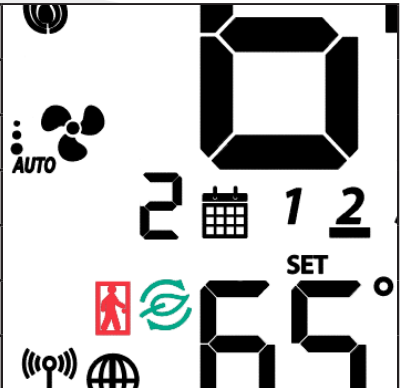


The  icon is displayed when the Ac1/Ac2 dry contacts are closed.

**AWAY Mode**

Fan Coil Thermostat terminals Ts and Tc are used to initiate or terminate an Away state in the device. The Ts/Tc contact closure is configured by P16 as a Normally Open or Normally Closed contact, or as an input to be ignored.

| P16                 | Ts/Tc Status | P21              |              |
|---------------------|--------------|------------------|--------------|
|                     |              | 0 (Setback Mode) | 1 (Off Mode) |
| 0 (Disabled)        | Ignored      | Inactive         | Inactive     |
| 1 (Normally Closed) | Open         | Setback          | Off          |
|                     | Close        | Inactive         | Inactive     |
| 2 (Normally Open)   | Open         | Inactive         | Inactive     |
|                     | Close        | Setback          | Off          |







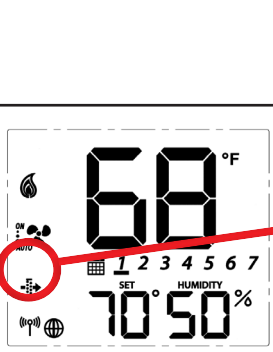
A contact state change detected between the two terminals will initiate the Away timers (P19 or P20) and once the timers expire, the device will enter or exit AWAY mode (indicated by the “person in doorway” icon). The timers are canceled if the contact input changes while the timers are active.

If Setback is selected when in AWAY mode (P21), the Setback set points (P17 and P18) will be in effect (indicated by “leaf” icon), overriding any schedules.

## Troubleshooting





The following error messages are displayed to identify issues when certain conditions occur.

**Table 9.1: Error Messages**


| Error Message   | Description  | Corrective Action  |
|---|--|--|
|    | Error 01: Pipe supply sensor circuit is open, or pipe supply sensor is not connected. The pipe supply sensor must be used if Parameter P02 = 3 or 4 (See Parameters Appendix A). | <ul style="list-style-type: none"> <li>• Check connection of pipe supply sensor to terminals</li> <li>• Replace sensor</li> </ul>  |
|    | Error 02: Pipe supply sensor circuit is shorted, or pipe supply sensor damaged. The pipe supply sensor must be used if Parameter P02 = 3 or 4 (See Parameters Appendix A).       | <ul style="list-style-type: none"> <li>• Check connection of pipe supply sensor to terminals</li> <li>• Check for shorts in pipe supply sensor leads</li> <li>• Replace sensor</li> </ul>  |
|  | Error 03: Room temperature sensor circuit is shorted, or room temperature sensor damaged.  | <ul style="list-style-type: none"> <li>• If sensor is set to External (Settings), and Parameter 12 (Appendix A) is set to external sensor, check for short circuit</li> <li>• If sensor is set to Internal (default), replace thermostat or use external sensor</li> </ul>   |
|  | Error 04: Room temperature sensor circuit is open.   | <ul style="list-style-type: none"> <li>• If sensor is set to Internal (Default), replace thermostat or use external sensor</li> <li>• If sensor is set to External (Settings), and Parameter 12 (Appendix A) is set to external sensor, check wiring or assure sensor is connected.</li> <li>• If sensor is set to External and Parameter 12 is set to Zigbee remote, go through the "Find &amp; Bind" sequence defined in the IOM.</li> </ul> |
|  | Error 05: Filter is clogged  | <ul style="list-style-type: none"> <li>• Change filter</li> </ul>  |

For Errors 01-04 the display will alternate between the message above and the Home Screen. The total number of errors (shown 01 above) will be the first two digits displayed. If more than 1 error exists, press the  $\nabla$  and  $\blacktriangle$  keys to review each error.





**49**  
CODE

To change parameters, press and hold the **MODE**, ,  keys simultaneously.  
Use the  and  keys to scroll to “49” and press SELECT.

| P                        | Name                        | Values   | Default          | Description/Comment  |
|--------------------------|-----------------------------|--|------------------|--|
| P00                      | Type of thermostat          | 0 = Non-Programmable<br>1 = Programmable             | 0                |  |
| P01                      | Fan Coil Type               | 0 = 2 Pipe<br>1 = 4 pipe                             | 1                |  |
| P02                      | Heat/Cool Option            | <b>For 2 Pipe</b>                                    | 3                | Option #3 & #4 in the 2 pipe configuration require the pipe sensor (sold separately) to be connected |
|                          |                             | 0=Heat Only  |                  |  |
|                          |                             | 1=Cool Only  |                  |  |
|                          |                             | 2 = Heat or Cool Manual changeover                   |                  |  |
|                          |                             | 3 = Heat or Cool Seasonal changeover                 |                  |  |
|                          |                             | 4 = Heat or Cool with Auxiliary Heat                 |                  |  |
|                          |                             | <b>For 4 Pipe:</b>                                   |                  |  |
|                          |                             | 2 = Heat or Cool Manual changeover                   |                  |  |
|                          |                             | 3 = Heat, Cool or Auto changeover                    |                  |  |
| 4 = Auto changeover only |                             |  |                  |  |
| P03                      | Valve Type                  | 0 = Normally Closed Valve<br>1 = Normally Open Valve | 0                |  |
| P04                      | Max. heating setpoint       | 41 to 92°F (5 to 33.5°C)                             | 92°F<br>(33.5°C) | Not displayed if P02 = 1   |
|                          |                             |  |                  | P05 < P04  |
|                          |                             |  |                  | P04 ≤ P06-1.5°C  |
| P05                      | Min. heating setpoint       | 41 to 92°F (5 to 33.5°C)                             | 41°F<br>(5°C)    | Not displayed if P02 = 1   |
|                          |                             |  |                  | P05 < P04  |
|                          |                             |  |                  | P05 ≤ P07-1.5°C  |
| P06                      | Max. cooling setpoint       | 44 to 95°F (6.5 to 35°C)                             | 95°F<br>(35°C)   | Not displayed if P02 = 0   |
|                          |                             |  |                  | P07 < P06  |
|                          |                             |  |                  | P06 ≥ P04+1.5°C  |
| P07                      | Min. cooling setpoint       | 44 to 95°F (6.5 to 35°C)                             | 44°F<br>(6.5°C)  | Not displayed if P02=0   |
|                          |                             |  |                  | P07 < P06  |
|                          |                             |  |                  | P07 ≥ P05+1.5°C  |
| P08                      | Protection heating setpoint | OFF or 41 to 92°F<br>(OFF or 5 to 33.5°C)            | 41°F<br>(5°C)    | If not OFF, P05 < P08 < P04  |
|                          |                             |  |                  | P08 < P09  |
| P09                      | Protection cooling setpoint | OFF or 44 to 95°F<br>(OFF or 6.5 to 35°C)            | OFF              | If not OFF, P07 < P09 < P06  |
|                          |                             |  |                  | P08 < P09  |
| P10                      | Offset of internal sensor   | ±6°F - 1°F increments<br>(±3°C - 0.5°C increments)   | 0°F<br>(0°C)     |  |

| P   | Name                                     | Values   | Default           | Description/Comment   |
|-----|--|--|-------------------|---|
| P11 | Offset of external sensor                | ±6°F - 1°F increments<br>(±3°C - 0.5°C increments)           | 0°F<br>(0°C)      |   |
| P12 | External sensor                          | 0 = External sensor  | 0                 | Standalone mode: P12 = 0<br>Set <b>SE<sub>n</sub></b> to EXT with  key     |
|     |  | 1 = Zigbee remote sensor                                     |                   |   |
| P13 | Pipe sensor                              | 0 = Analog input   | 0                 | Displayed only if P01=0 and P02=3 or 4 (2-pipe with seasonal changeover or auxiliary heat), which requires the pipe sensor (sold separately) to be connected. |
|     |  | 1 = Normally open, default mode is Heat                      |                   |   |
|     |  | 2 = Normally open, default mode is Cool                      |                   |   |
|     |  | 3 = Normally closed, default mode is Heat                    |                   |   |
|     |  | 4 = Normally closed, default mode is Cool                    |                   |   |
| P14 | Pipe sensor threshold for cooling        | 50 to 77°F increment 1°F<br>(10 to 25°C increment 0.5°C)     | 50°F<br>(10°C)    |   |
| P15 | Pipe sensor threshold for heating        | 81 to 95°F increment 1°F<br>(27 to 35°C increment 0.5°C)     | 86°F<br>(30°C)    |   |
| P16 | Setback input                            | 0 = Disable  | 0                 |   |
|     |  | 1 = Normally closed  |                   |   |
|     |  | 2 = Normally open  |                   |   |
| P17 | Setback heating setpoint                 | 50 to 68°F increment 1°F (10 to 20°C increment 0.5°C)        | 15°C<br>(59°F)    | Display only if P16=1/2   |
| P18 | Setback cooling setpoint                 | 23 to 32°C increment 0.5°C<br>(73 to 90°F increment 1°F)     | 86°F<br>(30°C)    | Display only if P16=1/2   |
| P19 | Setback Unoccupied to Occupied delay     | 1 to 3 seconds   | 1 sec             | Display only if P16=1/2   |
| P20 | Setback Unoccupied to Occupied delay     | 2 to 30 minutes  | 2 mins            | Display only if P16=1/2   |
| P21 | Setback mode or Off mode when unoccupied | 0 = Setback mode   | 1                 | Display only if P16=1/2   |
|     |  | 1 = Off mode   |                   |   |
| P22 | Accessory function                       | 0 = No function  | 0                 | Normally Open   |
|     |  | 1 = Humidifier   |                   |   |
|     |  | 2 = Dehumidifier   |                   |   |
|     |  | 3 = ERV/HRV  |                   |   |
| P23 | TPI or Span                              | 0 = TPI  | 1                 |   |
|     |  | 1 = Span control   |                   |   |
| P24 | Modulation Response Time                 | 0 = Slow response time                                       | 1                 | Display only if P23=0   |
|     |  | 1 = Fast response time                                       |                   |   |
| P25 | TPI heat control CPH                     | 3 ~ 12 on/off cycle per hour                                 | 6                 | Display only if P23=0   |
| P26 | TPI cool control CPH                     | 3 ~ 12 on/off cycle per hour                                 | 3                 | Display only if P23=0   |
| P27 | CPH for Auxiliary Electrical Heater      | 3 ~ 12 on/off cycle per hour                                 | 6                 | Display only if P23=0   |
| P28 | Set span for heating using span control  | .5° to 2°F increment 0.5°F<br>(0.25° to 1°C increment 0.25°) | 0.5°F<br>(0.25°C) | Display only if P23=1, device only display 0.2/0.5/0.7/1.0°C or 0.5/1.0/1.5/2.0°F   |



| P   | Name   | Values  | Default           | Description/Comment  |
|-----|--|---|-------------------|--|
| P29 | Set span for cooling using span control                              | 0.5° to 2°F increment 0.5°F<br>(0.25° to 1°C increment 0.25°) | 0.5°F<br>(0.25°C) | Display only if P23=1, device only display 0.2/0.5/0.7/1.0°C or 0.5/1.0/1.5/2.0°F  |
| P30 | Minimum turn off time for heating                                    | 10 to 300 seconds   | 10                | Display if P02<>1  |
| P31 | Minimum turn off time for cooling                                    | 10 to 300 seconds   | 10                | Display if P02<>0  |
| P32 | Call start delay   | From 0 to 15 minutes  | 0                 | Delay after determining Call for Heat/Cool before valve is opened.   |
| P33 | Fan turn on delay  | 0 to 600 seconds  | 0                 | Delay to allow coils to reach operating temp   |
| P34 | Fan turn off delay   | 0 to 180 seconds  | 0                 | Delay to circulate residual heat/cool.   |
| P35 | Delay to switch to On Call Fan after initial Heat/Cool is satisfied. | 0=2 hours   | 0                 |  |
|     |  | 1=4 hours   |                   |  |
| P36 | Key lock timing  | 0 = Manual  | 0                 | Note: In Auto mode, keys will lock after 5 minutes of keypad inactivity.   |
|     |  | 1 = Auto (lock keys after 5 minutes)                          |                   |  |
|     |  | 2 = Unlock  |                   |  |
| P37 | Enable/Disable User Unlock in Simple mode and Local mode             | 0 = user can unlock by ^ and v                                | 0                 | In Standalone Mode, user can unlock by ^ and v regardless P37 setting  |
|     |  | 1 = user cannot unlock by ^ and v                             |                   |  |
| P38 | Service filter   | OFF   | OFF               | 1 to 99 x 100 operating hrs (e.g. 99 = 9,900 oper. hrs)  |
|     |  | 1 to 99 (99 means 9900hrs = 99*100)                           |                   |  |
| P39 | Status after power outage  | 0 = Off mode  | 1                 | Thermostat will turn <b>Off</b> or be restored to <b>Last configuration</b> .  |
|     |  | 1 = Last configuration  |                   |  |
| P40 | DST Daylight saving time   | 0: Disable  | 1                 | Used for local mode and stand-alone mode   |
|     |  | 1: Enable   |                   |  |
| P41 | Purge Function   | 0: Disable  | 1                 | P01 = 0 (2-Pipe) only  |
|     |  | 1: Enable   |                   |  |
| P42 | Purge Time   | 1-7   | 3                 | Minutes to purge   |
| P43 | Purge Wait   | 6-36  | 24                | Hours of inactivity before purge   |
| P44 | Key lock type  | 1: Lock HVAC only   | 7                 | HVAC = Mode and set point<br>Fan = fan button<br>Settings = Settings button<br><br>Combination key pressing  and  , or <b>MODE</b> ,  ,  will not be locked at any time. |
|     |  | 2: Lock Fan only  |                   |  |
|     |  | 3: Lock HVAC and Fan  |                   |  |
|     |  | 4: Lock Settings  |                   |  |
|     |  | 5: Lock Settings and HVAC                                     |                   |  |
|     |  | 6: Lock Settings and Fan                                      |                   |  |
|     |  | 7: Lock All   |                   |  |