

# SRF Configuration Guide

Setra CEMS SRF600 Configuration Procedure

## 1 Before you get started

In order to make the configuration process as smooth as possible, there are a few misconceptions and clarifications that need to be addressed. In this section we will go over how the device itself operates, what its purpose is, and answer a few common questions.

**NOTE:** It is **HIGHLY RECOMMENDED** that this document is read in full before starting the configuration process and special attention is given to **NOTES** in dotted boxes.

### 1.1 What is the SRF600?

The SRF600 series is our line of wireless temperature sensors. They are designed for a variety of applications but most commonly found in refrigerators, freezers and incubators. Along with the ambient temperature sensor built into every SRF, there is the option of connecting external temperature probes. The range and number of external probes varies between specific models, so be sure to look at their respective data sheets to determine which one is best for your application.

### 1.2 How does the SRF600 work?

The SRF series was developed to work specifically with the Setra Edge and Setra CEMS projects. It is not like other IoT devices or other Setra devices that can be brought into existing BMS networks through Modbus or BACnet.

The SRF measures and stores data internally, then communicates it directly to the Edge through the network both devices are on (see Fig 1). Although Setra will help answer any questions, it is the responsibility of the installer/end user to provide the network information. Since the SRF communicates directly with the Edge, the Edge must be assigned a static IP address.

Like all other devices in a CEMS project, the Serial Numbers are how the Edge communicates information to the CEMS Dashboard. It is VITAL that all serial numbers are recorded correctly throughout this process.

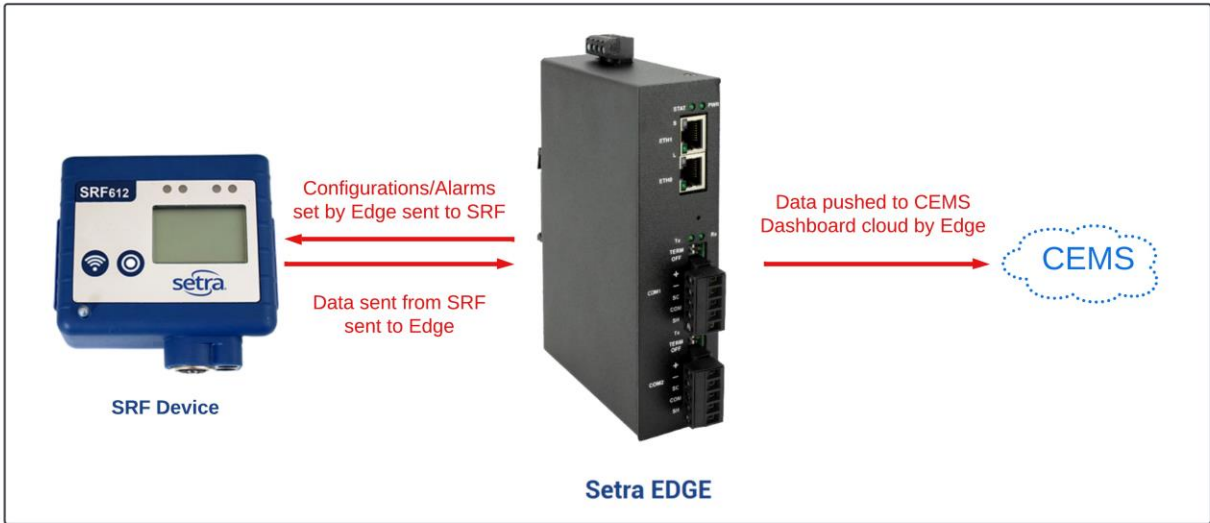
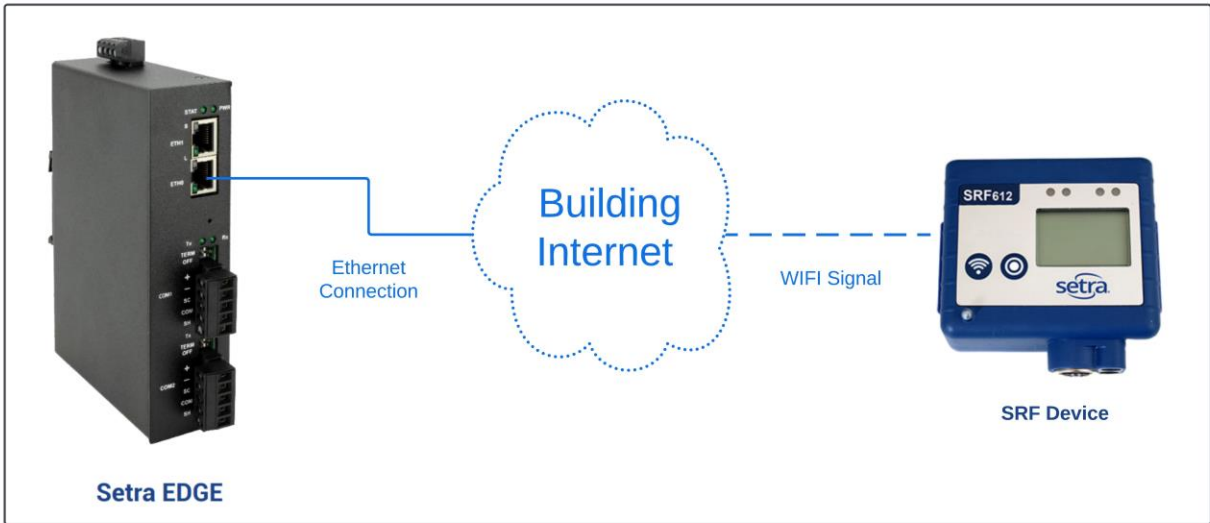


Figure 1) The Edge and SRF communicate to each other through a shared building internet.

Figure 2) The flow of information from the SRF to the Edge to the CEMS cloud.

## 1.3 FAQs

### 1.3.1 What is the order of operations for setting up an SRF?

Please fully read through and follow along this document. This details the order of how to approach configuring the SRF in relation to CEMS.

### 1.3.2 Does the SRF display locally?

The display of the SRF will read the measured value and update every minute as long as the device is functioning properly with no errors. Any error will override the display and provide an error code.

See the Operation Manual for more information.

### 1.3.3 Can the SRF be used independent of CEMS?

No. With no Edge device, it will display a constant error.

### 1.3.4 Does the SRF use BACnet or Modbus?

No, the SRF is not a BACnet or Modbus device. It communicates directly with the Edge over Wi-Fi.

### 1.3.5 Can the SRF be given a static IP?

No, when the SRF is given the Wi-Fi details, it will be assigned an IP address automatically by the network through DHCP. There is no way to check what IP address the SRF has been assigned through Setra provided equipment.

### 1.3.6 Tips for configuring?

The following is a list of reminders and helpful tips:

- Create a spreadsheet with the information of the device(s): device name, serial number, location, alarm delay, low warning/alarm, high warning/alarm for each probe, probe names. (Ask Setra for project spreadsheet templates)
- Pay attention to the order of configuration steps. Doing things out of order will cause unnecessary difficulties.

## 2 CEMS Dashboard

The first step in bringing an SRF online will be to add it to your CEMS Dashboard. If you are just starting a project, this will be done by the Setra onboarding representative along with the rest of the dashboard creation. If this device is being added after the fact as part of an expansion, you will need to do the following.

### 2.1 What you will need

1. Access your CEMS dashboard with an Administrator level account.
2. The serial numbers of the SRF(s).
3. A room name (where it is) and a device name (what it's labeled as).
4. Alarm and warning thresholds.

## 2.2 Add SRF600(s)

1. Navigate into the monitored space in which you want to add the device.



2. Add a new device.



3. Add the Room name, Device Name, Serial Number. Under device type, select User Defined Device. You can also add the Calibration Date information here.

**Add device** [X]

Room \*

Device Name \* 0 / 30

Serial Number \* 0 / 30

Calibrated on Date      Calibration due Date

EE800

EE650

Particle Counter

People Counter

**User Defined Device**

- Use the following chart to add as many Parameters as you need labeling them accordingly. The measurement units are not pushed from the Edge, so make sure they match in both locations. Finish by pressing Create.

Parameter	SRF600
User Defined 1	Internal Sensor (Ambient)
User Defined 2	External Sensor 1
User Defined 3	External Sensor 2
User Defined 4	External Sensor 3
User Defined 5	External Sensor 4
User Defined 6	Door
User Defined 7	Battery

The screenshot shows the 'Add device' interface with a list of parameters. A red arrow points to a '+' button labeled 'Add Parameter'. The 'Create' button at the bottom right is circled in red.

Parameter *	Decimal Place *
User Defined 1	0.1
Parameter name *	Unit *
Ambient Temp	*F
12 / 30	
Parameter * <td>Decimal Place * </td>	Decimal Place *
User Defined 7	0.1
Parameter name *	Unit *
Battery	%
7 / 30	
Parameter * <td>Decimal Place * </td>	Decimal Place *
User Defined 2	0.1
Parameter name *	Unit *
Freezer	*F
7 / 30	

Cancel **Create**

5. Go to the Device Threshold Configuration menu and add the appropriate Alarms and Warnings.



### 3 Setra EDGE Device

Now that the SRF(s) have been added to the CEMS dashboard, they can be added to the Edge. The Edge is responsible for pushing the SRF data to the dashboard by communicating directly with the SRF.

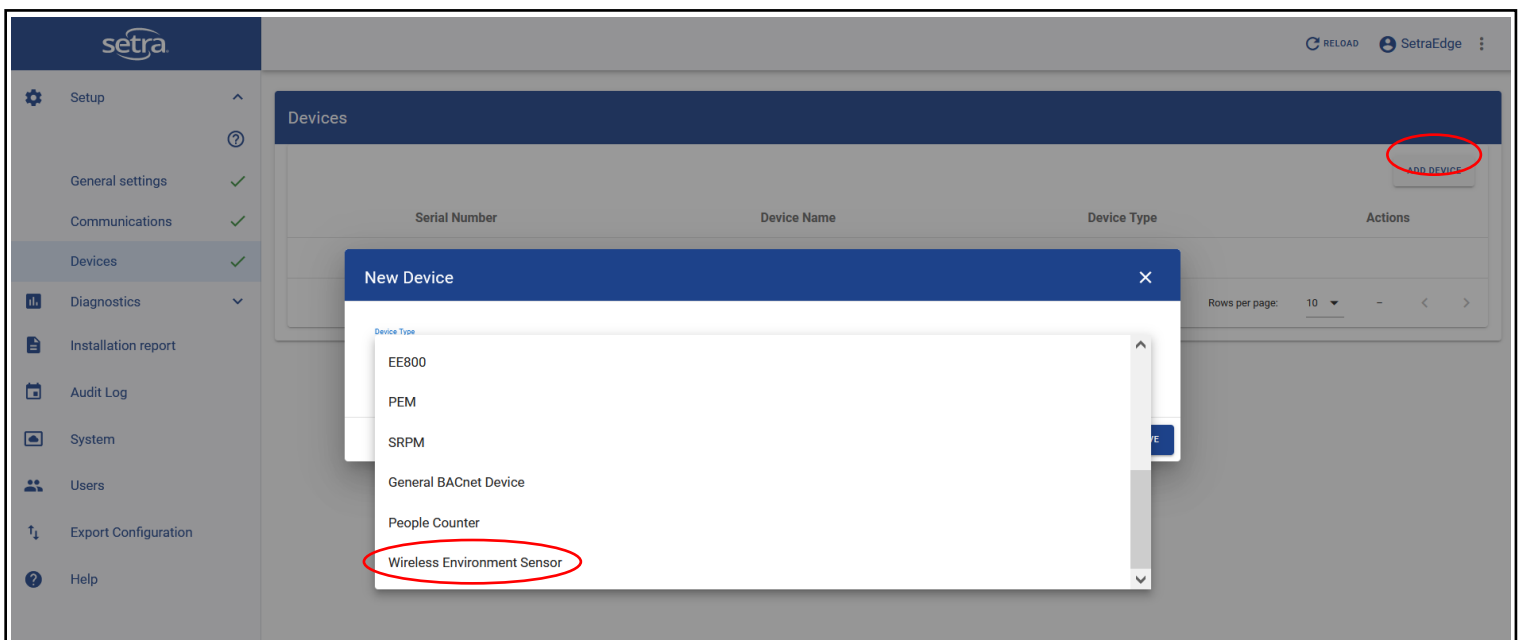
#### 3.1 What you will need

1. An Edge with a static IP address.
2. A computer that has access to the Edge and therefore the Edge Web Portal.
3. The serial numbers of the SRF(s).
4. A device name (what it's labeled as).
5. Alarm and warning thresholds.

**NOTE:** If there is confusion on how to get to or navigating the Edge Web Portal, please refer to the other documentation available on our website here: <https://www.setra.com/setracems-software-onboarding>

#### 3.2 Adding the SRF(s)

1. Log into the Edge Web Portal and navigate to Devices.
2. Click Add device.
3. Under device type, select Wireless Environment Sensor.

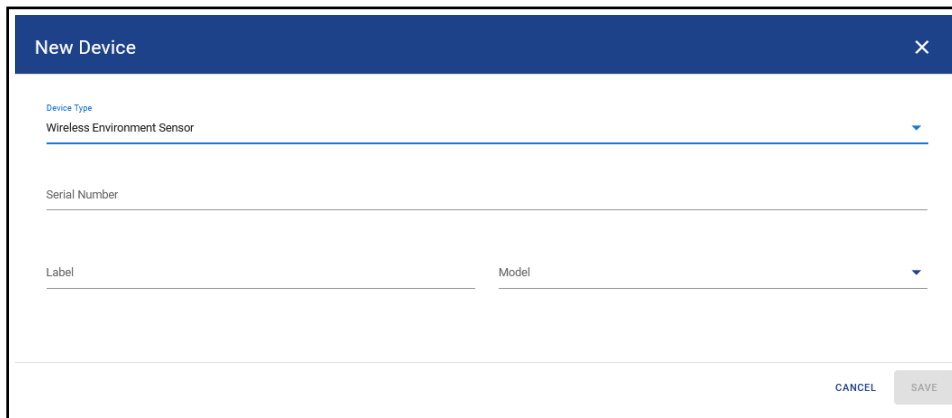


### 3.3 Configuration of Device Detail

#### 3.3.1 SRF General Information

Each device requires entry of the below fields for successful configuration.

General SRF Information	Description
Serial Number	Serial Number on back of device E.g., CA01234567
Label	Naming convention to best identify device E.g., Rm 233 Lab Fridge
Model	Select from SRF 612, 614, 615



The screenshot shows a 'New Device' configuration window. At the top, there is a blue header bar with the text 'New Device' and a close button (X). Below the header, the form contains the following fields:

- Device Type:** A dropdown menu with 'Wireless Environment Sensor' selected.
- Serial Number:** A text input field.
- Label:** A text input field.
- Model:** A dropdown menu.

At the bottom right of the form, there are two buttons: 'CANCEL' and 'SAVE'.

### 3.3.2 SRF Task Information

Once the model is selected, more options relating to the SRF device will populate. First is information related to “tasking” or the data recording.

Task Info	Description
Sensor Scale	The units of all your measurements. Select from C° or F°  <b>NOTE:</b> The units are not pushed to the Dashboard, so make sure the units match in both locations.
Wait for manual start	Manually starting tasking Default is automatic continuous tasking and logging.  <b>NOTE:</b> Explained in SRF Operating Manual
Wi-Fi On Rate	Rate for pushing data to Setra CEMS Default is 60 minutes
Log Rate	Rate of data logging internally at the SRF Default is 1 minute

Task Info

Sensor Scale  °C  °F  Wait for manual start

WiFi On Rate Log Rate  
 60 Minutes 1 Minute

**NOTE:** To explain the Wi-Fi On Rate and Log Rate, let’s take the example of the default values.

By default, the SRF will record data every minute and store it internally. Every hour, all those data points are pushed to the CEMS Dashboard and will backfill the trending graphs. This is to preserve the battery life of the SRF. If the Wi-Fi On Rate was every minute to match the Log Rate, the SRF batteries would die very quickly.

However, the Wi-Fi On Rate is overwritten if the SRF goes into a Warning or Alarm state. So, say the SRF logs every hour on the hour. At 6pm the data from 5:01pm-6:00pm, and at 7pm the data from 6:01pm-7:00pm will be pushed. If an alarm happens at 7:24pm, and there is no Alarm Delay, the data will be pushed right away and will continue to be pushed every minute until the temperature returns to normal.



### 3.3.3 SRF Sensor and Probe(s) Information

You now need to enable your sensors based on onboard sensor and external probes connected to SRF device. You can only have up to 4 external probes per SRF device (depending on accessories purchased and probe type).

Sensors	Name	Description
Check Box	-	Check = Enabled Empty = Disabled
Internal Sensor	Naming convention to best identify local placement.  E.g., Rm 122 Ambient	Internal probe on device that records ambient temperature
External Sensor X	Naming convention to best identify the probe.  E.g., Rm 122 Vaccines	These are the probes attached to the SRF.
Alarm Low/High	-	The Alarm limits, going beyond these activates an alarm state.
Warning Low/High	-	The Warning limits, going beyond these activates a warning state.  Must be with the Alarm limits.
Alarm/Warning Delay	-	Time in minutes the SRF must be out of bounds before activating the alarm/warning state.
Battery	-	Battery life of SRF device

<input checked="" type="checkbox"/> Internal Sensor	Name Ambient Temp	<input type="checkbox"/> Warning	Warning Low 0	Warning High 0	Warning Delay 0
		<input checked="" type="checkbox"/> Alarm	Alarm Low 18	Alarm High 26	Alarm Delay 0
<input checked="" type="checkbox"/> External Sensor 1	Name Freezer	<input checked="" type="checkbox"/> Warning	Warning Low -48	Warning High -42	Warning Delay 0
		<input checked="" type="checkbox"/> Alarm	Alarm Low -50	Alarm High -40	Alarm Delay 10

**NOTE:** Setra's recommendation is to not add an alarm delay on the CEMS software side. Alarm delays should be done at the SetraEDGE for each SRF600. This will push to the sensing device itself.

Each parameter/probe can have its own warning and alarm thresholds.

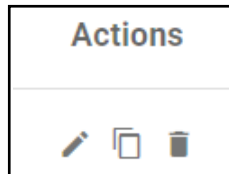
The alarms and warnings setup for each SRF600 need to reflect the same at CEMS software and EDGE.

### 3.4 Finishing Up

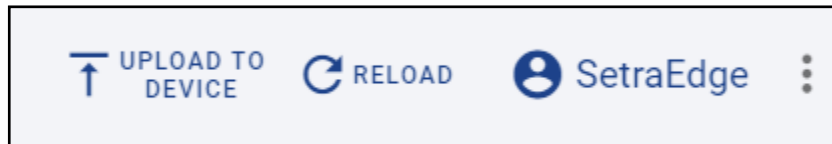
Once all the details of the SRF have been correctly configured in the New Device menu, finish by pressing the Save button.



The device can be edited using the pencil icon and can be cloned using the rectangle icon to the right of the pencil.



Finally, to save the changes to the Edge, press the Upload to Device button.



**NOTE:** This document only goes over how to add an SRF device to the Edge specifically. There are additional steps to the Edge's configuration process, such as setting up the communications that are necessary for the completion of this process. Please refer to the [SetraEdge User Manual](#) and other documentation for more information.

## 4 SRF Device

The final step of the configuration process is to configure the SRF itself. The details of how to configure the SRF device are outlined in the [SRF600 Quickstart Guide](#). However, this document will quickly touch on a few details for further clarification.

### 4.1 What you will need

1. The SRF
2. A computer/laptop with Wi-Fi
3. Information regarding the Wi-Fi the SRF will connect to (SSID, Password, etc.)
4. A downloaded copy of the [SRF600 Quickstart Guide](#).

### 4.2 Notes

1. When connecting to the SRF Wi-Fi signal as outlined in step two of the guide, you will lose access to the internet (unless there is also an ethernet connection for your laptop). This is why a downloaded copy of the guide is necessary.
2. When scanning for a Wi-Fi signal, the list that appears will have the names of the Wi-Fi networks and numbers next to them. The numbers indicate the strength of the signal as per the chart below:

Signal Strength (dB)	Signal Strength result
Greater than -59 (4 Bars on LCD)	Excellent
Between -60 to -79 (3 Bars on LCD)	OK
Below -80 (2 Bars on LCD)	Poor

3. The final step is to “task” the SRF device. If the manual start was left unchecked in section 3.3.2 this should happen automatically. If after waiting at most an hour, or however long the Wi-Fi On Rate was assigned in section 3.3.2, it does not happen automatically, press the Wi-Fi button on the SRF for 1 second. This should reconnect the SRF to the Edge and re-task the unit.
4. There are more details about troubleshooting the setup process in section seven of the [SRF600 Operation Manual](#).