SRF600

Transmitters

Operating Manual

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1. Overview of SRF600s

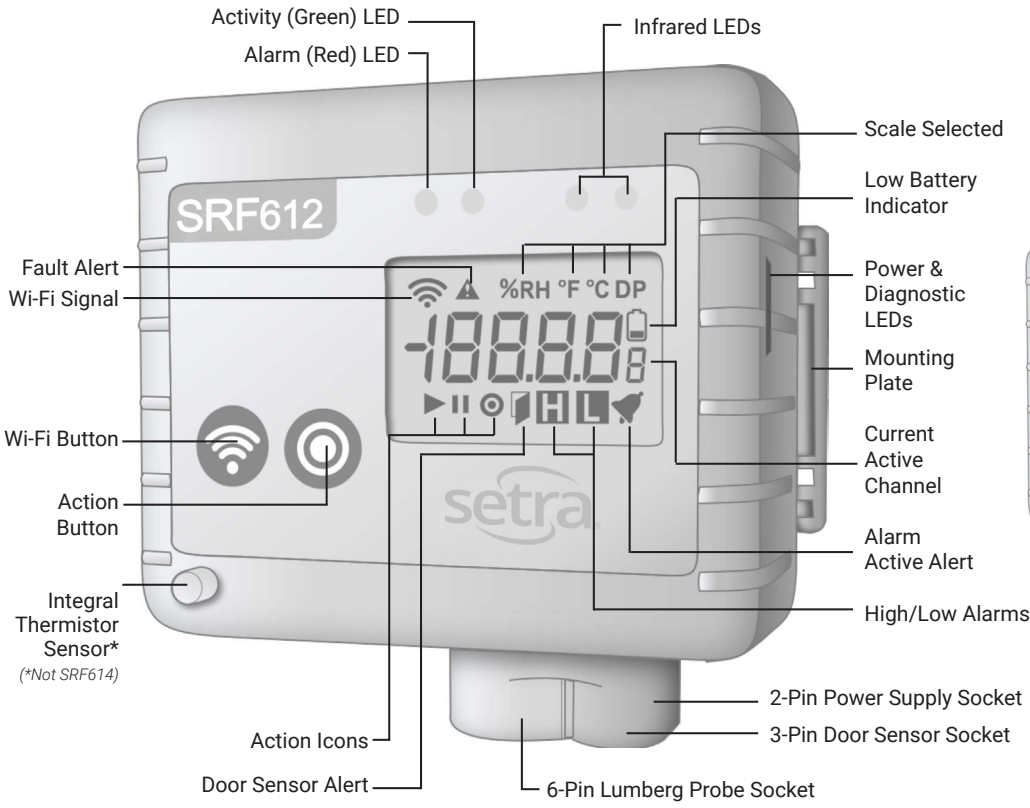


Figure 1: SRF600 Series Transmitters

*(*The Internal Channel on SRF614 is Inside the Lumberg Plug)*

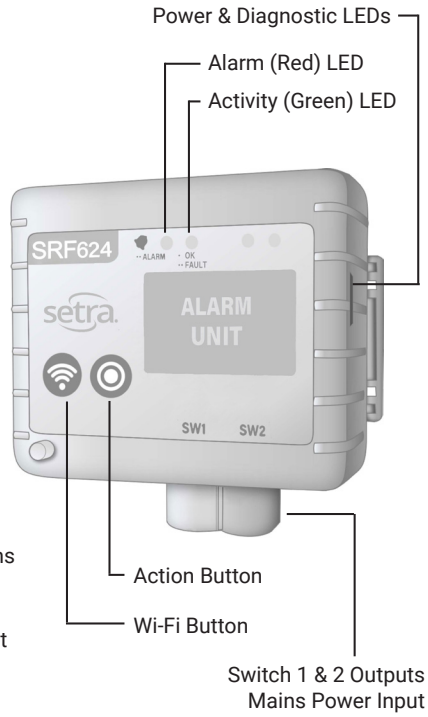


Figure 2: SRF624 Model

The SRF624 unlike the other SRF600 does not monitor temperature or humidity but give the user an audio and visual indication of an alarm from their Setra CEMS Diligence account. The SRF624 has an internal speaker, a red LED and two switch outputs that will allow the user to plug a klaxon. Learn more online.

NOTE: All the operations on the transmitter are implemented using two buttons, Wi-Fi and Action, on the front of the Transmitter.

1.1. Buttons

1.1.1. Wi-Fi Button

The Wi-Fi Button has several functions:

1. To enter Setup Mode
   - Press and hold the Wi-Fi Button and Action Button simultaneously for five seconds.
   - Press the Wi-Fi Button again to exit Setup Mode.
2. To enter Survey Mode
   - Press and hold for five seconds.
   - The transmitter will check the Wi-Fi Signal Strength.
   - To exit, press the Wi-Fi Button again.
3. To connect transmitter to Setra EDGE (Setra CEMS™ Connect) or Setra CEMS™ Diligence.
   - Press and hold for one second.
   - The Activity (Green) LED will flash once to acknowledge the button press and you will hear a beep.
   - The transmitter will send any unsent data and/or receive any new tasks.
   - During this time, the lower segment of the Wi-Fi Signal Symbol will flash.
4. Mute Audible Alarm
   - Press once.

1.1.2. Action Button

The Action Button has several functions:

1. Change Channel Displayed or Mute Audible Alarm (local visual and audible)
   - Press once.
2. Enter Setup Mode
   - Press and hold the Action Button and Wi-Fi Button simultaneously for five seconds.

1.2. Alarms & LEDs

1.2.1. Audible Alarm

Above the buttons is a built in Audible Alarm for alarm and other indications during use of the Transmitter. The audible alarm will activate for 30 seconds when the transmitter detects an Alarm. Pressing either the Wi-Fi or Action Button will mute the Alarm (local LED visual and audible).

1.2.2. Alarm (Red) LED

The Alarm (Red) LED will flash whenever one or more channels is in an active (unacknowledged) alarm state. It will not flash for warning High and Low Alert states but will flash for Alarm High and Alarm Low states.

1.2.3. Activity (Green) LED

The Activity (Green) LED will briefly flash every second to indicate that the transmitter is operating normally. The Activity (Green) LED will also flash once whenever the Wi-Fi Button is pressed.

1.2.4. Infared LEDs

The Infrared LEDs are only used during the manufacturing process and do not display or have any significance in normal operation.

1.2.5. Power & Diagnostic LEDs

These illuminate at various times depending on transmitter interactions. There are three LEDs:

1. Green – If the SRF520 Mains PSU is plugged in then a GREEN LED will illuminate
2. Yellow – The YELLOW LED indicates that the Transmitter is attempting to connect to the Wi-Fi
3. Red – When the RED Led illuminates then the Wi-Fi Card is active

If both the Red and Yellow LEDs are illuminated, then the Transmitter is communicating with Setra EDGE (Setra CEMS™ Connect) or Setra CEMS™ Diligence.

1.3. Symbols Displayed

Refer to Figure 1 of SRF600 Transmitter for symbol references.

1.3.1. Wi-Fi Signal

- Wi-Fi Signal strength is denoted by the number of visible bands - one band is low signal; all four bands is excellent signal.
- When the Wi-Fi is connecting then the Wi-Fi Signal Symbol will flash each segment consecutively, from low to full.
- If the Wi-Fi Signal Symbol is not visible, then the transmitter has no signal or has not been set up.

1.3.2. Fault Alert

When a fault is present with the transmitter present, the Fault Alert will appear with a reference number on the main LCD. See Section 8 for a full list of Fault Error Messages.

1.3.3. Scale Selected

The scale will show against the selected channel. It will indicate the scale selected via the Task from Setra EDGE (Setra CEMS™ Connect) or Setra CEMS™ Diligence. There are 4 scale options:

- **%RH** – % Relative Humidity – (Reserved for Future Models)

- **˚F** – Temperature in degrees Fahrenheit
- **˚C** – Temperature in degrees Celsius or Centigrade
- **DP** – Dew Point Temperature in either Celsius or Fahrenheit

1.3.4. Low Battery

The Low Battery Indicator Symbol will appear when battery is low. The transmitter will continue to operate normally, but we recommend replacing the batteries as soon as possible. If the Low Battery Indicator Symbol is flashing, then the battery is critically low and should be replaced immediately. The transmitter will still log data, but no wireless communication will be possible.

1.3.5. Alarm Active

The Alarm Active Symbol will flash when the Active Channel is registering an unacknowledged alarm or it's in an active alarm state.

NOTE: If the current displayed channel is not in alarm the symbol will not flash.

1.3.6. High / Low Alarm

The High/Low Alarm Symbol will show to alert you that the value displayed in the Active Channel exceeds the alarm limit. If the High/Low Alarm Symbol is flashing, then the Active Channel is registering a High/Low Alarm.

1.3.7. Door Sensor

The Door Sensor Symbol indicates that the Door is Open or Closed. If the Door is in Alarm, then the Door Sensor Symbol will flash.

1.3.8. Action Symbols

NOTE: If both the Pause Symbol and the Play Symbol are displayed, the LCD will indicate 'rDy' indicating that the Transmitter is waiting for a manual start.

1.3.8.1. Play

The Play Symbol will flash when the transmitter is tasked and logging normally. This is the normal status. If Play Symbol is solid, the transmitter has received a task but waiting for a reading.

1.3.8.2. Pause

The Pause Symbol can indicate that the transmitter is connected to Setra EDGE (Setra CEMS™ Connect) or Setra CEMS™ Diligence, but has not yet received a task.

1.3.8.3. Action

The Action Symbol indicates that the transmitter is waiting for input from the user to perform an action.

1.4. Current Active Channel

Depending on the type, each transmitter has several active channels, please see below:

Table 1: Active Channels

Channel Description	Active Channel	Channel Description	Active Channel	Channel Description	Active Channel
*Internal Channel	0	External 2	2	External 4	4
External 1	1	External 3	3	Door Switch	5

**The Internal Channel on a SRF614 is inside the Lumberg Plug*

When the transmitter has been tasked, the Active Channels will be indicated using the Active Channel Segment so that you know exactly which channel is being displayed on the LCD.

NOTE: Displayed values on the main LCD will be updated once per minute during normal logging.

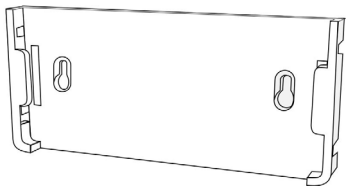
1.5. Door Switch

When programmed via the Tasking, Channel 5 on the LCD will display the door sensor alert symbol as shown in figure1 when the door is open. Alarm is triggered when the door is open for more than the limit set for Continuous Open Alarm Period in minutes.

1.6. Included in Box

1.6.1. Mounting Plate and Mounting Bracket

The transmitter comes with a mounting bracket to allow it to be affixed to a wall. The transmitter will slide into the mounting Bracket. These can also be directly mounted to appliances using Velcro or adhesive strips.



1.7. Sockets

1.7.1. 2-Pin Power Supply Socket

The 2-pin connector is designed to accept the SRF600-PWR Power Supply Unit (PSU) for mains operation of the transmitter by passing the battery operation. When SRF600-PWR is plugged in, the transmitter will activate the GREEN LED on the side to confirm that the power is available. Do not attempt to connect an unauthorised PSU to the transmitter as this may cause damage and invalidate your warranty.

1.7.2. 3-Pin Door Sensor Socket

The 3-pin connector is designed to accept one of the two door switches.

1.7.3. 6-Pin Lumberg Probe Socket

The Lumberg 6-Pin socket is designed to provide a robust and rugged means of connecting probes and accessories.

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2. Manual Transmission of Data

If you want to force the Transmitter to connect to the Wi-Fi network either to confirm that the Wi-Fi is connecting or simply to force the Transmitter to send its readings, simply press and hold the Wi-Fi Button until the Green LED comes on and the Wi-Fi Symbol starts to Flash. Within a minute the Transmitter will wake up and attempt to connect to Setra EDGE (Setra CEMS™ Connect) or Setra CEMS™ Diligence.

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3. Battery Life and Battery Type

SRF600 Transmitters require good quality 4 AA Alkaline Cells and in normal conditions (operating temperature/humidity conditions in room), these will provide good battery life up to 1 year. The SRF600 was tested with the following batteries which are recommended: Duracell / Procell, Energizer Max, Energizer Ultimate Lithium batteries L91. For low temperature operation below 0°C battery life with regular Alkaline can be impacted. If your transmitter is operating in Low temperature conditions, then we recommend upgrading to Energizer Ultimate Lithium batteries L91cells they also give longer life than normal Alkaline batteries.

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4. Battery Replacement

1. Remove the transmitter from the mounting bracket and remove the PSU lead if fitted.
2. Take a screwdriver (small flat blade or pozidriv) and remove all 4 screws from the battery compartment. They should remain captive in the cover.
3. Remove the cover.
4. Remove all 4 batteries, wait 30 seconds, and then replace them with new.
5. Do not mix old and new batteries together as this will cause issues with low battery warnings and affect normal operation.

5. Alarms & Warnings

5.1. Overview

An alarm will be triggered when the temperature or other parameter exceeds the programmed alarm value by a value equivalent to the minimum resolution. So, for example, given a high alarm of 8.0°C on SRF612 then an alarm will be triggered for any reading that is recorded as 8.1°C or above.

If an alarm time delay is set, then the temperature must remain above the set value for the period of the alarm time delay before the alarm will be officially triggered by the transmitter.

The graph to the right shows a temperature profile for a transmitter tasked for 15 minutes log rate, the high alarm at 5.0°C and low alarm at 1.0°C, and 5-minute alarm delay. The curve indicates the actual temperature being sampled by SRF600.

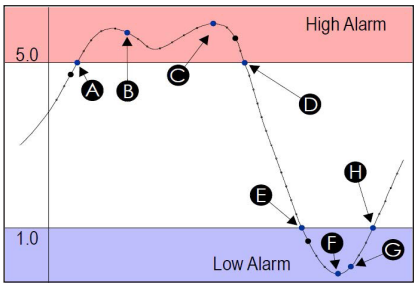

Figure 2: Transmitter Alarm Temperature Profile

The small dots indicate the sampling at 1-minute intervals. The large black dots indicate readings logged at 15-minute (log rate) intervals. When the temperature goes out-of-limit, extra records are logged as indicated by the blue dots as follows:

A) The record logged as the temperature goes out-of-limit (high)
B) The record logged because the temperature has remained out-of-limit throughout the alarm delay.
C) The maximum temperature reached for the out-of-limit period.
D) The record logged as the temperature again becomes within limits.
E) The record logged as the temperature goes out-of-limit (low)
F) The minimum temperature reached for the out-of-limit period.
G) The record logged because the temperature has remained out-of-limit throughout the alarm delay.
H) The record logged as the temperature again becomes within limits.

NOTE: The additional readings will be logged for all active channels to prevent unusual gaps in the data. So, one extra reading on Ch 1, would also be recorded for all other active channels including the Door Switch. When the channel enters from normal to warning, warning to alarm or alarm to warning then the transmitter pushes the data to EDGE automatically.

5.2. Different Types of Configurable Alerts

5.2.1. High and Low Alarms

High and Low Alarms are traditional alarms which will generate the alerts / emails from the Cloud. You set a maximum and minimum alarm level to ensure that you capture the Alarm events. To use alarms with SRF600 transmitters, High and Low Alarms must be setup in the Setra Edge portal (Setra CEMS™ Connect) or Setra CEMS™ Diligence and sent to the transmitter through tasking.

5.2.2. High and Low Warnings (Optional)

Warning Levels are set that sit below and above the absolute Alarm Levels. When these levels are triggered, you get a warning that your monitored area is heading towards and alarm excursion but is not there yet. This is a system that is particularly useful in applications where a time delay is not applicable or not wanted. To use warnings with SRF600 Transmitters, High and Low warnings must be setup in the Setra Edge portal (Setra CEMS™ Connect) or Setra CEMS™ Diligence and sent to the transmitter through tasking.

5.2.3. Alarm Delay (Optional)

An Alarm Delay can be set for both High and Low Alarms as well as High and Low warnings. This Alarm Delay/warning can be set to 0 to 120 minutes. It provides a simple delay to the Alert being triggered to allow for small deviations above or below an Alarm or Alert value to be ignored until you want to be made aware of them. The Alarm Time Delay is an optional setting, the delays must be setup in the Setra Edge portal (Setra CEMS™ Connect) or Setra CEMS™ Diligence and sent to the transmitter through tasking.

5.2.4. Temperature Alarm Limits

Temperature Alarm limits are set by the channel selected for the alarm. Please refer to the data sheet for specifications of your transmitter and probe selection. The task for the transmitter will not allow you to set an Alarm Limit outside of the measurement range for the channel.

5.2.5. Door Switch Alarms

There are two types of Door Switch Alarm.

5.2.5.1. Continuous Door Open

Set a duration between 0 and 60 minutes for a Continuous Door Open Alarm.

5.2.5.2. Door Alarm Example

Example Door Switch Alarm Settings: ***"Continuous Open Alarm Period 20 minutes"***. The door alarm will trigger if the door has been open for more than 20 minutes.

5.3. Alarms and Warnings on the LCD

NOTE: The unacknowledged alarms are automatically acknowledged by Setra EDGE. (Setra CEMS™ Connect)

Table 2: Temperature and Multi-Parameter Alarms and Warnings

Indicator	Description
	In the event of a High or Low warning, the H and L Symbols respectively will be solid against the Active Channel in Alert State. In the event of a High or Low Alarm, the H and L Symbols respectively will flash to indicate that the channel is in Alarm.
	The Alarm Bell symbol is flashing when the channel is in an active alarm state against the Active Channel and the RED LED are flashing (Optional)

5.3.1. Door Switch Alarms on the LCD

A door switch Alarm on the LCD will be indicated by the Door Switch Symbol Flashing on the LCD and the RED LED will be flashing. Using the Action button to scroll through to Channel 5 on the LCD will indicate the current Door Open Average Period.

NOTE: The LCD will not display how many minutes that the door was open to trigger continuously door open alarm.

5.4. Logging Modes

The SRF600 transmitters employs essentially one logging mode with the option of a manual start. During logging, the transmitter will complete the following actions:

5.4.1. Auto-Start

Under normal circumstances when the transmitter is programmed with a task as soon as it receives the task from the Cloud, it will automatically start logging. This is the normal behaviour for the transmitters.

5.4.2. Manual Start

During tasking, it is possible to set a Manual Start. When the transmitter receives this task, it will not begin logging automatically but wait for the instruction to do so. This can be accomplished by pressing the Action Button on the Transmitter to initiate logging.

NOTE: Manual Start must be checked on the Setra EDGE portal (Setra CEMS™ Connect) during the tasking process to initiate manual start.

5.5. Wraparound

The transmitter has a limited memory size and when the memory is full it will automatically be wraparound to continue logging.

5.6. Event Logging

All transmitters have the capacity to measure from one or more sensor inputs at several log rates. However, if an alarm event occurs between log intervals, then the transmitters will wake up to record this event and trigger the alarm. It will also transmit the alarm back to Setra CEMS™ Connect or Setra CEMS™ Diligence over the Wi-Fi network.

6. rDy for Manual Start

When a SRF600 transmitter has been tasked with the 'Manual Start' option, once the Task is loaded onto the transmitter the LCD will display "rDy".

Figure 3: rDy Manual Start

The Pause and Action Symbols will also appear to indicate that the Transmitter is ready to start.

Figure 4: Pause and Action Symbols

Press and hold the Action button to start logging. When Manual Start mode is selected the data logger starts logging once the Action symbol is pressed.

7. Troubleshooting

7.1. Transmitter Setup

If you have trouble getting your Transmitter connected to Setra EDGE (Setra CEMS™ Connect) or Setra CEMS™ Diligence, there are several items to check:

1. Ensure that you have a WPA (PSK) Wi-Fi Network to use. This usually just requires a Password to gain access.
2. Ensure that you are using the right Wi-Fi Password.
3. Consult your IT to ensure that they are aware of the transmitters need to connect to the network. They might have a requirement for a MAC Address Whitelist. In AP mode the Transmitter displays the MAC Address.
4. If all else fails, contact Setra CEMS support team at SetraCEMS@setra.com.

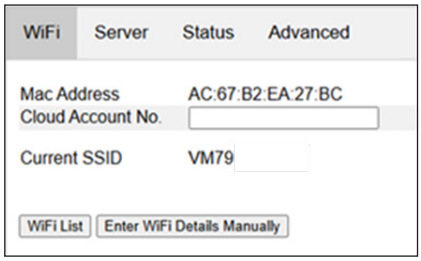

Figure 5: MAC Address in AP Mode

7.2. Wi-Fi Signal Strength – Survey Mode

If your loggers have difficulty in getting connection to the Wi-Fi network or they drop off for periods, then a signal strength check is advised. This is best achieved with the transmitter itself.

Press and hold the Wi-Fi button for 5 seconds to enable signal strength mode, the LCD will display as shown in Figure 6.

Figure 6: Signal Strength Mode

It will then switch to display negative numbers as shown in Figure 7.

Figure 7: Signal Strength in dB

The number on the LCD will give you an indication of the signal strength in dB. The number will be negative.

Table 3: Signal Strength Indication

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

If the Wi-Fi signal strength is poor, then you might need to consider the following options:

1. Move the transmitter closer to the location of the Access Point
2. Install a Wi-Fi Repeater at the point where you have good/excellent signal strength to boost the signal to the transmitter

7.3. Not finding the Wi-Fi network in the dropdown

If your transmitter is not finding the Wi-Fi in the Dropdown, consider the following options:

1. The Access Point is out of range. Try moving closer to the Access Point
2. The Access Point is broadcasting 5Ghz Band. Please turn on 2.4Ghz Wi-Fi on the Access Point.

7.4. Not connecting to the Wi-Fi network

You can try any, or all, of these steps to help with this problem:

1. Check that the password being entered is correct.
2. Check if 802.11b is enabled on the access point or router. Consider switching it off.
3. Ensure MAC filtering is not switched on in the access point or router. If it is switched on, only known devices will be able to connect to your router. Ensure that the MAC Address of your transmitter is entered on the Router.
4. Check that your network has an internet connection.
5. Check that the device is in range of the router.
6. Check to see if the router has the latest firmware.
7. If the access point or router has WEP Encryption ensure that the HEX key is being entered rather than the password. You can find the HEX key in the internal settings of your access point or router. Alternatively, search the web for resources to help convert your password to a HEX key.
8. Check that DHCP service is running. This allows the device to be allocated an IP Address. Normally, the DHCP service runs in either your router or on a network server. Make sure that the configured DHCP IP address range allows the addition of new devices; if not, then extend the range.
9. Check to ensure that your router has a WPA-PSK SSID available. If it requires other levels of security, then your transmitters may not connect.
10. If your access point or router has a wireless mode setting, this must be set to 'Mixed', not 'GreenField'.
11. Make sure that the SSID name does not contain spaces.

NOTE: If the problem persists, please contact your IT Department for help.

7.5. Changing the Wi-Fi Access Point after setup

NOTE: If you use this procedure to change the Access Point to which the transmitter is connected, the transmitter will stop logging for the duration of the process.

Your transmitters can swap Wi-Fi Access Points while still tasked and logging Data to the Cloud. To change your Access Point, follow the instructions for setting up the transmitter on the Access Point in the QSG for the transmitter. At the end of the process the transmitter will revert to the programmed task.

7.6. Technical Support File Request

Occasionally there may be an issue with your transmitter that requires support from Setra CEMS Technical support. If required, they may ask for one or more of the reports stored in the Transmitter to help diagnose the issues.

The reports are accessed through the Setup Mode on the Transmitter.

1. Press and hold the two buttons on the Front until AP Appears in the LCD as per the QSG
2. Take your internet enabled device and search for the following Access Point: SRF600 – <Your serial number>
3. Click on this Access Point Wi-Fi and enter the password, which is the number part of your serial number, for example "01210001"
4. When connected, open a web-browser page and navigate to the following page: http://192.168.4.1
5. Click on the Advance Tab.
6. Simply Click on the Download Log File button and E-mail the file to Setra CEMS Technical support team.

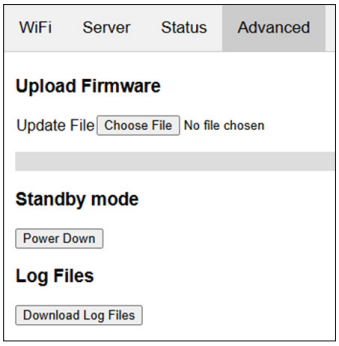

Figure 8: Log File Download

8. Fault Finding, LCD Error Codes and Support Files

8.1. Local LCD Error Messages

There are several LCD Messages that can be displayed to inform the user about the status of the Transmitter, which is normal. If they repeatedly come up on screen, this may also indicate a fault with the Transmitter.

Table 4: LCD Error Messages

LCD Message	Description	Action to Be Taken
CLoc	The transmitter has lost date and time or in the case of a new transmitter simply does not have Date and Time set.	Tasking the Transmitter or connecting to Setra EDGE (Setra CEMS™ Connect) or Setra CEMS™ Diligence will set the Clock and this message will clear. If this message comes up when you don't expect it or repeatedly appears on the LCD contact Setra Tech support for help.
StOP	If Stop is displayed on the LCD, then the transmitter has stopped logging. Stop is also displayed as the Transmitter receives a new Task from Setra EDGE (Setra CEMS™ Connect) or Setra CEMS™ Diligence as it prepares to load the new set of logging instructions. However, if Stop is appearing on screen and does not clear then this could indicate an error with the Transmitter.	This can be rectified by manually starting the transmitter (if manual start has been programmed via the Task) or simply re-tasking the transmitter.

8.2. Local LCD Error Codes

There are several Error Codes built into the SRF600 Transmitters that you may encounter in your use of the Transmitters.

Table 5: The Full List of Error Codes Associated with the Fault Alert Symbol

Bit No.	Code No.	Reason	Primary Action	Secondary Action
1	**1**	File System Initialization Error	Re-Task Transmitter	Contact Tech Support
2	**2**	Memory Initialization Error	Re-Task Transmitter	Contact Tech Support
3	**4**	Settings Corrupted	Re-Task Transmitter	Contact Tech Support
4	**8**	No Wi-Fi Settings	Program Wi-Fi Settings	Contact Tech Support
5	**16**	No Cloud Server Settings	Program Cloud Settings	Contact Tech Support
6	**32**	Reserved	-	
7	**64**	Reserved	-	
8	**128**	Status reply Initialization or Malformed Error	Re-Task Transmitter	Contact Tech Support

9	**256**	Memory Ease Error	Re-Task Transmitter	Contact Tech Support
10	**512**	Memory Write Error	Re-Task Transmitter	Contact Tech Support
11	**1024**	Memory Read Error	Re-Task Transmitter	Contact Tech Support
12	**2048**	Memory Status Error	Re-Task Transmitter	Contact Tech Support
13	**4096**	Memory Save Error	Re-Task Transmitter	Contact Tech Support
14	**8192**	Memory Clear Error	Re-Task Transmitter	Contact Tech Support
15	**16384**	Hardware Fault	Contact Tech Support	Contact Tech Support
16	**32768**	Memory Compare Error	Re-Task Transmitter	Contact Tech Support

NOTE: The Error Codes can add up, so that another number will be displayed that is not in this list. In this case there are two or more error codes in play.

LCD Display	Error	Primary Action	Secondary Action
⚠ tAS	No Task or Task Error	Re-Task SRF600	Contact Tech Support
⚠ CLd	No Cloud Settings	Program Cloud Settings	Contact Tech Support
⚠ nEt	No Wi-Fi Settings	Program Wi-Fi Settings	Contact Tech Support
⚠ UPdt	Update Error	Send Update File Again	Contact Tech Support
⚠ HFt	Hardware Fault	Contact Tech Support	Contact Tech Support
⚠ Id	ID Error	The Cloud Application doesn't recognize the serial number or the SRF600 is not added to the cloud application.	Contact Tech Support

8.2.1. Reverse Engineer Decimal Value to BIT values

1. Open Windows Calculator
2. Select Programmer Mode,
3. Select DEC (Decimal)
4. Enter the code as displayed on the LCD. For example, 24, then check the BIN (Binary) Value, which is '11000', which translates to Bits 4 and 5 combined.

Table 6: Most Common Error Codes

Code No.	Error	Primary Action	Secondary Action
8	No Wi-Fi Settings	Program Wi-Fi Settings	Contact Tech Support
16	No Cloud Server Settings	Program Cloud Settings	Contact Tech Support
24	No Wi-Fi or Cloud Server Settings	Program both.	Contact Tech Support

5. If you complete the actions as indicated above and the Error Codes persist then please contact Setra CEMS Technical Support for assistance.

9. Firmware Update

Firmware Updates should not be necessary for normal use.

NOTE: This firmware update procedure is written to be used directly with a PC and the Transmitter.

1. Download the firmware file that was acquired from Setra.
2. Before proceeding with the Firmware Update, please ensure that the battery is healthy.

3. Put your Transmitter into AP mode. Please refer to QSG for instructions.
4. Once connected, open a web-browser page on your PC and navigate to http://192.168.4.1/setup and then click on the Advance Tab.

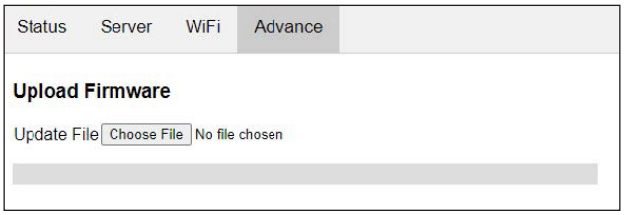

Figure 9: Advance Tab

5. Click on 'Choose File' and then using Windows navigation select the firmware file and click OK.
6. The firmware file will be uploaded to the Transmitter.

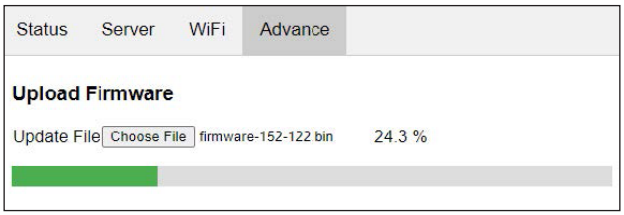

Figure 10: Uploading Firmware

7. Do not interrupt the process or switch the transmitter off.
8. When the firmware file has been uploaded, the Transmitter will reset.
9. During the reset process the LCD will show the below message.

Figure 11: LCD Message during Firmware Upgrade

10. It will indicate that it is completed a Wireless Session. The Antenna Symbol will be flashing which indicates that the second part of the process is about to occur. The LCD will clear. The RED and YELLOW LEDs will flash alternately on the side of the Transmitter.
11. If update is successful, the Transmitter will re-boot to the same figure above. It will complete a normal Wi-Fi Session.
12. If connected to Setra EDGE (Setra CEMS™ Connect) and if the Transmitter was previously logging, then Setra EDGE will need to send a new Task and the Transmitter will start logging normally.
13. If at any time during the process the Transmitter is interrupted, then simply re-set it by removing one of the batteries for 10 seconds and refitting to boot back up and starting over.

10. Terminology

10.1. LCD Messages

There are several LCD Messages that can be displayed to inform the user about the status of the Transmitter.

Table 7: LCD Messages

LCD Message	Description	Action to Be Taken
OFF	The Transmitter is in its low power sleep state as supplied new.	To activate the Transmitter simply press the Action Button.
CLoc	The transmitter has lost date and time or in the case of a new transmitter simply does not have Date and Time set.	Tasking the Transmitter or connecting to Setra EDGE (Setra CEMS™ Connect) will set the Clock and this message will clear.
StOP	If Stop is displayed on the LCD, then the transmitter has stopped logging. Stop is also displayed as the Transmitter receives a new Task from the Cloud as it prepares to load the new set of logging instructions.	This can be rectified by manually starting the transmitter (if manual start has been programmed via the Task) or simply re-tasking the transmitter.

AP.-	AP or Setup Mode has been initiated. The transmitter will then start to SEND a broadcast signal via Wi-Fi that you will be able to connect to, via your PC / Laptop / Tablet / Smartphone or internet enabled device. A red diagnostic LED will show on the side of the transmitter.	No action is required until the display changes to AP. 0
AP.0	The Wi-Fi Signal Symbol will also animate to show Wi-Fi signal is being transmitted and ready to connect to internet enabled device.	On your internet enabled device search for available wireless networks. The SSID or Network Name being sent by the transmitter will be the same as its Serial Number. For reference this is printed on the rear label of the transmitter. When prompted for a password, enter the last 8-digits of the SSID. Once your PC / Laptop / Tablet / Smartphone or internet enabled device is connected to the transmitter you will be able to configure the transmitter.
AP.1	Transmitter is connected to the internet enabled device. Refer to the QSG for detailed instructions.	The setup page can be viewed at http://192.168.4.1/setup A yellow diagnostic LED on the side of the transmitter will also start flashing to indicate an active connection with internet enabled device
Or	**A value of >19999	
Ur	**A value of <-19999	
----		
tAS	The Transmitter is receiving a new task. If the tAS is displayed on screen this usually means that Tasking is in progress. However, if it comes up unexpectedly with the Fault Alert Symbol in the top of the LCD then this indicates an invalid Task has been sent to the Transmitter. This is possibly caused by an interruption in the communication between Setra EDGE (Setra CEMS™ Connect) or Setra CEMS™ Diligence and the Transmitter. It might also indicate that there is a memory corruption in the Transmitter.	Try re-tasking the Transmitter. If that does not clear this message, then contact Setra CEMS Technical Support for assistance.
CLr	The Transmitter is clearing the Memory for the new Task. The Transmitter is clearing the Memory for the new Task. This message should not come up at any other time.	This is automatically done on the transmitter. This will be accompanied by a rotating box to indicate that work is going on in the background (This is similar to an in-progress bar). If you see this message unexpectedly, please contact Setra Tech Support for assistance.
PEnd	The Transmitter is preparing to load the new Task. This message should not come up at any other time.	This is automatically done on the transmitter. This will be accompanied by a countdown as the transmitter waits for the minute to roll-over before taking the first reading. If you see this message unexpectedly, please contact Setra Tech Support for assistance.

*NOTE: ** This LCD will display your measurement value in the range -19999 to +19999. Depending on the value being displayed there could be one or two decimal points (SRF615 only at launch).*

10.2. Glossary

The following describes the terms used in this Manual.

Table 8: Glossary

Term	Description
Wi-Fi	The Wireless Network to which SRF600 Transmitters will connect to send their Data to Setra EDGE (Setra CEMS™ Connect) or Setra CEMS™ Diligence
AP	The Setup Mode or Access Point Mode used for setting up SRF600 Transmitters on the Wi-Fi
Task	A set of instructions from Setra EDGE (Setra CEMS™ Connect) to program the SRF600 Transmitter with the instructions to carry out logging and reporting back on Alarms
LCD	Describes the Display of the SRF600 Transmitter channel and Alarm information.
LED	Describes the various visual indicators on your SRF600600 Transmitters to indicate current status
Buzzer	Describes the internal sounder for warning of Alarm conditions on the Diligence600 Transmitter
Main Operations	Wall power supple

Lumberg	The Lumberg 6-Pin socket is designed to provide a robust and rugged means of connecting probes and Accessories to your Transmitter.
Survey Mode	Used to measure the Wi-Fi signal strength.
Lower Segment	The Wi-Fi signal symbol the lower portion will start flashing
Active Alarm State	It is an unacknowledged alarm that can still be visual and audible locally
Logging Mode	The data recording on the SRF600 internal memory
Wraparound	Overwriting the memory in a circular fashion
Open Circuit /	When no probe/sensor is connected to a transmitter
Over and Under Range	The senor/probe has too much or too little signal input
Setra EDGE	Setra CEMS™ Connect gateway

11. Returns

When returning a product to Setra Systems, the material should be carefully packaged and shipped prepaid to:

Setra Systems, LLC.
159 Swanson Road
Boxborough, MA 01719-1304
Attn.: Repair Department

To assure prompt handling, please refer to return instructions on our website at:

http://www.setra.com/contact-us/calibration/

12. Warranty and Limitation of Liability

SETRA warrants its products to be free from defects in materials and workmanship, subject to the following terms and conditions: Without charge, SETRA will repair or replace products found to be defective in materials or workmanship within the warranty period; provided that:

a) the product has not been subjected to abuse, neglect, accident, incorrect wiring not our own, improper installation or servicing, or use in violation of instructions furnished by SETRA;

b) the product has not been repaired or altered by anyone except SETRA or its authorized service agencies;

c) the serial number or date code has not been removed, defaced, or otherwise changed; and

d) examination discloses, in the judgment of SETRA, the defect in materials or workmanship developed under normal installation, use and service;

e) SETRA is notified in advance of and the product is returned to SETRA transportation prepaid.

Unless otherwise specified in a manual or warranty card, or agreed to in writing and signed by a SETRA officer, SETRA pressure, humidity, and acceleration products shall be warranted for one year from date of sale.

The foregoing warranty is in lieu of all warranties, express, implied or statutory, including but not limited to, any implied warranty of merchantability for a particular purpose.

SETRA's liability for breach of warranty is limited to repair or replacement, or if the goods cannot be repaired or replaced, to a refund of the purchase price. In no instance shall SETRA be liable for incidental or consequential damages arising from a breach of warranty, or from the use or installation of its products.

No representative or person is authorized to give any warranty other than as set out above or to assume for SETRA any other liability in connection with the sale of its products.

For all CE technical questions, contact Setra Systems, USA. EU customers may contact our EU representative Hengstler GmbH, Uhlandstr 49, 78554 Aldingen, Germany (Tel: +49-7424-890; Fax: +49-7424-89500).

13. Technical Support Contact

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SS-SRF Rev. C 02/2026