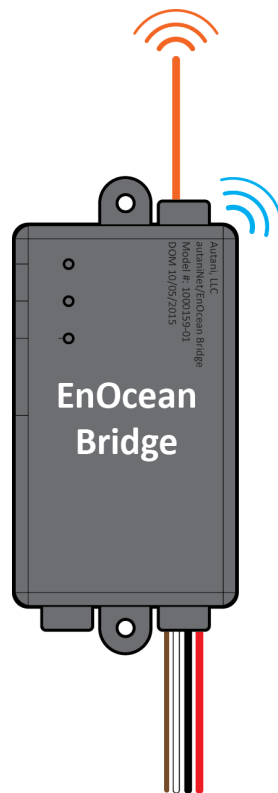




User Manual

autaniNet/EnOcean Bridge



Autani LLC,

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1. Introduction

The **EnOcean Bridge** acts as a communication bridge between the Autani System and EnOcean devices for the following applications.

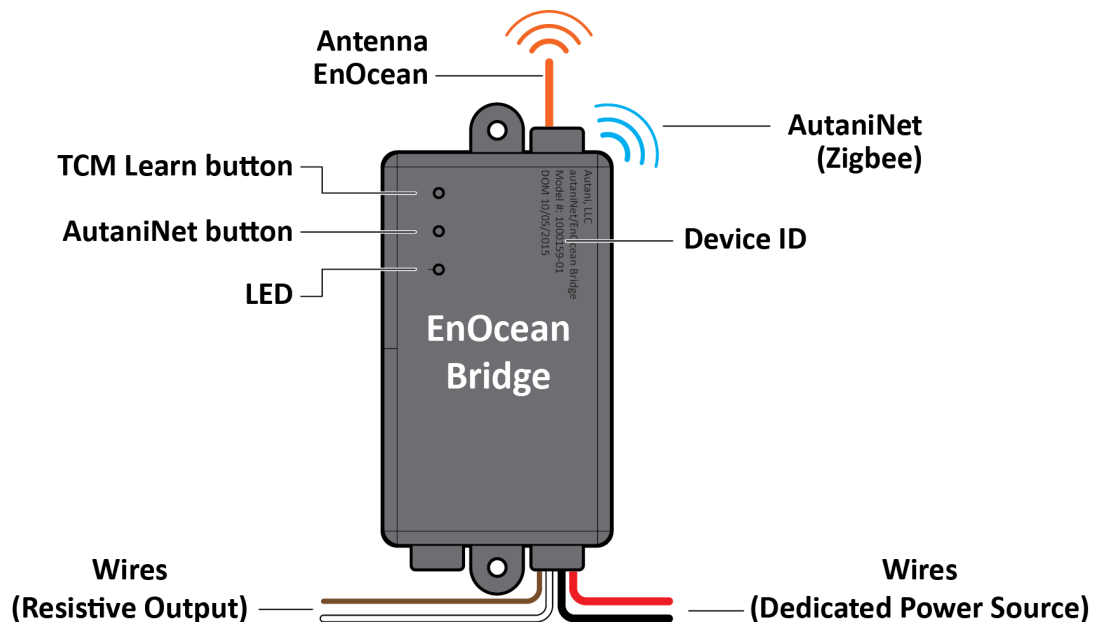
1.1. HVAC Application

In general, the **EnOcean Bridge** will receive temperature readings from multiple remote sensors and provide an average temperature reading to the thermostat. Based on the average readings from the **EnOcean Bridge**, the thermostat would trigger the HVAC system to maintain the temperature of an area. If the system has a single remote sensor, there is no averaging, and the bridge would transmit only the single remote sensor data to the thermostat.

Parallel to the above bridging process, the **EnOcean Bridge** will also allow the devices to be connected to the Autani Manager's EnergyCenter® Software, via the autaniNet wireless network. The software can commission the remote sensors and also generate reports for all the devices.

1.2. General Pass-through Application

Another major functionality of the **EnOcean Bridge** is the General Pass-through feature in the absence of a thermostat. The sensor readings received by the **EnOcean Bridge** are directly transmitted to the Autani Manager's EnergyCenter® Software, via the autaniNet wireless network. The pass-through application can also be used with other select EnOcean sensors that Autani has certified capability with.



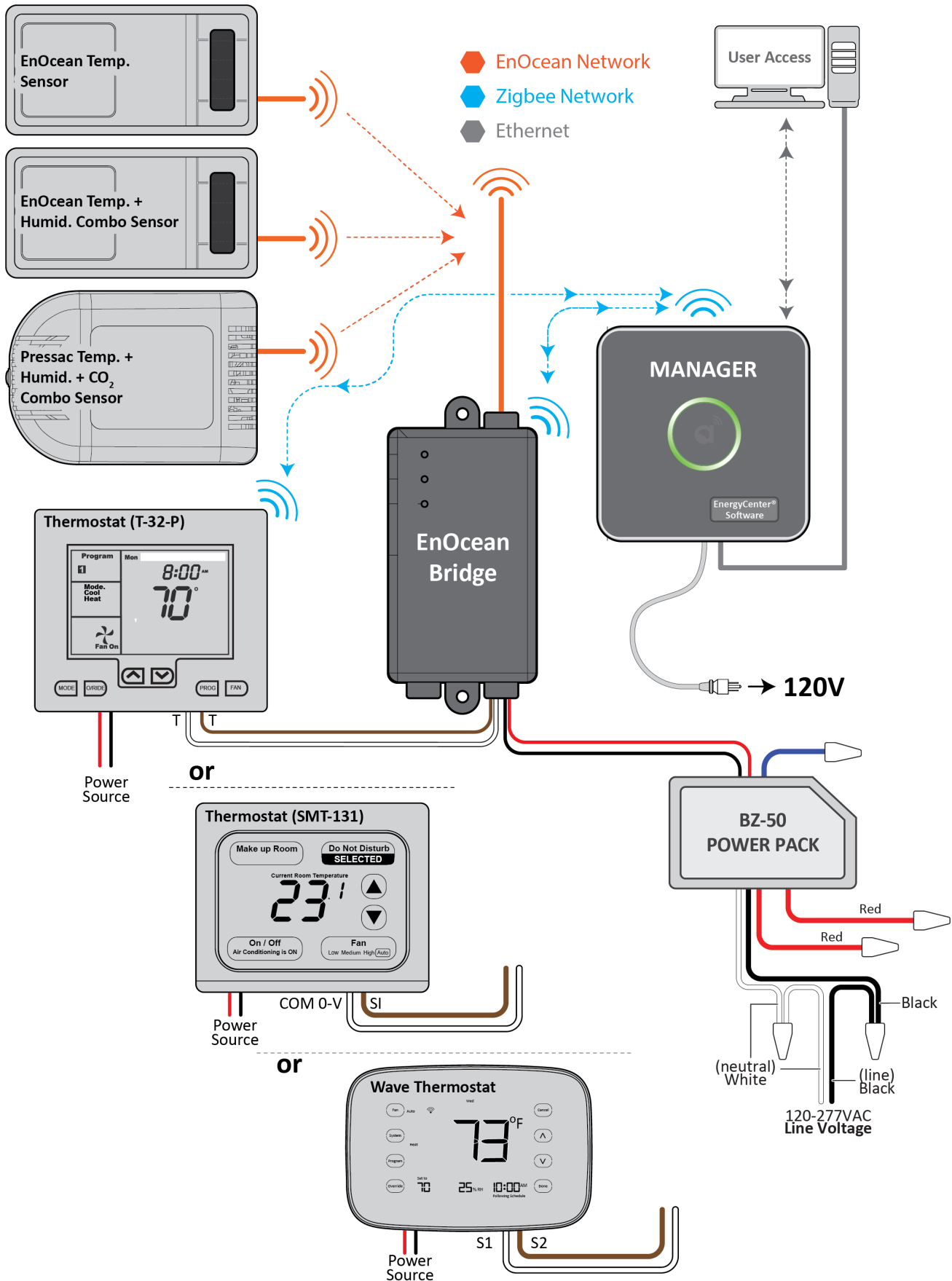
- ☐ The **EnOcean Bridge** can locally pair with remote temperature sensors, or they can be remotely commissioned through **EnergyCenter®** Software.
- ☐ The **EnOcean Bridge** can locally pair with the following **SENSORS** inside **HVAC Application**; it also supports other types of EnOcean devices (like motion or contact sensors) within the **Pass-through Application**.
 - EnOcean Temperature Sensor (Model: EEP: A5-02-05).
 - EnOcean Temperature + Humidity Combo Sensor (Model: EEP: A5-04-01).
 - Pressac Temperature + Humidity + CO₂ Combo Sensor (Model: EEP: A5-09-04).

NOTE: Each **EnOcean Bridge** can map up to ten remote sensors within a range of 80 - 100 ft LOS.

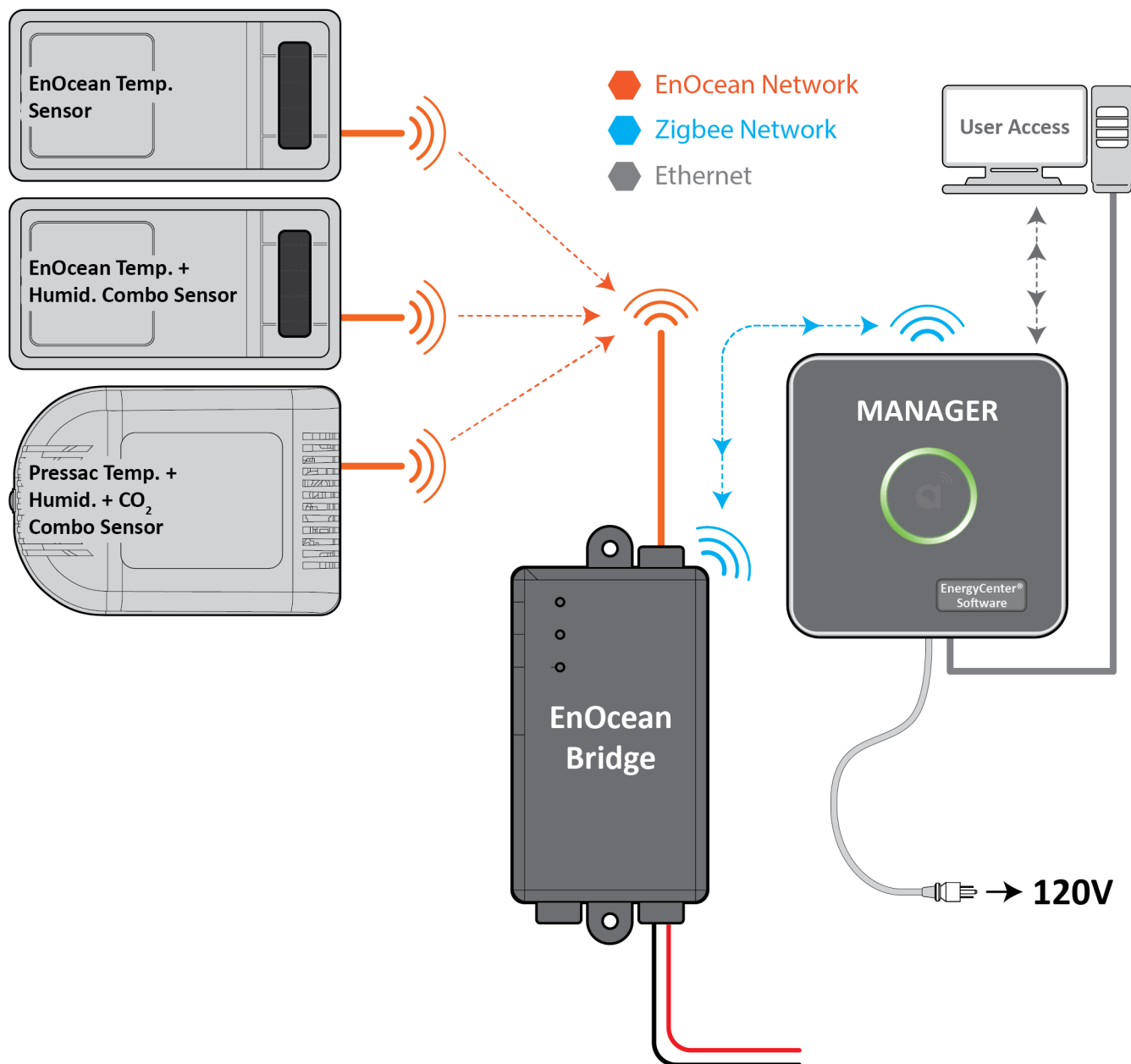
- ☐ The **EnOcean Bridge** supports any thermostat with a 10k ohm type 2 thermistor. This Quick Start Guide describes the connection with following thermostats:
 - Autani SMT-131.
 - Autani T-32-P.
 - Autani WAVE

2. System Overview

HVAC Applications..... | Autani Applications.....

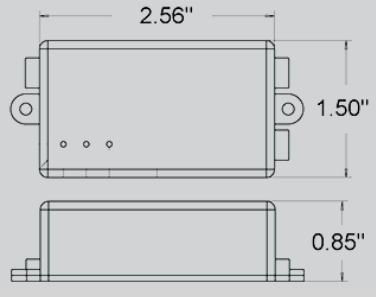


Passthrough Applications... | Autani Applications.....



3. Specifications

3.1. EnOcean Bridge

Electrical Input Voltage: 12-24V AC/DC Environmental Operating Temperature: 0° to 60°C Storage Temperature: -25° to 80°C Range autaniNet: Approx. 600' LOS transmit/receive EnOcean: Approx. 80-100' LOS transmit/receive (See individual devices) Radio Network (autaniNet) IEEE 802.15.4-2003 2.4GHz ISM	Radio Network (EnOcean) EnOcean 902 MHz Regulatory Approvals <u>Module 1:</u> FCC ID: V8NWAT1000153 and SZVSTM300U IC: 7737A-WAT1000153 and 5713A-STM300U <u>Module 2:</u> FCC ID: SZV-STM300U and SZVSTM300U IC: 5713A-STM300U and 5713A-STM300U Ordering Information SKU: A06-01-0440-01 Description: autaniNet/EnOcean Bridge	Physical Dimensions (HxWxD): 2.56 x 1.5 x 0.85 in 
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3.2. EnOcean Temperature Sensor

Power supply: Solar cell Antenna: Whip or helix antenna Frequency 868.3 MHz (STM 33x) / 902.875 MHz (STM 33xU) Radiated output power STM 330 / 331: max. 6.4 dBm / 5 dBm (EIRP) 331U and STM 333U: typ 92 dBμV/m / 99 dBμV/m Data rate / Modulation type 125kBit/s / ASK (868.3MHz) / FSK (902.875MHz) Start-up time with empty energy storage typ. <2.5 min @ 400 lux, 25 °C	Initial operation time in darkness @25°C¹ Typ. 4 days, if energy storage fully charged wake-up every 100 s, transmission every 1000 s on average. Input Channels Internal: temperature sensor, LRN button External via 20 pin connector: occupancy button, set point dial, HSM 100 Temperature sensor Measurement range 0-40 °C, resolution 0.16 K Accuracy typ. ±0.5 K between 17 °C and 27 °C, typ. ±1 K between 0 °C and 40°C Transmission indicator: 1x LED	EnOcean Equipment profiles Configurable EEPs: A5-02-05, A5-02-30, A5-10-05, A5-10-03 and with HSM 100: A5-04-01, A5-10-10, A5-10-12 Module dimensions 43 x 16 x 8 mm Operating temperature¹ -20 up to +60 °C Radio approvals STM 330 (max. radiated power +6.4dBm whip): RED (EU) STM 331 (max. radiated power+5 dBm helix) : RED (EU) STM 331U, 332U and STM 333U: FCC (US) / ISCED (CA)
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3.3. EnOcean Temperature + Humidity Combo Sensor

Power Supply: Solar cell Antenna: Whip or helix antenna Frequency 868.3 MHz (STM 33x) / 902.875 MHz (STM 33xU) Radiated output power STM 330 / 331: max. 6.4 dBm / 5 dBm (EIRP) 331U and STM 333U: typ 92 dBμV/m / 99 dBμV/m Data rate / Modulation type 125kBit/s / ASK (868.3MHz) / FSK (902.875MHz) Start-up time with empty energy storage typ. <2.5 min @ 400 lux, 25 °C	Initial operation time in darkness @25°C¹ Typ. 4 days, if energy storage fully charged wake-up every 100 s, transmission every 1000 s on average Input Channels Internal: temperature sensor, LRN button External via 20 pin connector: occupancy button, set point dial, HSM 100 Temperature sensor Measurement range 0-40 °C, resolution 0.16 K Accuracy typ. ±0.5 K between 17 °C and 27 °C, typ. ±1 K between 0 °C and 40°C Transmission indicator: 1x LED	EnOcean Equipment profiles Configurable EEPs: A5-02-05, A5-02-30, A5-10-05, A5-10-03 and with HSM 100: A5-04-01, A5-10-10, A5-10-12 Module dimensions 43 x 16 x 8 mm Operating temperature¹ -20 up to +60 °C Radio approvals STM 330 (max. radiated power +6.4dBm whip): RED (EU) STM 331 (max. radiated power+5 dBm helix) : RED (EU) STM 331U, 332U and STM 333U: FCC (US) / ISCED (CA)
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3.4. Pressac Temperature + Humidity + CO₂ Combo Sensor

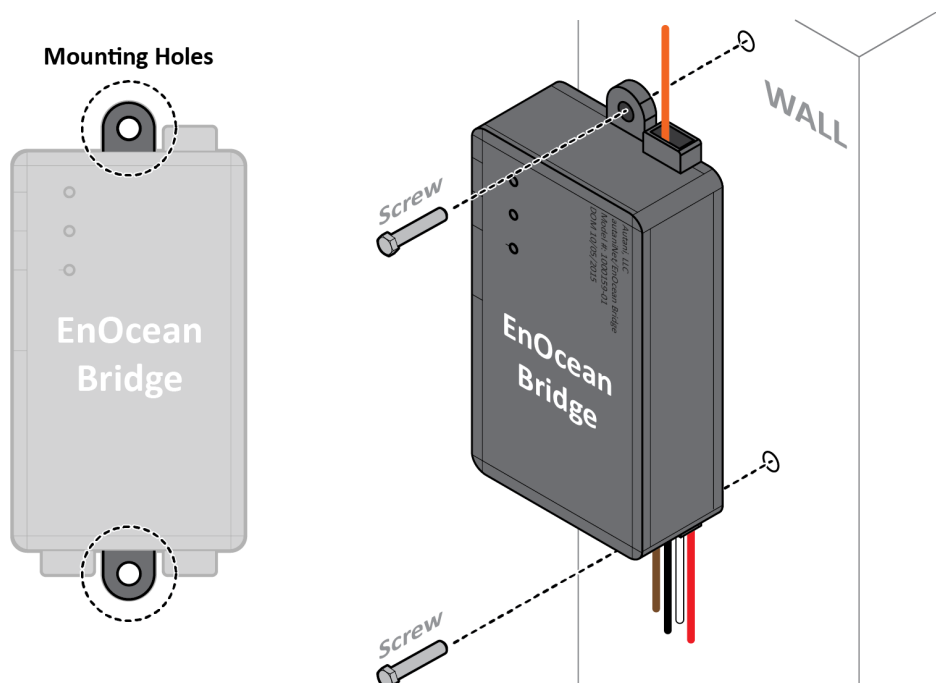
Measurement Range CO ₂ 0 to 2550 PPM Temperature 0 °C to +51 °C Humidity 0 to 100% RH Accuracy CO ₂ +/- 125PPM Temperature +/- 0.5 °C Humidity +/- 5% RH Sampling Rate Can be fixed to 15 minutes or can dynamically adjust between 5 and 15 minutes dependent on power source and light conditions	Repeater : No Telegram 4BS Environment IP2X Battery* Back Up 3.6v A size non rechargeable Lithium Enclosure Material ABS Calibration Manual or auto recalibrates every 8 days	Solar Amorphous Silicon Solar Cells Operating Temperature Range -5 °C to +60 °C Storage Temperature Range -20 °C to +55 °C Sensor Response Time Telegram transmission is within 2 seconds of measurement. Dimensions: 115 x 80 x 35 mm approx. EEP : A5-09-04
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¹Full performance is achieved after several days of operation (up to two weeks) at a good illumination level. Performance degrades over life time, especially if energy storage is exposed to higher temperatures. Each 10 K drop in temperatures doubles the expected life span.

*Battery life dependant on ambient light conditions.

4. Mounting the EnOcean Bridge

1. Mount the **EnOcean Bridge** in a convenient location at a desired distance from the ground, and within a range of 80-100 ft to the remote sensors.



2. There are two mounting holes provided on the **EnOcean Bridge**. Locate a place to mount the **EnOcean Bridge**, mark the holes to be drilled, and drill two holes on the wall.
3. Place and align the **EnOcean Bridge** mounting holes with the holes on wall. Insert screws on both ends of the Bridge and torque tighten the screws.

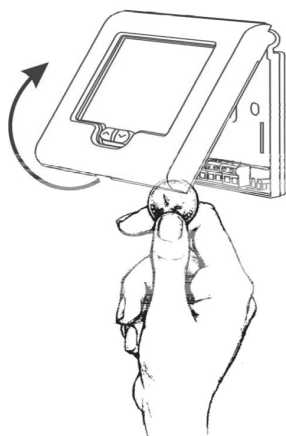
5. Connecting EnOcean Bridge to Thermostat

CAUTION: Ensure the thermostat is not connected to the main line or power source (24VDC).

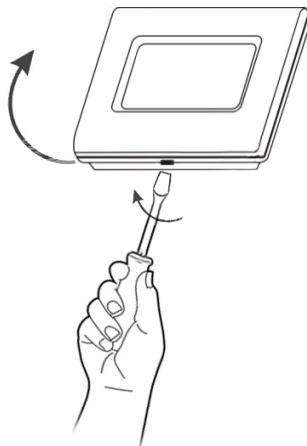
1. If the thermostat is already mounted to a wall, unmount the thermostat to proceed. (Please refer to the **Installation Manual of respective thermostat.**)
2. Locate the release slot on the bottom of the thermostat. Insert a small coin or a flat screwdriver and gently twist to open the sensor housing upside.

NOTE: Handle the sensor housing gently, not to stress the LCD or bend the terminal connector pins.

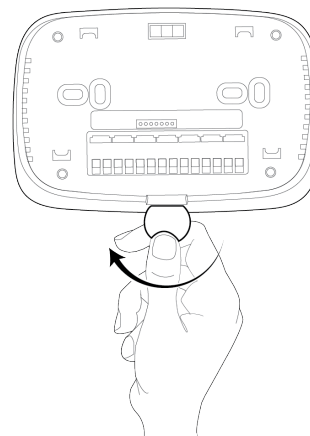
Thermostat: T-32-P



Thermostat: SMT-131

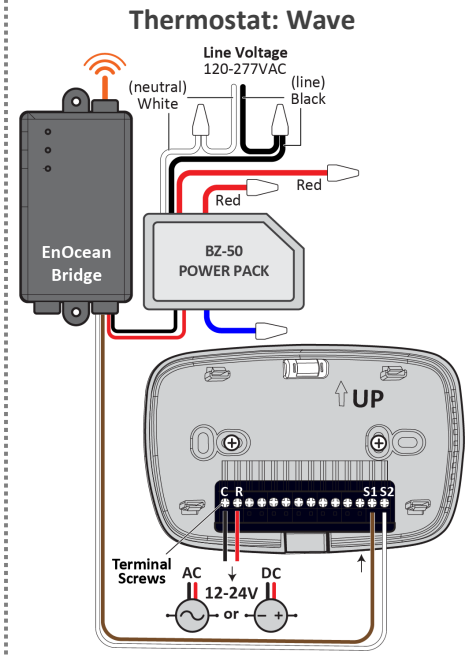
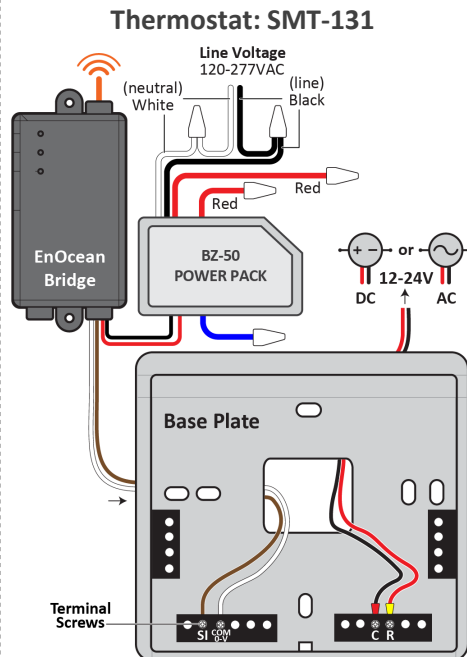
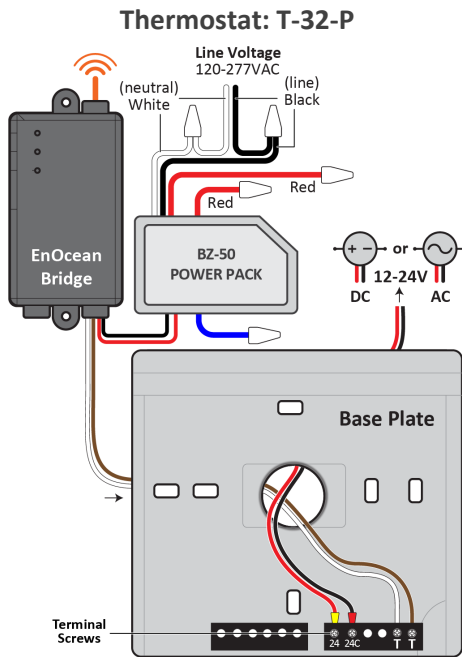


Wave Thermostat



NOTE: After each connection detailed in below procedure, ensure the terminal connections are secure by fastening a screw into the terminals. DO NOT over tighten.

- Except for the antenna, insert all the wires from the **EnOcean Bridge** into the large hole provided on the Base Plate of Thermostat. (**NOTE: INSERT THE WIRES FROM THE BACKSIDE OF THE BASE PLATE**).



- Connect the Red and Black wires of **EnOcean Bridge** to the Power Pack.
- Ensure the **Power Pack** is connected to a Power Source (120-277VAC).
- Connect the White wire from **EnOcean Bridge** to the first TT terminal of the thermostat.
- Connect the Brown wire from **EnOcean Bridge** to the second TT terminal of the thermostat.
- Connect the Red and Black wires of **EnOcean Bridge** to the Power Pack.
- Ensure the **Power Pack** is connected to a Power Source (120-277VAC).
- Connect the White wire from **EnOcean Bridge** to the **COM 0-V** terminal of the thermostat.
- Connect the Brown wire from **EnOcean Bridge** to the **SI** terminal of the thermostat.
- Connect the Red and Black wires of **EnOcean Bridge** to the Power Pack.
- Ensure the **Power Pack** is connected to a Power Source (120-277VAC).
- Connect the White wire from **EnOcean Bridge** to the **S2** terminal of the thermostat.
- Connect the Brown wire from **EnOcean Bridge** to the **S1** terminal of the thermostat.
- Connect the HVAC and others wires to thermostat. (Please refer to the **Installation Manual of respective thermostat**.)
- Mount the thermostat to the wall. (Please refer to the **Installation Manual of respective Thermostat**.)
- Gently close the sensor housing onto the base plate of Thermostat and proceed to section *Connect EnOcean Bridge to Remote Sensors* of this guide to pair with remote sensors.

5.1. Mounting the Thermostats

This Quick Start Guide will not cover mounting instructions for the thermostat. For instructions on thermostat installation, please refer to the **installation manual of respective thermostat** on the Autani web portal.

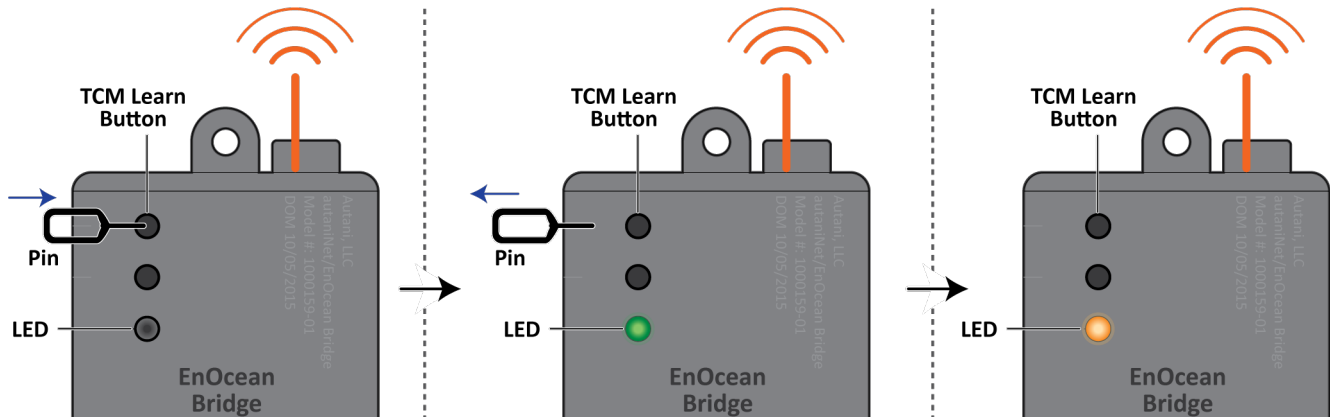
NOTE: The brown and white Resistive Output wires **MUST** be shielded from the 24V wire run, using dedicated conduit and shielding as needed. Failure to do so will cause an incorrect temperature reading into the thermostat from the remote sensors.

6. Connect EnOcean Bridge to Remote Sensors

The **EnOcean Bridge** can pair with the sensors locally or be commissioned remotely through the EnergyCenter® software.

6.1. Pairing Locally

1. Put the **EnOcean Bridge** into Learning Mode
 - a. Insert a pin into the TCM-LRN (learn) button.
 - b. Press and hold the TCM-LRN button until the Green LED turns on (after about 2-3 seconds).
 - c. Release the button. The LED will turn Amber.

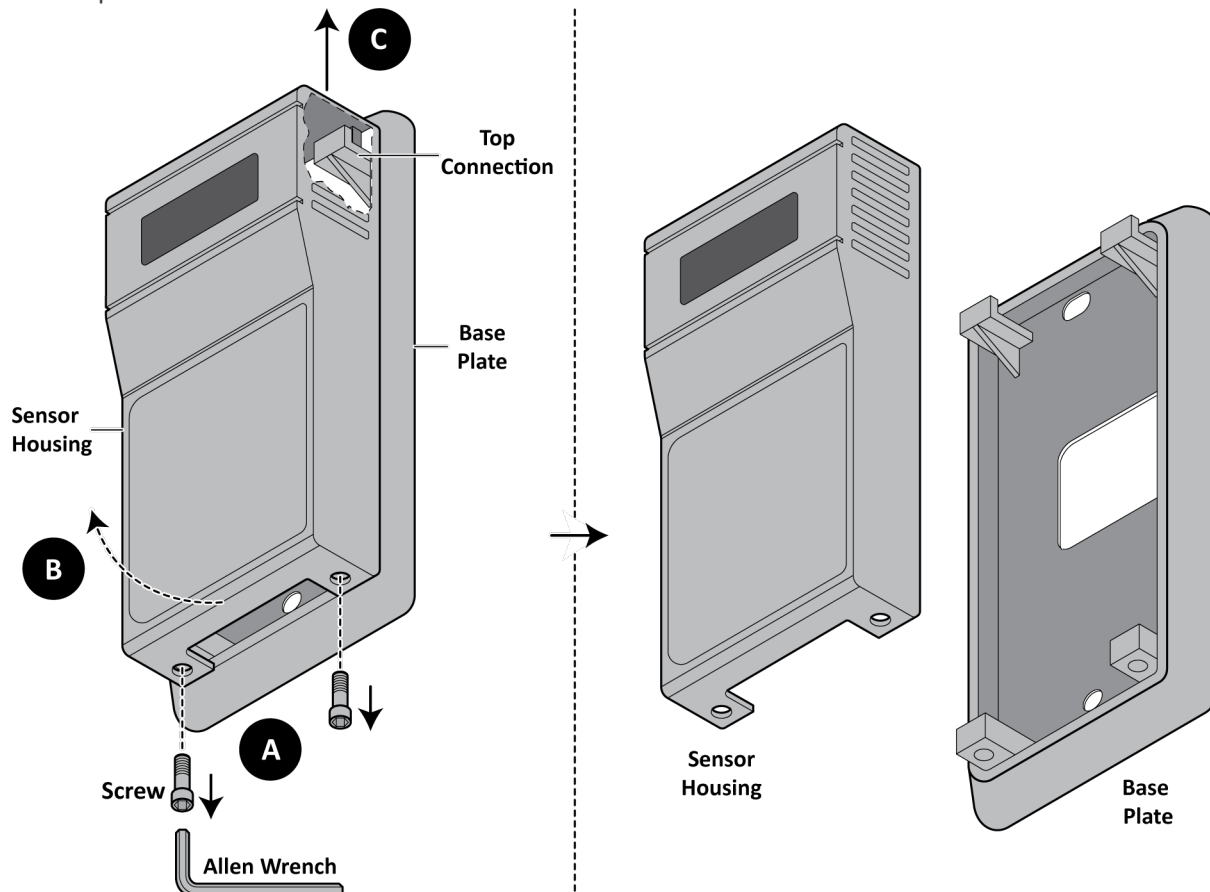


2. Pair the EnOcean Temperature Sensor to the **EnOcean Bridge**

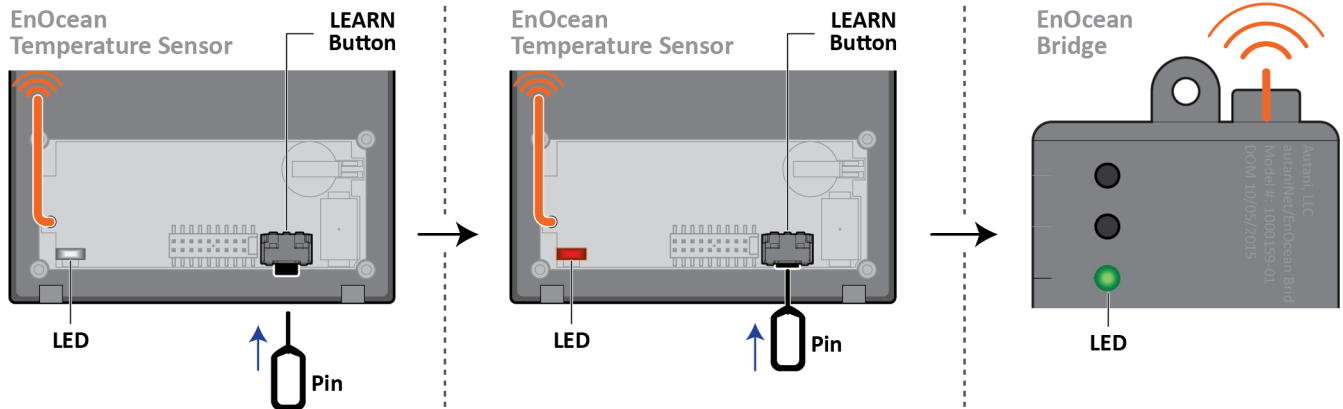
NOTE: Pair the sensor within 30 seconds. The 30 second timer resets when a new device is mapped.

WARNING: Handle the sensor housing gently while dismantling the sensor to avoid damaging internal parts.

- a. Use a 1/16" Allen Wrench to access the Learning Button by removing the screws from the bottom of the sensor housing. Slightly open the bottom of the sensor housing and then slide it up to disconnect it from the top of the base plate.

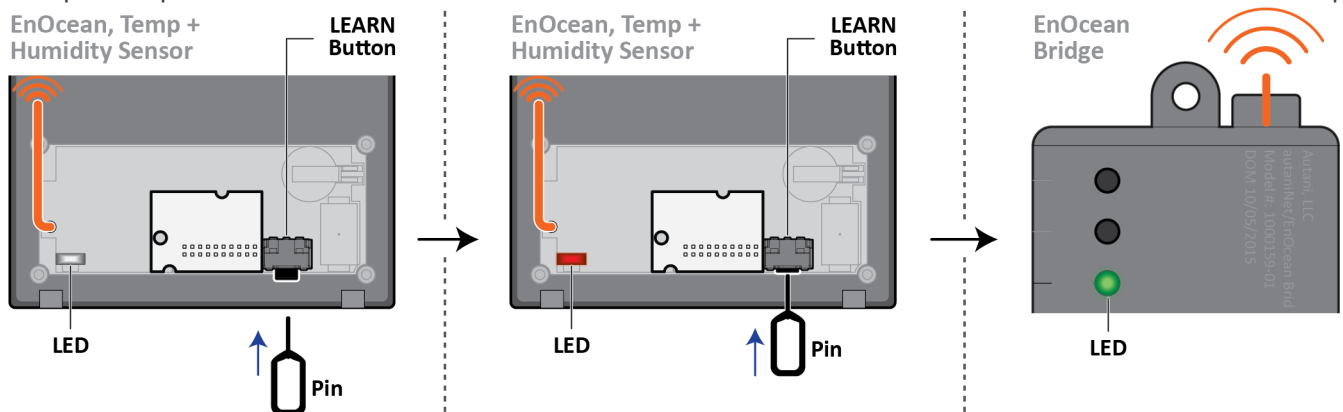


- b. Press the Learn Button on the sensor housing. If a message is sent, the Red LED will flash on the sensor. If the Bridge has received the message, its LED will briefly turn Green.



3. Pair the EnOcean Temp + Humidity Combo Sensor to the **EnOcean Bridge**

- a. Repeat step 2. **NOTE:** Pair the sensor within 30 seconds. The 30 second timer resets when a new device is mapped.

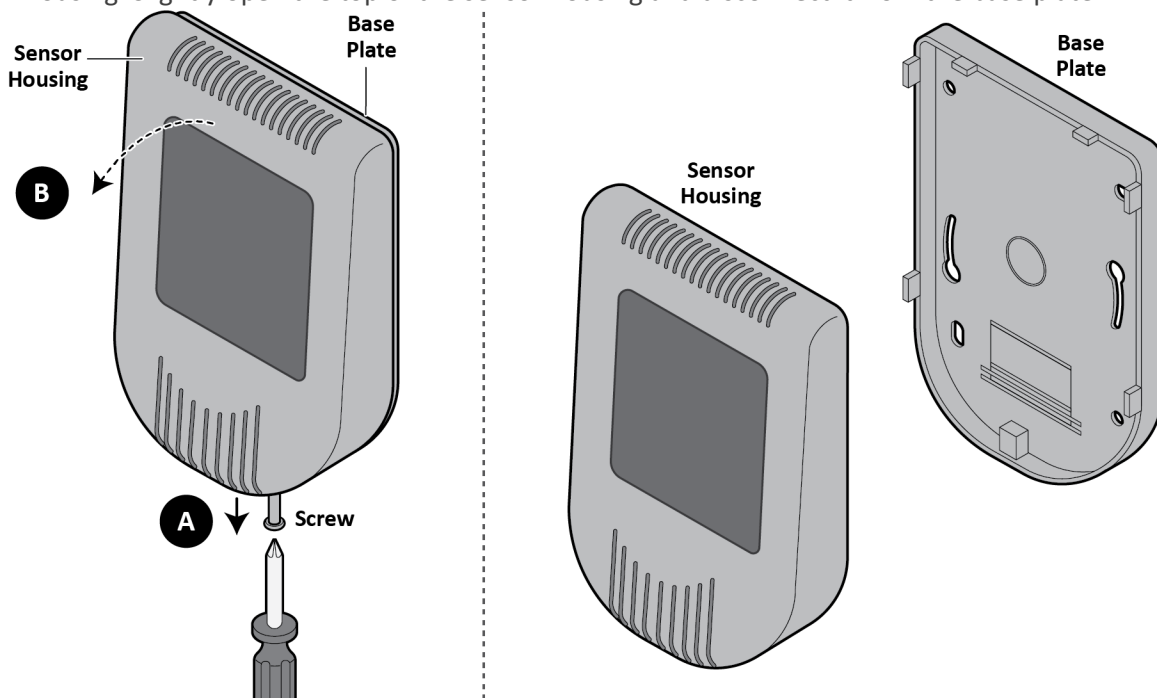


4. Pair the Pressac Temp + Humidity + CO₂ Combo Sensor to the **EnOcean Bridge**

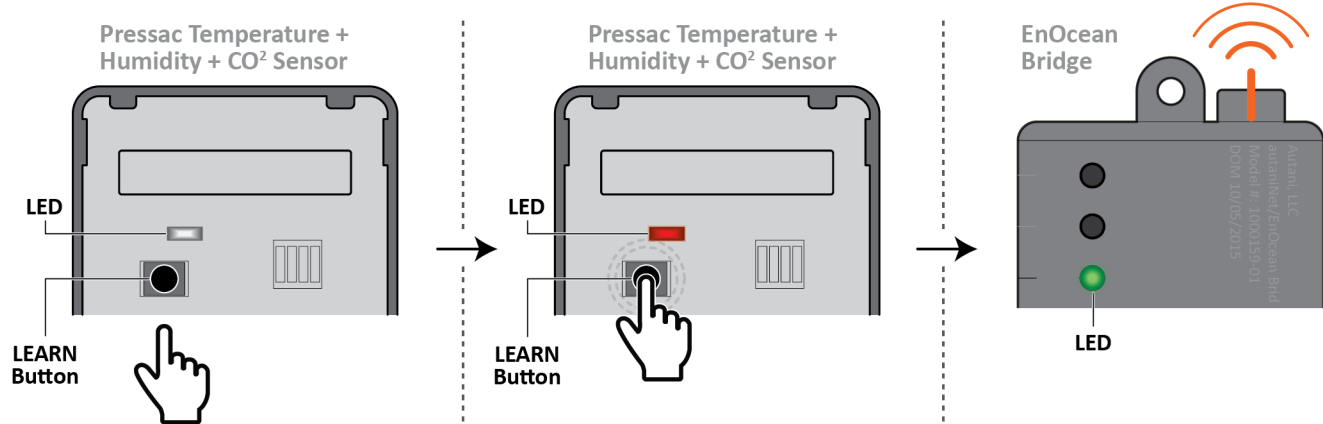
- NOTE:** Pair the sensor within 30 seconds. The 30 second timer resets when a new device is mapped.

WARNING: Handle the sensor housing gently while dismantling the sensor to avoid damaging internal parts.

- a. Use a Philips screwdriver to access the Learning Button by removing the screws from the bottom of the sensor housing. Slightly open the top of the sensor housing and disconnect it from the base plate.



- b. Press the Learn Button on the sensor housing. If a message is sent, the Red LED will flash on the sensor. If the Bridge has received the message, its LED will briefly turn Green.



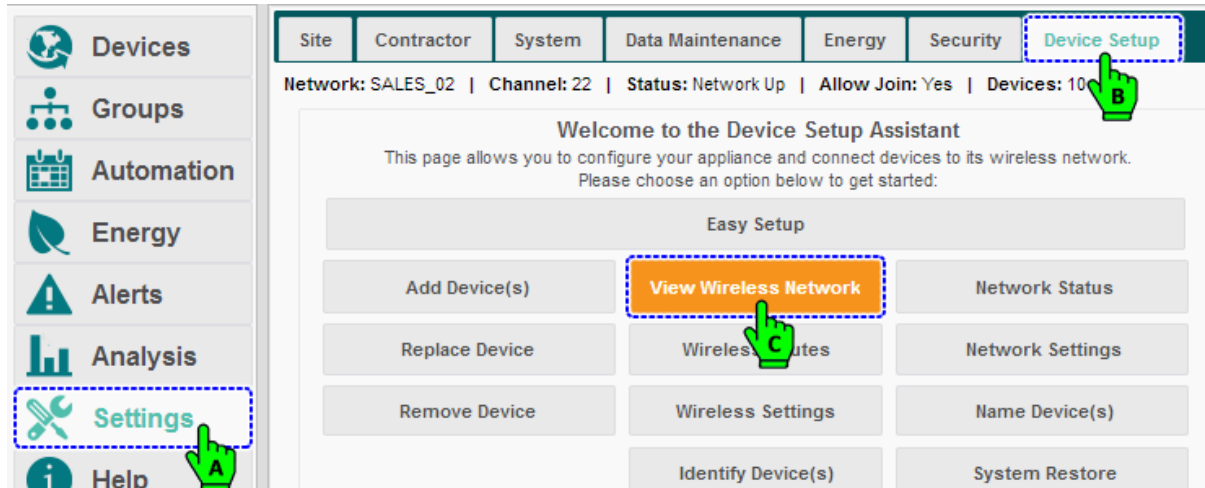
NOTE: Wait at least 30 seconds for learn mode to exit.

5. Verify sensors were paired (when the **EnOcean Bridge** is not in Learn Mode)

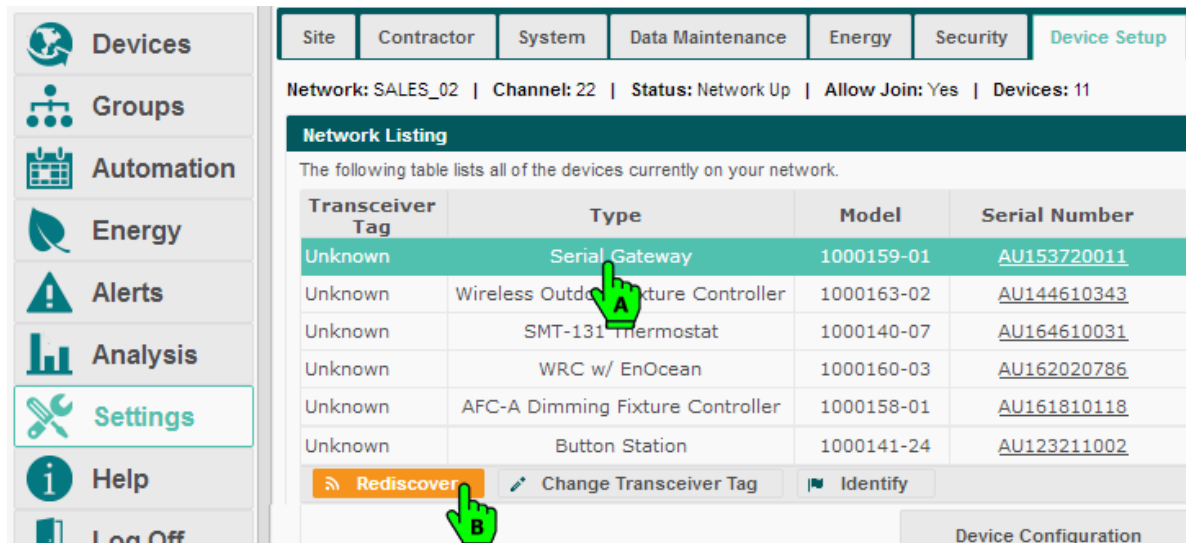
- Press the Learn Button on the sensor.
- The **EnOcean Bridge** LED should briefly turn solid green.

NOTE: If the **EnOcean Bridge** was already connected to autaniNet before the local binding, then the user must 'Rediscover' the **EnOcean Bridge** before the local bindings will show from the Bridges GUI within EnergyCenter®.

- A device can be rediscovered from **Settings > Device Setup > View Wireless Network** accordingly.



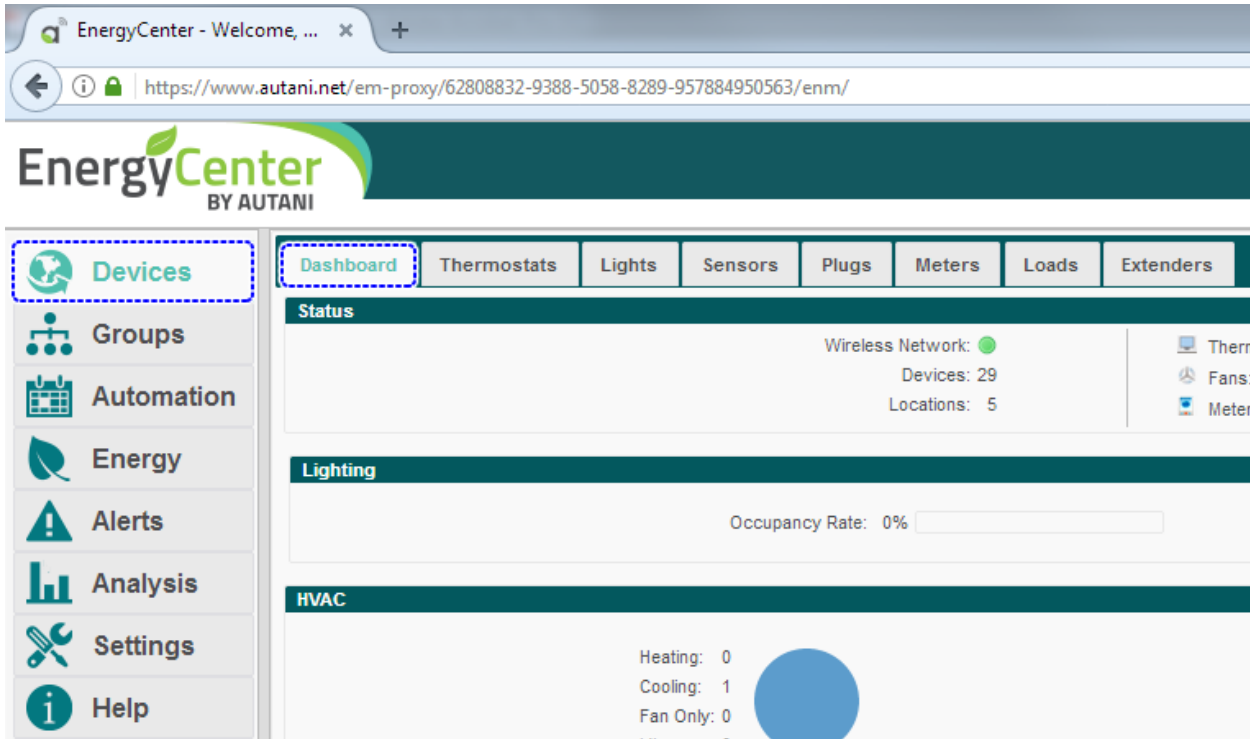
- Select the **Bridge** and click on **Rediscover** button.



6.2. Commissioning Remotely

The **EnOcean Bridge** and the remote sensors can also be paired and commissioned through the Autani Manager's EnergyCenter® Software.

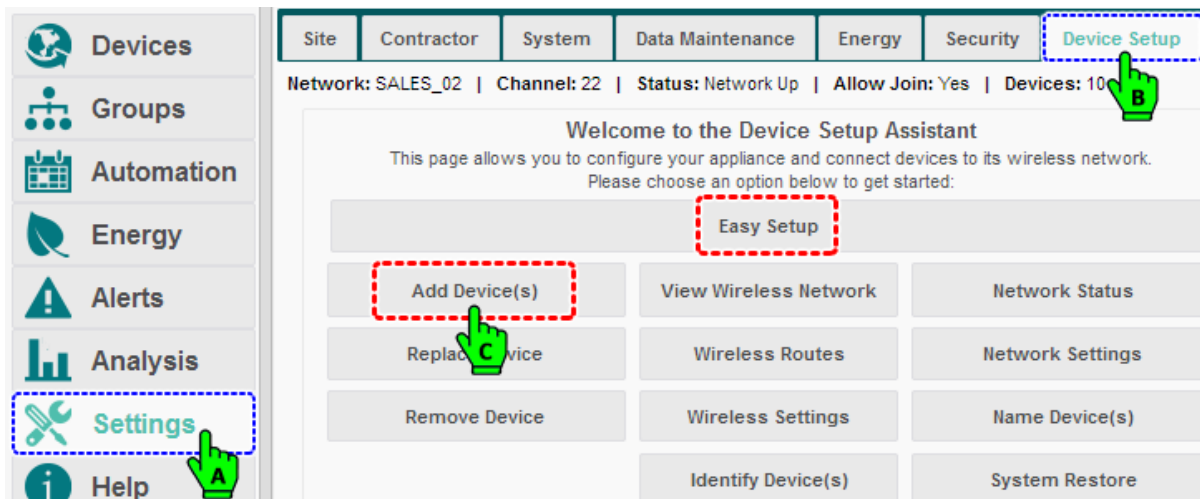
1. Login to the Autani web portal using the credentials provided.
2. By default the browser will load the **Device** page with the **Dashboard** data. (For more information on the User Interface, please refer to the **Help** section of EnergyCenter®.)



6.2.1. Commissioning EnOcean Bridge

1. To add the **EnOcean Bridge**, click **Settings > Device Setup > Add Device(s)**.

NOTE: If the **Add Device(s)** button is not available, proceed with the **Easy Setup** wizard.



- The **Add Device(s)** page loads. Select the **EnOcean Bridge** from the list of devices and click **Next**.

NOTE: The system may need a moment to search for and list nearby devices.

Site Contractor System Data Maintenance Energy Security **Device Setup**

Network: SALES_02 | Channel: 22 | Status: Network Up | Allow Join: Yes | Devices: 10

Add Device(s) Step 1: Add New Devices Step 2: Review Step 3: Finish

Select the devices to add to your network.

Please be patient while new devices are discovered. It may take several minutes for a device to appear in the list.

<input type="checkbox"/>	Type	Model	Serial Number	MAC Address	Last R
<input type="checkbox"/>	SMT-131 Thermostat	1000141-02	AU115110126	00:0D:6F:00:01:A7:9A:40	2018-03-
<input checked="" type="checkbox"/>	Serial Gateway	1000159-02	AU162320234	00:0D:6F:00:04:4C:97:83	2018-03-
<input type="checkbox"/>	(256)	1000140-06	AU160210310	00:0D:6F:00:0A:A3:10:98	2018-03-

Note: Your appliance has 40 registered devices and is licensed to support up to 1000.

< Back **Next >** Cancel

- Review the selected device and click **Next**.
- The last screen confirms the addition of an **EnOcean Bridge** to the system. Click **Finish** to complete the process.

Site Contractor System Data Maintenance Energy Security **Device Setup**

Network: SALES_02 | Channel: 22 | Status: Network Up | Allow Join: Yes | Devices: 10

Add Device(s) Step 1: Add New Devices Step 2: Review **Step 3: Finish**

The list below contains each device that has been added to your network.
It may take several minutes to add all of your devices.

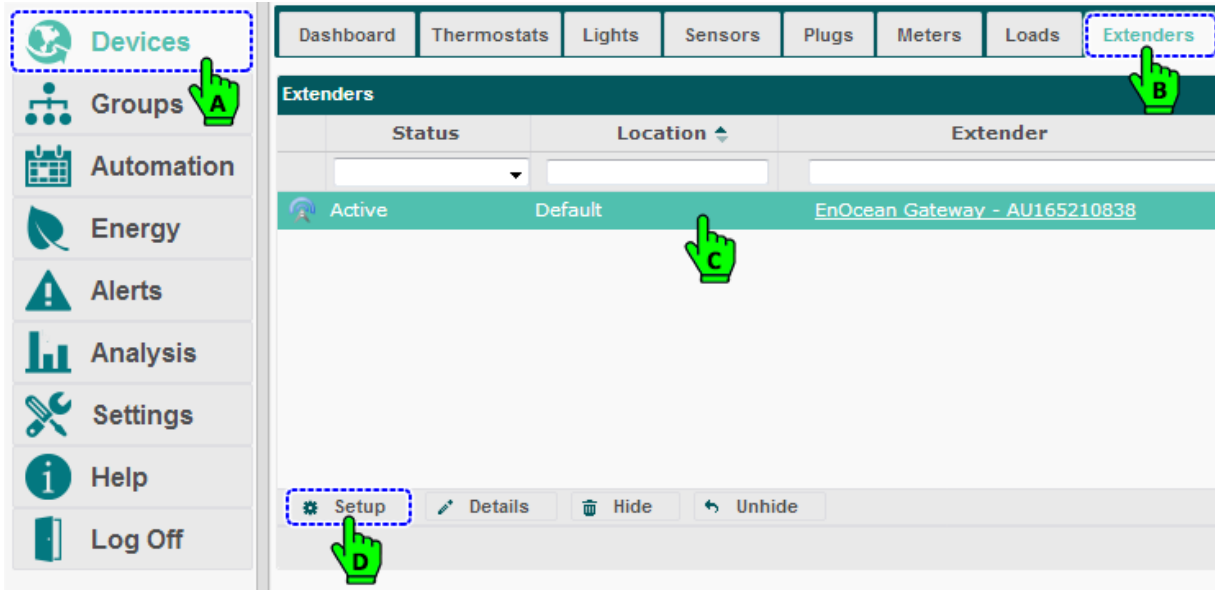
Click Finish to go back to the main setup page.

Added	Type	Model	Serial Number	MAC Address
✓	Serial Gateway	1000159-02	AU162320234	00:0D:6F:00:04:4C:97:83

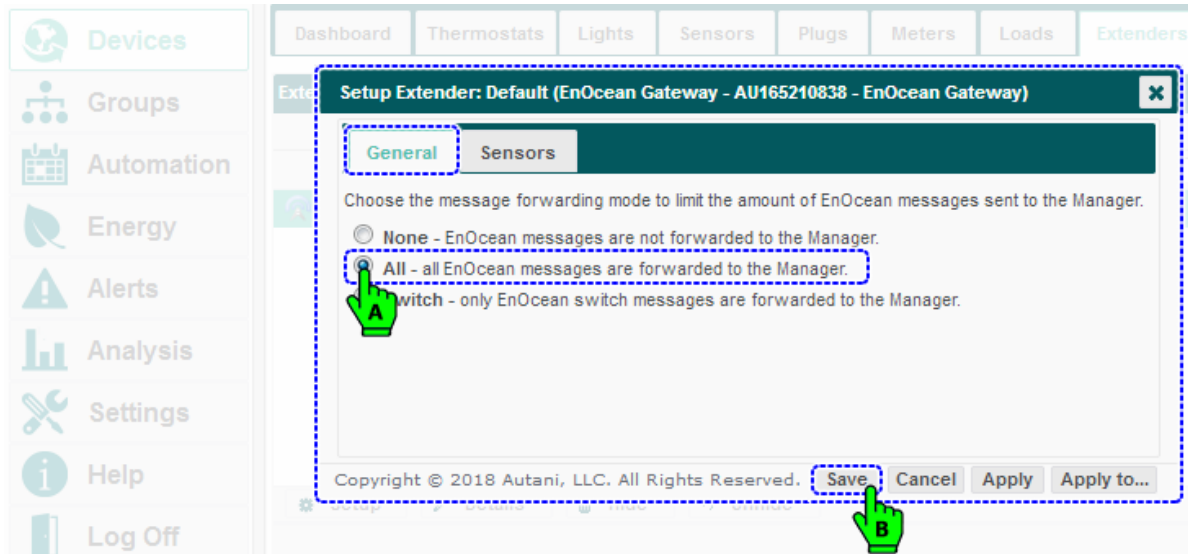
Note: Your appliance has 40 registered devices and is licensed to support up to 1000.

< Back **Finish** Cancel

5. The **EnOcean Bridge** is now available inside the **Devices** section under **Extender** Tab.
6. To commission the remote sensors, click **Devices** and then click the **Extender** tab, select the **EnOcean Bridge – AU165210838** from the list, and click **Setup**.

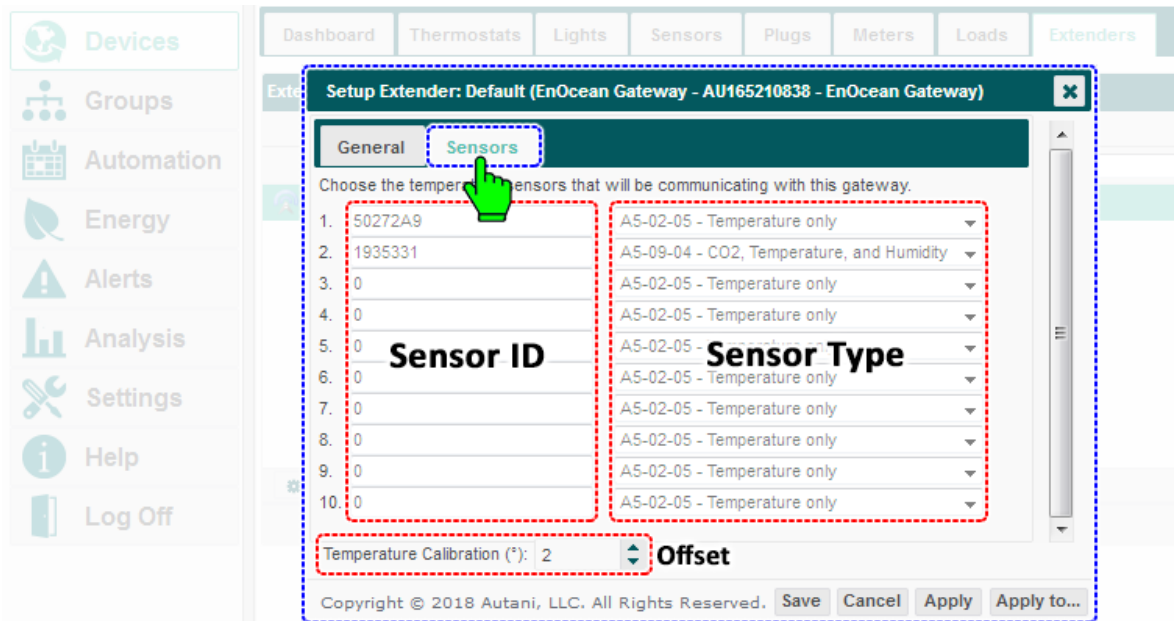


7. The **Setup Extender** pop-up menu appears containing **General** and **Sensors** tabs. The **General** tab is selected by default and contains three options for the Pass-through feature of **EnOcean Bridge**. Here the user can choose to limit the amount of EnOcean messages sent to Autani Manager.
8. Select the option **All - all EnOcean messages are forwarded...** to forward all the messages. Click **Save**.

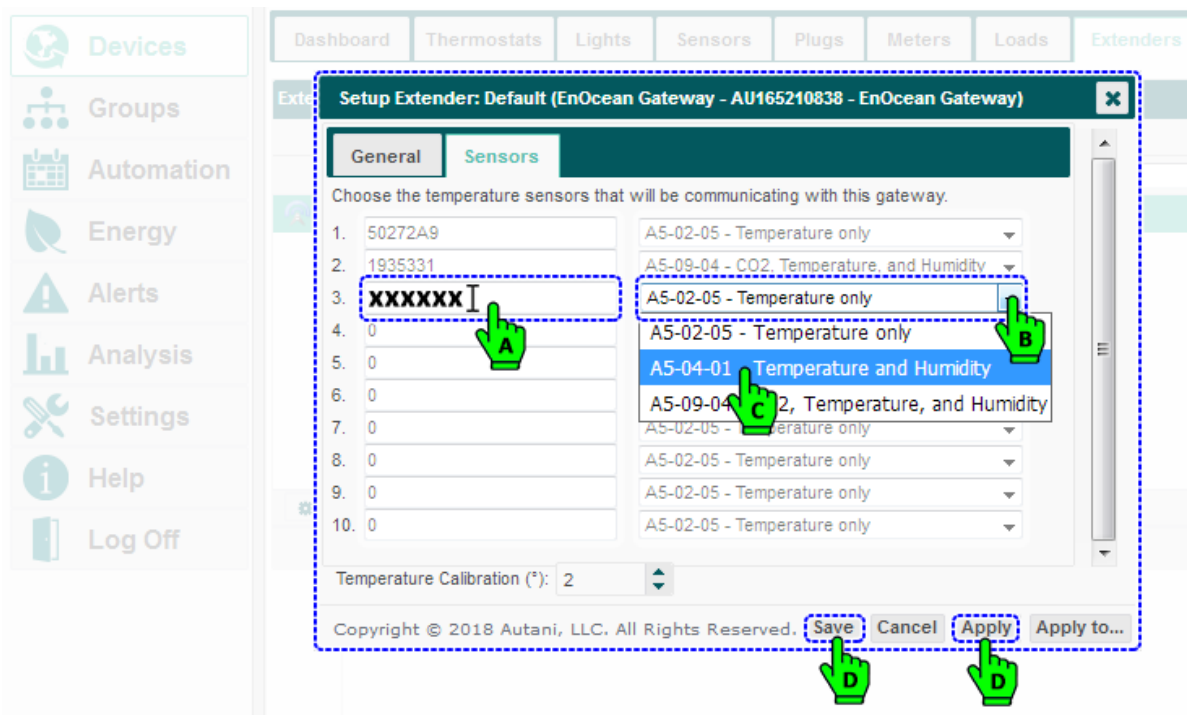


6.2.2. Commissioning Remote Sensors

1. Click on the **Sensors** tab, which will allow the user to commission the sensors. The tab should have already listed the sensors added during Learning Mode, or the user can add them directly to the list and set the type of sensing.



- There are two columns inside the Sensor tab, one for **Sensor ID** and another for **Sensor Type**.
 - **NOTE:** There is also a feature to **calibrate** the averaged temperature if the averages are not inline. This can be done by providing the **offset** to the average by few degrees; this offset is stored inside the **EnOcean Bridge**.
2. To commission another sensor, locate the next available empty list, and place the cursor inside the ID field, and key in the **Sensor ID**. Select the type of sensor from the drop down list. Click **Save** followed by **Apply** button.



3. Start adding the sensors to the EnergyCenter® system. Click **Settings** > **Device Setup** > **EnOcean Device Management**.

The screenshot shows the EnergyCenter interface. On the left is a vertical navigation menu with icons and labels: Devices, Groups, Automation, Energy, Alerts, Analysis, Settings (highlighted with a dashed blue box and a green hand icon labeled 'A'), Help, and Log Off. The main content area has a top navigation bar with tabs: Site, Contractor, System, Data Maintenance, Energy, Security, and Device Setup (highlighted with a dashed blue box and a green hand icon labeled 'B'). Below the tabs, a status bar shows: Network: SALES_02 | Channel: 22 | Status: Network Up | Allow Join: Yes | Devices: 10. The main content area is titled 'Welcome to the Device Setup Assistant' and contains a grid of buttons under the heading 'Easy Setup'. The buttons are: Add Device(s), View Wireless Network, Network Status, Replace Device, Wireless Routes, Network Settings, Remove Device, Wireless Settings, Name Device(s), Identify Device(s), System Restore, and Device Configuration. At the bottom of the grid, there are three buttons: EnOcean Device Management (highlighted with a dashed blue box and a green hand icon labeled 'C'), BACnet Browser, and BACnet Device Management.

4. The **EnOcean Device Management** page, lists all the EnOcean devices within the range of **EnOcean Bridge**.

The screenshot shows the 'EnOcean Device Management' page. The left navigation menu is the same as in the previous screenshot, with 'Settings' highlighted. The main content area has a title bar 'EnOcean Device Management' (highlighted with a dashed blue box). Below the title bar, it says 'EnOcean devices found by your appliance:'. There is a table with the following columns: Type, Address, Added, and Location. The table contains 10 rows of data, all with 'Teach-In Required' in the Type column. Below the table, there are four buttons: Refresh, Set Device Type, Add Device(s), and Delete Device(s). A note below the buttons states: 'Note: Your appliance has 5 registered EnOcean devices and is licensed to support up to 5.' At the bottom of the page, there is a button labeled '< Back to Device Setup'.

Type	Address	Added	Location
Teach-In Required	05:02:74:4E	<input type="checkbox"/>	
Teach-In Required	01:98:D5:79	<input type="checkbox"/>	
Teach-In Required	05:02:71:E7	<input type="checkbox"/>	
Teach-In Required	01:88:A1:DC	<input type="checkbox"/>	
Teach-In Required	05:02:72:DF	<input type="checkbox"/>	
Teach-In Required	05:02:75:0F	<input type="checkbox"/>	
Teach-In Required	01:89:A7:CC	<input type="checkbox"/>	
Teach-In Required	05:02:74:4B	<input type="checkbox"/>	
Teach-In Required	01:80:B0:76	<input type="checkbox"/>	
Teach-In Required	05:02:74:D2	<input type="checkbox"/>	
Teach-In Required	05:02:74:D1	<input type="checkbox"/>	
Teach-In Required	05:02:74:B7	<input type="checkbox"/>	

5. Search/find a **Temp Sensor** in the list using Serial Number/Address. Select the desired sensor and click on **Set Device Type** to set the type of sensor.

NOTE: The user can skip setting the device type if the sensor is already set with a device type while pairing locally, or if it is set inside the Sensor tab.

EnergyCenter
BY AUTANI

EnOcean Device Management

EnOcean devices found by your appliance:

Type	Address	Added	Location	De
<input type="checkbox"/> Teach-In Required	05:02:74:4E	<input type="checkbox"/>		
<input type="checkbox"/> Teach-In Required	01:98:D5:79	<input type="checkbox"/>		
<input type="checkbox"/> Teach-In Required	05:02:71:E7	<input type="checkbox"/>		
<input type="checkbox"/> Teach-In Required	01:88:A1:DC	<input type="checkbox"/>		
<input type="checkbox"/> Teach-In Required	05:02:72:DF	<input type="checkbox"/>		
<input type="checkbox"/> Teach-In Required	05:02:75:0F	<input type="checkbox"/>		
<input checked="" type="checkbox"/> Temp Sensor	05:02:72:A9	<input type="checkbox"/>	Default	Tempera
<input type="checkbox"/> Teach-In Required	05:02:74:4B	<input type="checkbox"/>		
<input type="checkbox"/> Teach-In Required	01:80:B0:76	<input type="checkbox"/>		
<input type="checkbox"/> Teach-In Required	05:02:74:D2	<input type="checkbox"/>		
<input type="checkbox"/> Teach-In Required	05:02:74:D1	<input type="checkbox"/>		
<input type="checkbox"/> Teach-In Required	05:02:74:B7	<input type="checkbox"/>		

Refresh Set Device Type + Add Device(s) Delete Device(s)

Note: Your appliance has 5 registered EnOcean devices and is licensed to support up to 5.

6. The **Set Device Type** pop-up menu appears; select the **Temp Sensor - A5-02-05** from the drop down list and click **Set** button to set the device type.

Automation

Energy

Alerts

Analysis

Settings

Help

Log Off

Set Device Type

Choose a new EnOcean device type for the selected devices:

Contact Sensor - D5-00-01

Set Cancel

Set Device Type

Choose a new EnOcean device type for the selected devices:

Contact Sensor - D5-00-01

Contact Sensor - D5-00-01

Light Sensor - A5-06-02

Occupancy Sensor - A5-07-01

Relay - A5-11-01

Rocker Pad - F6-02-02

Temp/Humidity/CO2 Combo Sensor - A5-09-04

Temp and Humidity Combo Sensor - A5-04-01

Temp Sensor - A5-02-05

Set Cancel

Note: Your appliance has 5 registered EnOcean devices and is licensed to support up to 5.

< Back to Device Setup

7. With the Temp Sensor still selected, click **Add Device(s)** button to add the Temp Sensor to EnergyCenter® System. **NOTE:** If the sensor is added, the check box in the **Added** column should be in checked state, or else click the **Refresh** button for the checked state to appear, confirming the addition of sensor to the system.

EnOcean Device Management

EnOcean devices found by your appliance:

Type	Address	Added	Location	Description
<input type="checkbox"/> Teach-In Required	05:02:74:4E	<input type="checkbox"/>		
<input type="checkbox"/> Teach-In Required	01:98:D5:79	<input type="checkbox"/>		
<input type="checkbox"/> Teach-In Required	05:02:71:E7	<input type="checkbox"/>		
<input type="checkbox"/> Teach-In Required	01:88:A1:DC	<input type="checkbox"/>		
<input type="checkbox"/> Teach-In Required	05:02:72:DF	<input type="checkbox"/>		
<input type="checkbox"/> Teach-In Required	05:02:75:0F	<input type="checkbox"/>		
<input checked="" type="checkbox"/> Temp Sensor	05:02:72:A9	<input checked="" type="checkbox"/>	Default	Temperature
<input type="checkbox"/> Teach-In Required	05:02:74:4B	<input type="checkbox"/>		
<input type="checkbox"/> Teach-In Required	01:80:B0:76	<input type="checkbox"/>		
<input type="checkbox"/> Teach-In Required	05:02:74:D2	<input type="checkbox"/>		
<input type="checkbox"/> Teach-In Required	05:02:74:D1	<input type="checkbox"/>		
<input type="checkbox"/> Teach-In Required	05:02:74:B7	<input type="checkbox"/>		

Buttons: Refresh, Set Device Type, Add Device(s), Delete Device(s)

Note: Your appliance has 5 registered EnOcean devices. Your system is licensed to support up to 5.

8. Repeat steps 5-7 to add **Temp + Humidity Sensor** to the system. Ensure the device type is set to **Temp and Humidity Combo Sensor - A5-04-01**.

☒ Temp/Humidity Combo Sensor 01:9F:F9:14 ☒ Conference Room

9. Repeat steps 5-7 to add **Temp + Humidity + CO₂ Sensor** to the System. Ensure the device type is set to **Temp/Humidity/CO₂ Combo Sensor - A5-09-04**.

☒ Temp/Humidity/CO2 Combo Sensor 01:93:53:31 ☒ Default

10. The Sensors added to the system should soon start reporting their values inside the **Sensors** tab.
11. Along with the temperature values, other values like humidity, CO₂, illuminance, etc., are also reported by respective sensors. These values are further utilized by EnergyCenter® software to generate reports as needed. This is one of the important features of pass-through application.
12. Click **Devices** and then click **Sensors** tab; all the sensors added to the system will report their values in **Value** column.

Sensors

Status	Location	Sensor	Serial Number	Value
Active	Conference Room	Conference Room - AFC-A Dimming Fixture Cont...	AU161810118	0%
Active	Conference Room	Conference Room - Wireless Relay Controller	AU162020786	0%
Active	Conference Room	Conference Room - Wireless Relay Controller	AU162020786	No Motion
Active	Conference Room	EnOcean Temperature & Humidity Measurement	1:8a:77:7b	23.6%
Active	Conference Room	EnOcean Temperature & Humidity Measurement	1:8a:77:7b	66.8%
Active	Conference Room	Illuminance Measurement	1:98:a0:1d	0 lux
Active	Conference Room	Occupancy Sensing	1:9f:f9:14	No Motion
Active	Default	Temperature Measurement	5:2:72:a9	71.5%
Active	Default	(SMT-131) Wireless Thermostat - AU164610031	AU164610031	Closed
Active	Default	(SMT-131) Wireless Thermostat - AU164610031	AU164610031	Open
Active	Default	(SMT-131) Wireless Thermostat - AU164610031	AU164610031	Closed
Active	Default	Temperature Measurement	1:93:53:31	23%
Active	Default	Temperature Measurement	1:93:53:31	66.9%
Active	Default	Temperature Measurement	1:93:53:31	530 ppm
Active	Default	Temperature Measurement	5:2:72:a9	71.5%

Humidity

Temperature

CO₂

6.2.3. Commissioning Thermostats

1. The temperature readings from the sensors are averaged, which can be verified against the thermostat value. Click on the **Thermostat** tab and verify the average temperature displayed in the respective thermostat.

Dashboard | **Thermostats** | Lights | Sensors | Plugs | Meters | Loads | Extenders

Display Energy Usage from: 02/26/2018 to: 03/05/2018

Status	Location	Thermostat	Room	Heat
Active	Default	(SMT-131) Wireless Thermostat - AU164610031	70°	65°
Active	Default	(T-32-P) Main Office Space	68°	72°

2. If the **EnOcean Bridge** is connected to a **SMT-131 Thermostat**, the remote sensor inside the **Thermostat Configuration** is set to **Data Only (use on-board sensors)** by default. This need to be changed to **Remote** Sensor.
3. Select the **SMT-131 Thermostat** from the list of thermostats, and click the **Setup** button.

Dashboard | **Thermostats** | Lights | Sensors | Plugs | Meters | Loads | Extenders

Display Energy Usage from: 02/26/2018 to: 03/05/2018

Status	Location	Thermostat	Room	Heat
Active	Default	(SMT-131) Wireless Thermostat - AU164610031	69°	65°
Active	Default	(T-32-P) Main Office Space	68°	72°

Setup | Details | Hide | Unhide

Page 1 of 1

4. The **Setup Thermostat** pop-up menu appears. Click the **Thermostat Configuration** tab and set Remote Sensor to **Remote**. Click **Save**.

Setup Thermostat: Default ((SMT-131) Wireless Thermostat - AU164610031)

General Settings | **Thermostat Configuration** | Relay Outputs

System Switch Settings

- SW 1: ON - 3 Speed Fan
- SW 2: OFF - Heat/Cool
- SW 3: ON - Rev Valve Heat (B)
- SW 4: OFF - 4 Pipe
- SW 5: OFF - Immediate Comp Start
- SW 6: OFF - Klaxon Mode Off
- SW 7: ON - Ventilation Permitted
- SW 8: OFF - Door Station Not Used

Thermostat Settings

Remote Sensor: Remote

Save | Cancel | Apply | Apply to...

- If the **EnOcean Bridge** is connected to a **T-32-P Thermostat**, the remote sensor inside the **Thermostat Configuration** is set to **Indoor Sensor** by default. If it is not, change it to **Indoor Sensor**.
- Select the **T-32-P Thermostat** from the list of thermostats, and click the **Setup** button.

The screenshot shows the 'Thermostats' tab in the web interface. The left sidebar contains navigation links: Devices, Groups, Automation, Energy, Alerts, Analysis, Settings, Help, and Log Off. The main area displays a table of thermostats. The second row is highlighted in green and corresponds to the '(T-32-P) Main Office Space' thermostat. Below the table, there are buttons for 'Setup', 'Details', 'Hide', and 'Unhide'. A green hand icon labeled 'A' points to the selected thermostat row, and another green hand icon labeled 'B' points to the 'Setup' button.

Status	Location	Thermostat	Room	Heat	Co
Active	Default	(SMT-131) Wireless Thermostat - AU164610031	66°	65°	65°
Active	Default	(T-32-P) Main Office Space	69°	72°	74°

- The **Setup Thermostat** pop-up menu appears. Click the **Thermostat Configuration** tab and set Remote Sensor to **Indoor Sensor** from the drop-down list. Click **Save**.

The screenshot shows the 'Setup Thermostat: Default ((T-32-P) Main Office Space)' pop-up menu. It has four tabs: 'General Settings', 'Thermostat Configuration' (selected), 'Heatpump Options', and 'Relay Outputs'. Under 'Thermostat Configuration', there are sections for 'System Switch Settings' and 'Thermostat Settings'. In the 'Thermostat Settings' section, the 'Remote Sensor' dropdown menu is open, showing options: 'Indoor Sensor' (selected), 'Outdoor Sensor', 'Onboard Sensor and Remote Sensor Averaging', 'Dry Contact Thermostat ON/OFF Switch', 'Dry Contact Switch Replaces User Setpoint', and 'Send Temperature No Display'. A green hand icon labeled 'C' points to the 'Thermostat Configuration' tab, and another green hand icon labeled 'D' points to the 'Indoor Sensor' option. A third green hand icon labeled 'E' points to the 'Save' button at the bottom of the pop-up.

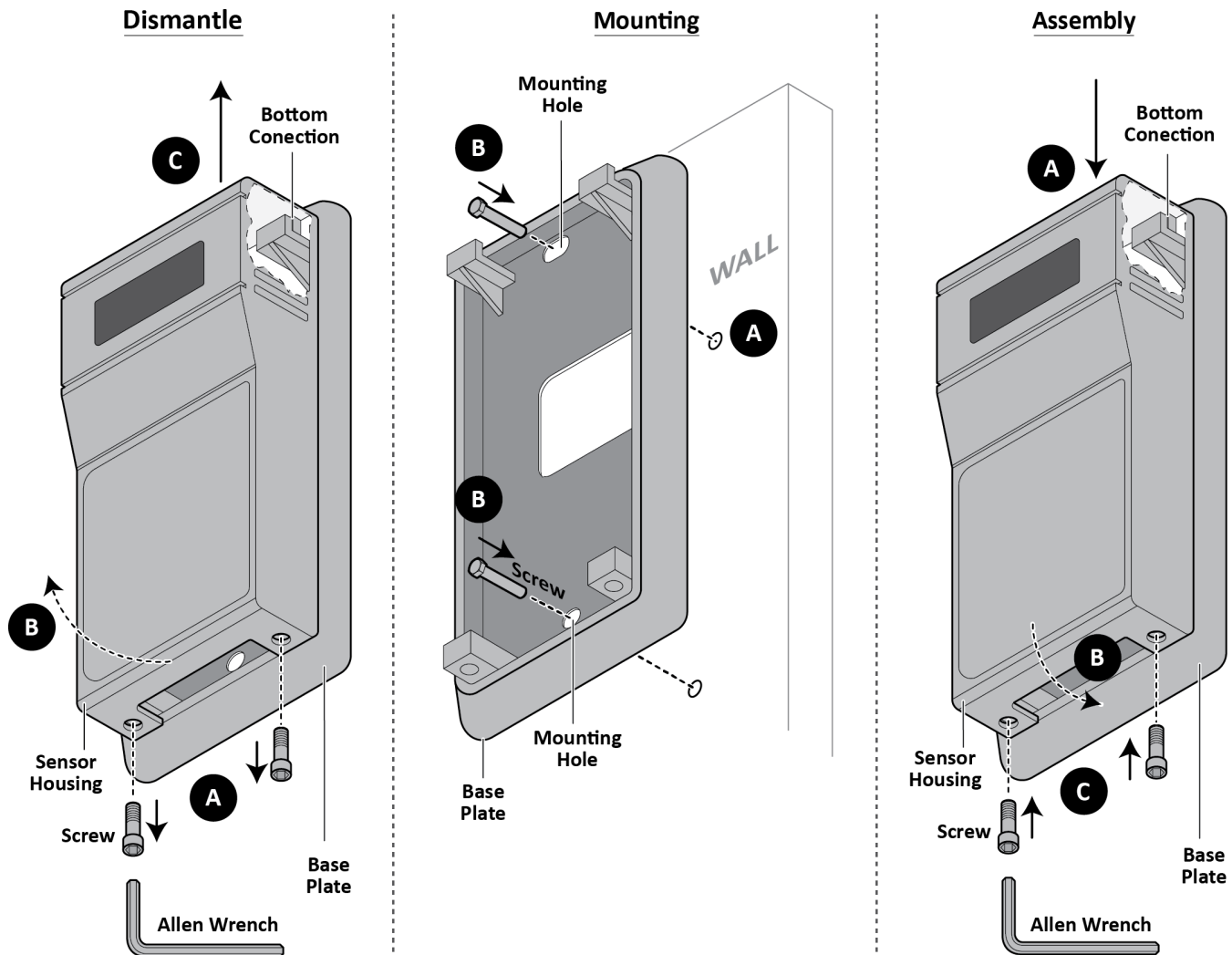
7. Mounting the EnOcean Remote Sensors

The below procedures are common to both the **EnOcean Temperature Sensor** and **Temperature + Humidity Combo Sensor**.

- The EnOcean remote sensors should be wall mounted in a convenient location at a desired distance from the ground and within a range of 80-100ft from the **EnOcean Bridge**.
- The sensors should be mounted in a place where it can receive sufficient ambient or outside light to maintain the charge without having to use a battery.

CAUTION: Handle the sensor housing gently while mounting/unmounting the sensor to avoid damaging internal parts.

1. Using a 1/16" Allen Wrench to remove the screws from the bottom of the sensor housing. Slightly open the bottom of the sensor housing and then slide it up to disconnect it from the top of the base plate.



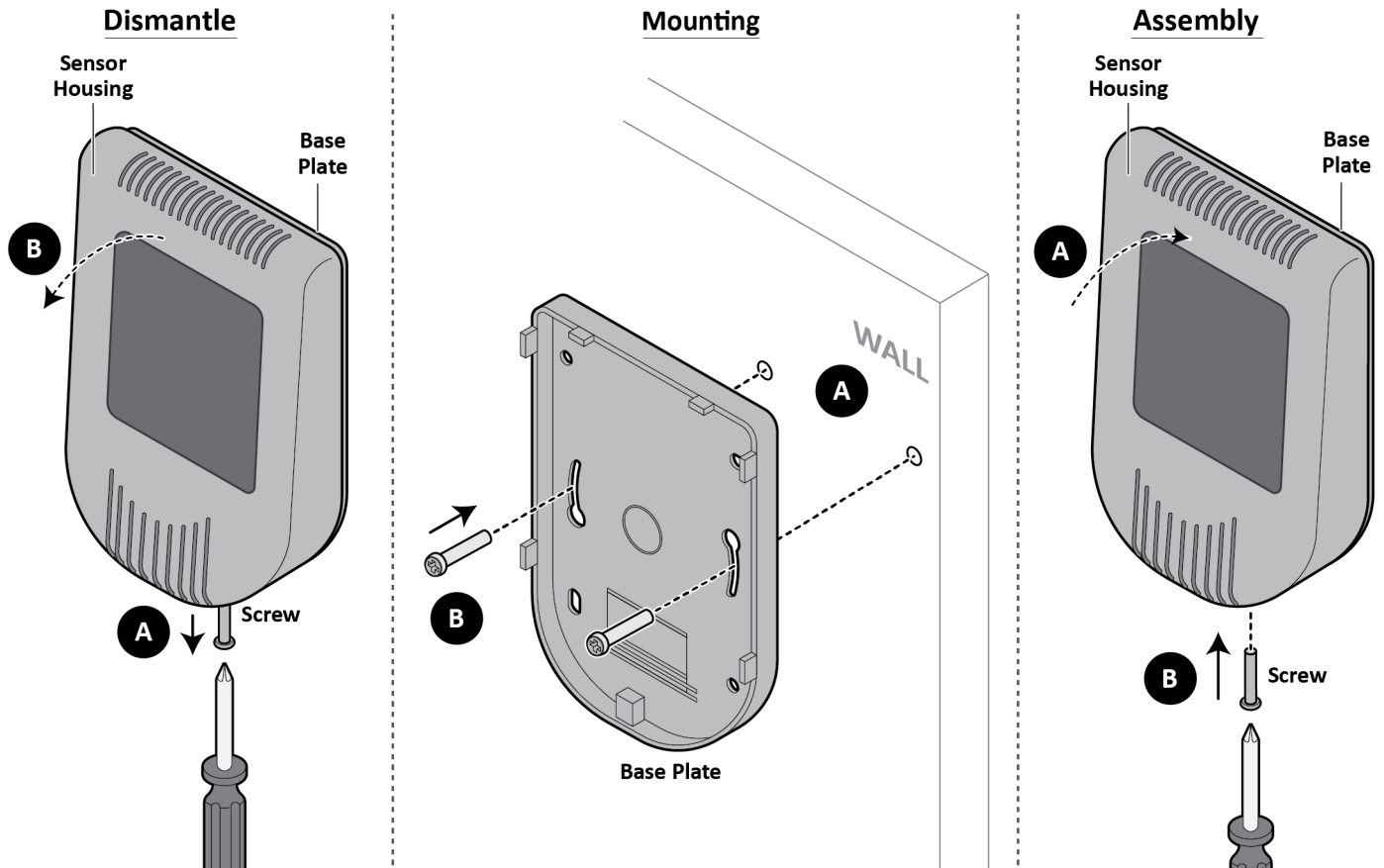
2. The base plate has two mounting holes, one each on top and bottom. Place the base plate on the wall and mark the holes to drill. Remove the base plate and drill two holes in the marked locations.
3. Place and hold the base plate on the wall, aligning the mounting holes with the holes made on the wall. Insert the screws through mounting holes and tighten.
4. Locally pair the EnOcean sensors with **EnOcean Bridge**. (Please refer to the *Connect EnOcean Bridge to Remote Sensors* section.)
5. Install the sensor housing onto the base plate. Start by inserting the groove on top of the sensor housing into the slot provided on the base plate, and then completely insert the bottom of the sensor housing into the base plate.
6. Insert the screws at the bottom of the sensor housing and use a 1/16" Allen Wrench to tighten them.

8. Mounting the Pressac Remote Sensor

- The Pressac remote sensors should be wall mounted in a convenient location at a desired distance from the ground and within a range of 80-100ft from the **EnOcean Bridge**.
- The sensors should be mounted in an area where the local CO₂ can be measured and they can receive sufficient ambient or outside light to maintain the charge without having to use a battery.

CAUTION: Handle the sensor housing gently while mounting/unmounting the sensor to avoid damaging internal parts.

1. Use a Philips screwdriver to remove the screws from the bottom of the sensor housing. Slightly open the top of the sensor housing and disconnect it from the base plate.



2. The base plate has two mounting holes. Place the base plate on the wall and mark the holes to drill. Remove the base plate and drill two holes in the marked locations.
3. Place and hold the base plate on the wall, aligning the mounting holes with the holes made on the wall. Insert the screws through mounting holes and tighten.
4. Locally pair the Pressac Sensor with **EnOcean Bridge**. (Please refer to the *Connect EnOcean Bridge to Remote Sensors* section.)
5. Install the sensor housing onto the base plate. Start by inserting the bottom of the sensor housing into the groove on the base plate, and then completely insert the top of the sensor housing into the top of the base plate.
6. Insert a screw into the bottom of the sensor housing to attach it to the base plate. Use a Philips screwdriver to tighten the screw.

9. General Application

- ☐ When installing the **EnOcean Bridge** for non-HVAC applications, no connections need to be made to the thermostat.
- ☐ Supported pass-through devices/accessories: Contact Sensors, Light Sensors, Occupancy Sensors, and Rocker Pad.
- ☐ Supported devices are added and commissioned the same way as the remote sensors.



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