UNITED STATES DISTRICT COURT
FOR THE WESTERN DISTRICT OF TEXAS
WACO DIVISION

OLLNOVA TECHNOLOGIES LTD., Plaintiff, v. EMERSON ELECTRIC CO. and VERDANT ENVIRONMENTAL TECHNOLOGIES INC., Defendants.	Case No. 6:22-cv-00358-ADA **JURY TRIAL DEMANDED**

PLAINTIFF'S PRELIMINARY DISCLOSURE OF ASSERTED CLAIMS AND INFRINGEMENT CONTENTIONS

Ollnova Technologies Ltd. ("Plaintiff" or "Ollnova") submits the following Preliminary Disclosure of Asserted Claims and Infringement Contentions to Defendants Emerson Electric Co. and Verdant Environmental Technologies Inc. (collectively, "Defendants" or "Emerson"). This disclosure is based on the information available to Ollnova as of the date of this disclosure, and Ollnova reserves the right to amend this disclosure to the full extent consistent with the Court's Rules and Orders.

I. Asserted Claims

Ollnova asserts that Emerson has infringed and continues to infringe at least the following claims of Ollnova's patents (collectively, the "Asserted Claims"):

A. **U.S. Patent No. 8,224,282 ("the '282 Patent"):**

i. Emerson: Claims 1, 2, 3, 4, 5, 7, 8, 9, 10, 11, 13, 14, 15, 16, 17, 20, and 21

ii. Verdant: Claims 1, 2, 5, 7, 8, 11, 13, 14, and 17.

B. **U.S. Patent No. 7,746,887 ("the '887 Patent"):**

i. Emerson: Claims 1, 3, 4, 5, 6, 7, 8, 14, 15, and 18.

ii. Verdant: N/A

Ollnova reserves the right to seek leave of court to add, delete, substitute, or otherwise amend this list of asserted claims should further discovery, the Court's claim construction, or other circumstances so merit.

II. Accused Products

Ollnova contends that the Asserted Claims are infringed by the various apparatuses used, made, sold, offered for sale, or imported into the United States by Emerson (the "Accused Products"). The Accused Products include at least the following, as well as products with reasonably similar functionality, and all varieties of these products:

- **'282 Patent:**
  - Emerson: Sensi Smart Thermostat ST55 and Sensi Touch Smart Thermostat ST75.
  - Verdant: VX Series Thermostat and ZX Series Thermostat.
- **'887 Patent:**
  - Emerson: Sensi Smart Thermostat ST55 and Sensi Touch Smart Thermostat ST75.
  - Verdant: N/A.

Ollnova reserves the right to amend this list of accused products, as well as other information contained in this document and the exhibits hereto, to incorporate new information learned during the course of discovery, including, but not limited to, the inclusion of newly released products, versions, or any other equivalent devices ascertained through discovery. Further, to the extent any accused infringing products have gone through or will go through name

changes, but were or will be used or sold with the same accused features, earlier corresponding products under different names also are accused.

III. Claim Charts

Claim charts identifying a location of every element of every asserted claim of the asserted Ollnova Patents within accused products are attached hereto as Exhibits A-C. Ollnova's analysis of the Accused Products is based on limited publicly available information and based on Ollnova's own investigation prior to any discovery in this action. In an effort to focus the issues, Ollnova identifies exemplary evidence for each claim limitation. The evidence cited for a particular limitation should be considered in light of the additional evidence cited for the other claim limitations. Ollnova reserves the right to rely on evidence cited for any particular limitation of an asserted claim for any other limitation asserted for that claim. Unless otherwise indicated, the information provided that corresponds to each claim element is considered to indicate that each claim element is found within each of the different variations of each respective Accused Products described above.

Ollnova reserves the right to amend these claim charts, as well as other information contained in this document and the exhibits hereto. Ollnova further reserves the right to amend these claim charts to incorporate new information learned during the course of discovery, including, but not limited to, information that is not publicly available or readily discernible without discovery or undue burden.

IV. Literal Infringement / Doctrine of Equivalents

Ollnova asserts that Emerson infringes the asserted claims listed above under at least 35 U.S.C. § 271(a), (b), (c), and/or (f). Ollnova contends that Emerson has directly infringed and continues to directly infringe the asserted claims by making, using, offering for sale, selling, and

importing into the United States the Accused Products. Ollnova also contends that Emerson (i) induces end users of the Accused Products to directly infringe the Asserted Claims and (ii) contributes to end users' direct infringement of the Asserted Claims. Ollnova asserts that, under the proper construction of the asserted claims and their claim terms, the limitations of the asserted claims of the asserted Ollnova patents are literally present in the accused products, as set forth in the claim charts attached hereto as Exhibits A-C. Ollnova contends that any and all elements found not to be literally infringed are infringed under the doctrine of equivalents because the differences between the claimed inventions and the accused instrumentalities, if any, are insubstantial.

Ollnova's contention is that each limitation is literally met, and necessarily also would be met under the doctrine of equivalents because there are no substantial differences between the Accused Products and the claims, in function, way, or result. If Emerson attempts to argue that there is no infringement literally and also no infringement under doctrine of equivalents and attempts to draw any distinction between the claimed functionality and the functionality in the Accused Products, then Ollnova reserves its right to rebut the alleged distinction as a matter of literal infringement and/or as to whether any such distinction is substantial under the doctrine of equivalents.

Ollnova reserves the right to amend its Infringement Contentions as to literal infringement or infringement under the doctrine of equivalents in light of new information learned during the course of discovery and the Court's claim construction.

V. Priority Dates

The Asserted Claims are entitled to a priority date of at least the following:

A. **U.S. Patent No. 8,224,282:** Each asserted claim of the ’282 Patent is entitled to at least a priority date of March 19, 2008.

B. **U.S. Patent No. 7,746,887:** Each asserted claim of the ’887 Patent is entitled to at least a priority date of April 12, 2006.

VI. Identification of Instrumentalities Practicing the Claimed Inventions

At this time, Ollnova is not relying on any assertion that any of its own instrumentalities practice the claims of the Asserted Patents.

VII. Document Production Accompanying Disclosure

Ollnova submits the following Document Production Accompanying Disclosure, along with an identification of the categories to which each of the documents corresponds.

Ollnova is presently unaware of any documents sufficient to evidence any discussion with, disclosure to, or other manner of providing to a third party, or sale of or offer to sell, the inventions recited in the Asserted Claims of the asserted patents prior to the application date or priority date for the asserted patents. A diligent search continues for documents and Ollnova reserves the right to supplement this response.

Ollnova is presently unaware of documents regarding the conception, reduction to practice, design, and development of each claimed invention of the asserted patents, which were created before the date of application for the asserted patent or the priority date identified above. A diligent search continues for documents and Ollnova reserves the right to supplement this response.

Ollnova identifies the following documents as being the file histories for the Asserted Patents: OLLNOVA-EME-00000106 - OLLNOVA-EME-00000425.

Dated: July 7, 2022

Respectfully submitted,

By: */s/ Brett Cooper*

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CERTIFICATE OF SERVICE

I certify that this document is being served upon counsel of record for Defendants on July 7, 2022 via electronic service.

/s/ *Drew Hollander*
Drew B. Hollander

EXHIBIT A

Emerson's Infringement of U.S. Patent No. 8,224,282 ("'282 Patent")

Accused Products

Emerson products, including without limitation the Emerson Sensi Smart Thermostat (ST55) and Sensi Touch Smart Thermostat (ST75) ("Accused Products"), infringe at least Claims 1, 2, 3, 4, 5, 7, 8, 9, 10, 11, 13, 14, 15, 16, 17, 20, and 21 of the '282 Patent.

Claim 1

Claim 1	Exemplary Infringement Evidence
[1pre] An automation component configured for wireless communication within a building automation system, the automation component comprising:	To the extent the preamble is limiting, each Accused Product includes an automation component configured for wireless communication within a building automation system. For example, each Accused Product (including the Emerson Sensi Touch Smart Thermostat (ST75)) is an automation component configured for wireless communication within a building automation system. *See, e.g.*: 

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SKU: ST75

ST75, Sensi™ Touch smart thermostat (Black)

The award-winning Sensi Touch smart thermostat focuses on providing the best homeowner experience including a large color touch screen, easy set-up, intuitive controls and compatibility with popular home automation systems.

Source: https://sensi.emerson.com/en-us/shop/sensi/sensi-sku-st75

- Monitor HVAC system: Get smart alerts to help detect extreme temperatures & humidity levels or loss of heating/cooling.
- Get reminders: Receive notifications for filter, UV lights, humidifier pad, and HVAC maintenance.
- View usage: Monitor current day and historical heating, cooling and fan runtimes right in the app.

Source: https://sensi.emerson.com/en-us/shop/sensi/products/sensi-sku-st75w

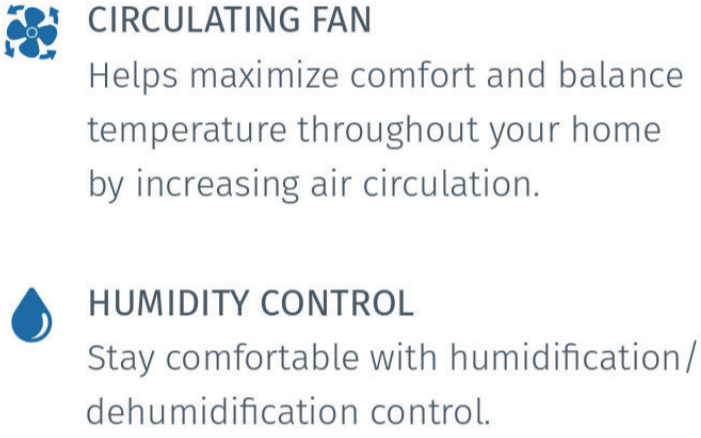
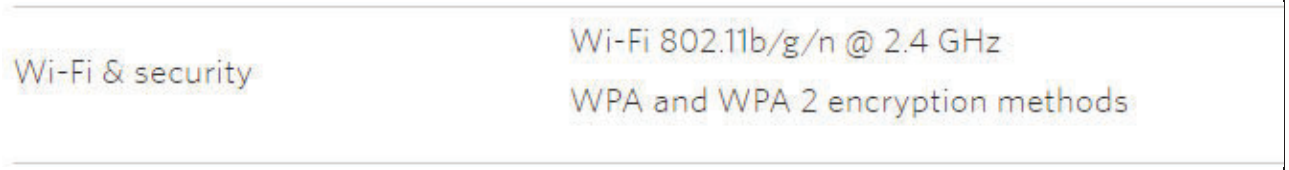


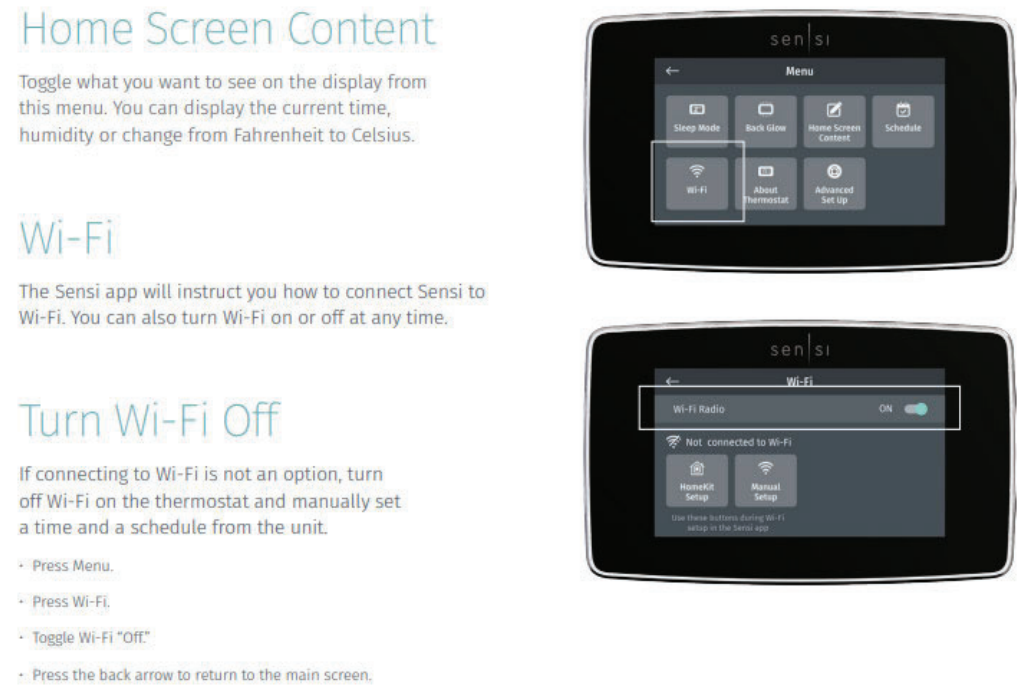
SAVE ABOUT 23% ON HVAC ENERGY[1]

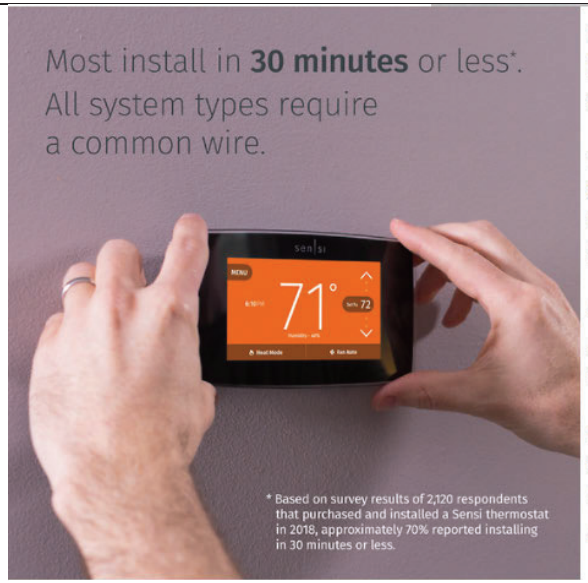
By adjusting the temperature using flexible scheduling, remote access, and geofencing, Sensi thermostat customers save about 23% on HVAC energy usage.

Source: spec-sheet-sensi-touch-smart-thermostat-en-6309540.pdf (emerson.com)

[1a] a multi-sensor package configured to detect a plurality of variables and generate sensor data for each detected variable;	Each Accused Product comprises a multi-sensor package configured to detect a plurality of variables and generate sensor data for each detected variable. For example, each Accused Product (including the Emerson Sensi Touch Smart Thermostat (ST75)) includes at least temperature and humidity sensors. *See, e.g.*: SENSI ALERT / TRIGGER High temperature: Above 99°F Low temperature: Below 45°F High humidity: Above 70% Loss of heat/cool: Temp goes up or down 5°F during cycle Source: spec-sheet-sensi-touch-smart-thermostat-en-6309540.pdf (emerson.com) HVAC MONITORING Sensi smart thermostats deliver information homeowner's need to maintain their HVAC equipment: Source: spec-sheet-sensi-touch-smart-thermostat-en-6309540.pdf (emerson.com)

	 Source: spec-sheet-sensi-touch-smart-thermostat-en-6309540.pdf (emerson.com)
[1b] a wireless communications component;	Each Accused Product comprises a wireless communications component. For example, each Accused Product (including the Emerson Sensi Touch Smart Thermostat (ST75)) contains a wireless communications component. *See, e.g.*:  Source: Sensi Touch smart thermostat | Sensi US (emerson.com)

	 Source: sensi-touch-smart-thermostat-manual-operation-guide-en-us-6356710.pdf (emerson.com)
[1c] a processor in communication with the wireless communications component and the sensor package;	Each Accused Product comprises a processor in communication with the wireless communications component and the sensor package. For example, each Accused Product (including the Emerson Sensi Touch Smart Thermostat (ST75)) contains a processor that is in communication with the wireless communications component and the sensor package. *See, e.g.*:

	 **USAGE REPORTS:** Monitor current day and historical heating, cooling and fan runtimes right in the app. **CONTROL FROM ANYWHERE:** Remotely control your home comfort from your smartphone or tablet using the Sensi mobile app for Android and iOS devices. **SMART ALERTS:** Sensi features smart alerts to help detect extreme temperature and humidity levels in your home. **CIRCULATING FAN:** Air circulation may improve indoor air quality by helping to regulate temperature and prevent the buildup of particles and mold. HVAC Compatibility The Sensi Touch is compatible with most HVAC systems, but not all. If you didn't check compatibility prior to purchasing your new Sensi, don't tear into that box just yet. **Use the Sensi Compatibility Checker.** Does a Sensi Touch Require a C-Wire? For proper functionality, Emerson Sensi Touch Smart Thermostats *do* require a C-wire. This is because all of its cool features (Wi-Fi connectivity, geofencing, colorful touchscreen display...) use a *lot* of power! By using a negative charge to supply continuous power to your Sensi, a C-wire ensures its display, internal processor, and Wi-Fi connectivity remain up and running. Read More about Sensis and C-Wires Source: Emerson Sensi Touch Smart Thermostat (poweredbyefi.org)
[1d] a memory in communication with the processor, the memory configured to store sensor data provided by the sensor	Each Accused Product comprises a memory in communication with the processor, the memory configured to store sensor data provided by the sensor package and computer readable instructions which are executable by the processor.

<table>
<tr>
<td>package and computer readable instructions which are executable by the processor; wherein the computer readable instructions are programmed to:</td>
<td>For example, each Accused Product (including the Emerson Sensi Touch Smart Thermostat (ST75)) contains memory that stores sensor data that is collected by the sensor package. For example, the Emerson Sensi Touch Smart Thermostat (ST75) contains memory that stores sensor data related to at least temperature and humidity.

See, e.g.:

 
Monitor HVAC system

Get smart alerts to help detect extreme temperatures & humidity levels or loss of heating/cooling.

Source: Sensi Touch smart thermostat | Sensi US (emerson.com)

<table><tr><th>SENSI ALERT</th><th>TRIGGER</th></tr><tr><td>High temperature:</td><td>Above 99˚F</td></tr><tr><td>Low temperature:</td><td>Below 45˚F</td></tr><tr><td>High humidity:</td><td>Above 70%</td></tr><tr><td>Loss of heat/cool:</td><td>Temp goes up or down 5˚F during cycle</td></tr></table>
Source: spec-sheet-sensi-touch-smart-thermostat-en-6309540.pdf (emerson.com)</td>
</tr>
<tr>
<td>[1e] receive sensor control information related to sensor data in control at a second automation component in communication with the</td>
<td>In each Accused Product, the computer readable instructions are programmed to receive sensor control information related to sensor data in control at a second automation component in communication with the building automation system.</td>
</tr>
</table>

building automation system; and	For example, each Accused Product (including the Emerson Sensi Touch Smart Thermostat (ST75)) can receive sensor control information related to sensor data in control from a device running the Sensi app, a second automation component. The user can set the target temperature within the Sensi app. *See, e.g.*:

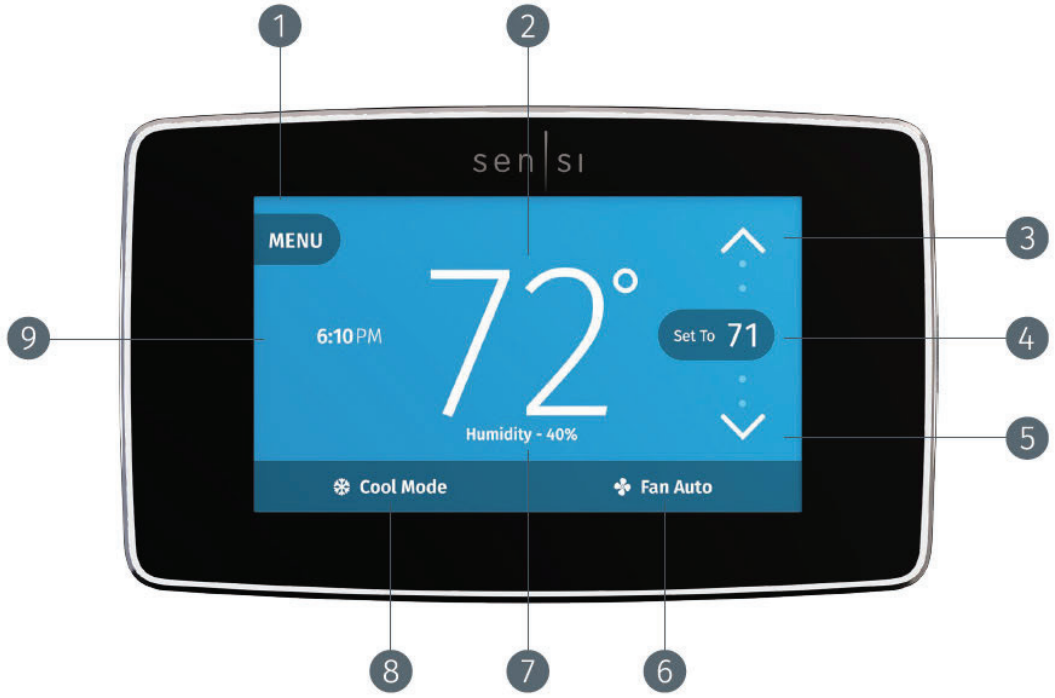
Thermostat Detail View

After observing how users interact with our iOS and Android applications, we made usability enhancements to surface the most commonly-used features on the thermostat. We removed the side menu and replaced it with a tab bar on the bottom of the thermostat detail view. You can now access thermostat settings and scheduling quickly and easily.



Source: https://sensi.emerson.com/en-us/blog/sensi-thermostat-app

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1 MENU
Access thermostat configurations.(See page 5 for more details).

2 CURRENT ROOM TEMPERATURE
The room temperature at the thermostat.

3 UP ARROW
Adjusts the temperature set point or thermostat configuration.

4 CURRENT SET TEMPERATURE
Current set temperature the thermostat will maintain.

5 DOWN ARROW
Adjusts the temperature set point or thermostat configuration.

6 FAN
Switches fan mode from Auto or On. Leave the fan mode on Auto to allow the thermostat to control the fan as necessary.

7 HUMIDITY
Displays current humidity

8 MODE
Switches system mode between Heat, Cool, Off, Aux or Auto.

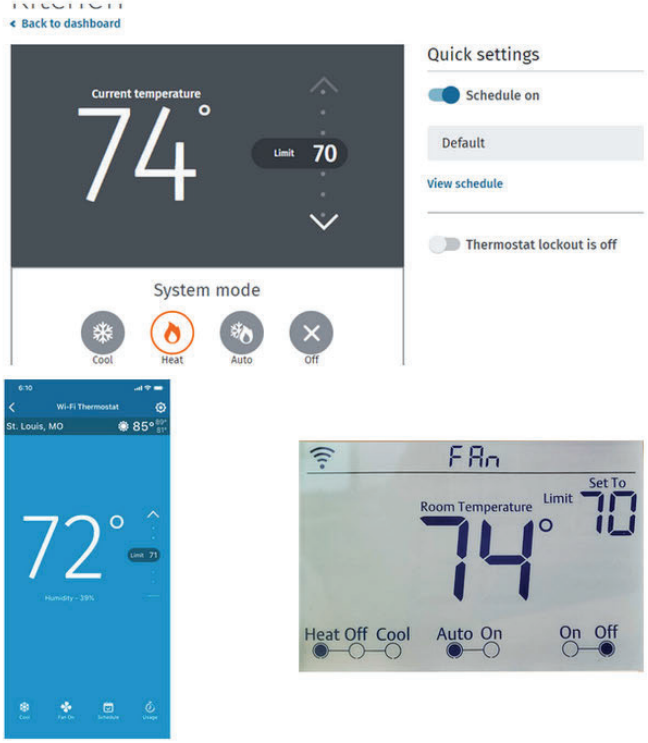
9 TIME
Displays current time.

	Source: https://sensi.emerson.com/documents/sensi-touch-smart-thermostat-manual-operation-guide-en-us-5242446.pdf For example, each Accused Product (including the Emerson Sensi Touch Smart Thermostat (ST75)) can receive sensor control information related to sensor data in control from a device running the Sensi app, a second automation component. Temperature limits for the thermostat can be set using Sensi app. *See, e.g.*: **What are Temperature Limits?** Temperature Limits allow building and facility managers to set limits to set point adjustments. This allows someone to set a range of temperatures tha occupants can adjust between. This helps balance occupant comfort and reduce energy inefficiencies. **Using the Sensi app** **How can I set Temperature Limits in the Sensi app?** • Open the Sensi app. • Tap on your thermostat name. • Tap on the settings gear. • Tap on System settings. • Find Temperature Limits and adjust your Cooling Minimum Setpoint and your Heating Maximum Setpoint as necessary with the + or - buttons. *Example: If the homeowner does not want an occupant to be able to cool the home less than 71°F, adjust the Cooling Min Setpoint to 71.* Source: https://sensi.emerson.com/en-us/support/temperature-limits-faq

FAQ

How do I know if I've reached the limit?

Once Temperature Limit have been set, the thermostat itself, the Sensi app and the Sensi Multiple Thermostat Manager service will show "Limit" when someone tries to adjust past the Temperature Limit.



Source: https://sensi.emerson.com/en-us/support/temperature-limits-faq

For example, each Accused Product (including the Emerson Sensi Touch Smart Thermostat (ST75)) can receive sensor control information related to sensor data in control from the cloud, a second automation component. The user can set the target temperature within the Sensi app, which relays this set temperature to the cloud. The cloud then sends the sensor control information to the thermostat for the sensor data in control (e.g., the temperature).

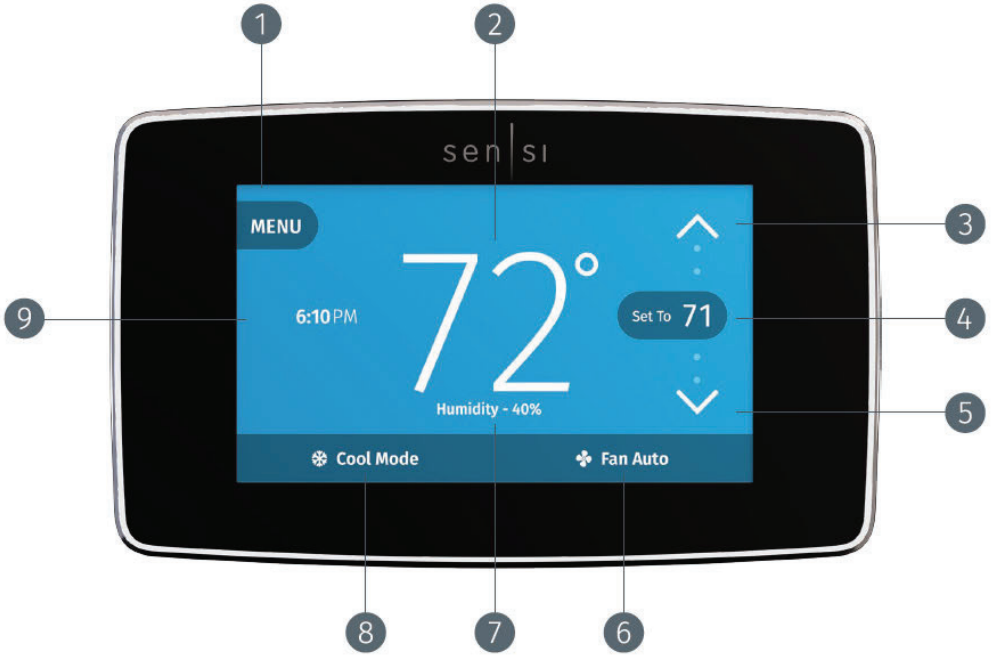
See, e.g.:

Thermostat Detail View

After observing how users interact with our iOS and Android applications, we made usability enhancements to surface the most commonly-used features on the thermostat. We removed the side menu and replaced it with a tab bar on the bottom of the thermostat detail view. You can now access thermostat settings and scheduling quickly and easily.



Source: https://sensi.emerson.com/en-us/blog/sensi-thermostat-app



1 MENU
Access thermostat configurations.(See page 5 for more details).

2 CURRENT ROOM TEMPERATURE
The room temperature at the thermostat.

3 UP ARROW
Adjusts the temperature set point or thermostat configuration.

4 CURRENT SET TEMPERATURE
Current set temperature the thermostat will maintain.

5 DOWN ARROW
Adjusts the temperature set point or thermostat configuration.

6 FAN
Switches fan mode from Auto or On. Leave the fan mode on Auto to allow the thermostat to control the fan as necessary.

7 HUMIDITY
Displays current humidity

8 MODE
Switches system mode between Heat, Cool, Off, Aux or Auto.

9 TIME
Displays current time.

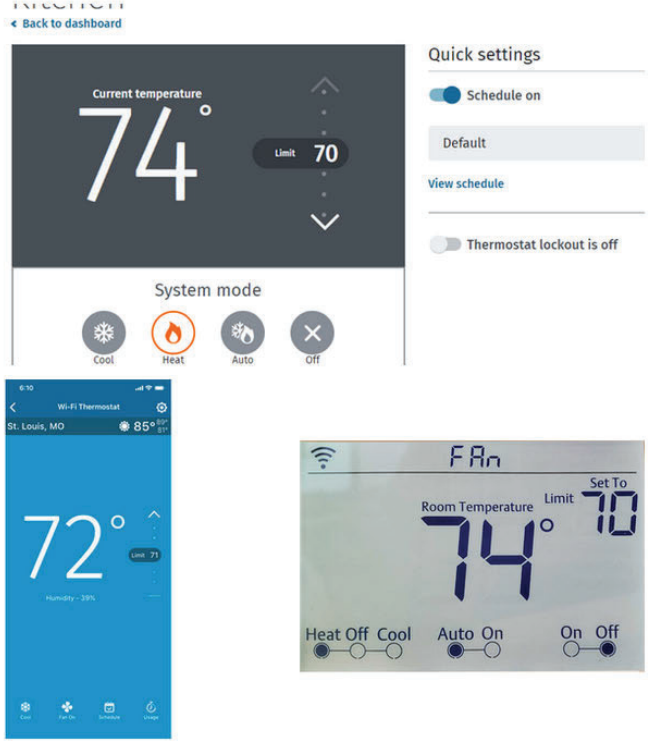
Source: https://sensi.emerson.com/documents/sensi-touch-smart-thermostat-manual-operation-guide-en-us-5242446.pdf

	For example, each Accused Product (including the Emerson Sensi Touch Smart Thermostat (ST75)) can receive sensor control information related to sensor data in control from the cloud, a second automation component. Temperature limits for the thermostat can be set using the Sensi app, which are relayed to the cloud, a second automation component. The Emerson Sensi Touch Smart Thermostat (ST75) can receive sensor control information (e.g., temperature limits) from the cloud and display them on the thermostat's screen. *See, e.g.*: **What are Temperature Limits?** Temperature Limits allow building and facility managers to set limits to set point adjustments. This allows someone to set a range of temperatures that occupants can adjust between. This helps balance occupant comfort and reduce energy inefficiencies. **Using the Sensi app** **How can I set Temperature Limits in the Sensi app?** • Open the Sensi app. • Tap on your thermostat name. • Tap on the settings gear. • Tap on System settings. • Find Temperature Limits and adjust your Cooling Minimum Setpoint and your Heating Maximum Setpoint as necessary with the + or - buttons. *Example: If the homeowner does not want an occupant to be able to cool the home less than 71°F, adjust the Cooling Min Setpoint to 71.* Source: https://sensi.emerson.com/en-us/support/temperature-limits-faq

FAQ

How do I know if I've reached the limit?

Once Temperature Limit have been set, the thermostat itself, the Sensi app and the Sensi Multiple Thermostat Manager service will show "Limit" when someone tries to adjust past the Temperature Limit.



Source: https://sensi.emerson.com/en-us/support/temperature-limits-faq

For example, each Accused Product (including the Emerson Sensi Touch Smart Thermostat (ST75)) can receive sensor control information related to sensor data in control from a device running the Sensi app, a second automation component. The sensor control information is based on the location of the wireless device using the geofencing feature in the Sensi app.

See, e.g.:

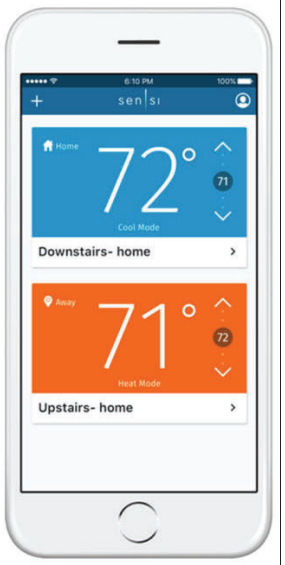
Dashboard

The app is now easier to navigate through multiple thermostats thanks to a dashboard view - from one thermostat to many, you can control your comfort with a few taps. To access more detailed information about a thermostat, tap on the thermostat name and be taken to the thermostat detail view.

Geofencing

For those living an unprogrammed life, we created the Geofencing feature. By using your phone's location relative to your individual thermostat's location, we can automatically set your mode to home or away, creating a 3-degree offset to save you money while you're gone. You will need to enable the geofencing feature for each thermostat in your home.

Read more about using the Geofencing feature.



Source: https://sensi.emerson.com/en-us/blog/sensi-thermostat-app

What is geofencing, and how does it work with Sensi thermostats?

Geofencing is a way to automatically control your Sensi thermostat based on your location. When you travel 3 miles away from your home the Sensi app will signal for your thermostat to change set points and save energy. Your thermostat will lower the temperature 3 degrees when you are in heat mode or raise 3 degrees in cool mode. When you travel back to within 3 miles from your home, your thermostat will be set back to the temperature you had selected before you left.

If you're a busy person with no set schedule, the geofencing feature allows you to be more efficient with your heating and cooling energy usage without needing to remember to adjust your thermostat.

If you tend to have a predictable schedule from day-to-day or week-to-week, the scheduling feature may fit your lifestyle better.

If you'd like to turn on Geofencing, open the Sensi app.

- Tap on your thermostat name.
- Tap **Scheduling**.
- Tap **Schedule type**.
- Tap **Geofencing**.

Source: https://sensi.emerson.com/en-us/support/what-is-geofencing-and-how-does-it-work-with-sensi-thermostats

Choosing between scheduling and geofencing.

You can choose to have your Sensi thermostat on a programmed schedule or in geofencing mode (or no schedule). Only one option can be turned on a time.

If you're a busy person with no set schedule, the geofencing feature allows you to be more efficient with your heating and cooling energy usage withou needing to remember to adjust your thermostat.

If you tend to have a predictable schedule from day to day and week to week, the scheduling feature may fit your lifestyle better.

Source: https://sensi.emerson.com/en-us/support/choosing-between-scheduling-and-geofencing

[1f] communicate a portion of the stored sensor data corresponding to the received sensor control information to the second automation component.	In each Accused Product, the computer readable instructions are programmed to communicate a portion of the stored sensor data corresponding to the received sensor control information to the second automation component. For example, each Accused Product (including the Emerson Sensi Touch Smart Thermostat (ST75)) communicates stored sensor data (including data related to temperature), corresponding to the received sensor control information to the device running the Sensi app, the second automation component. *See, e.g.*: The current temperature is displayed on the Sensi app:

Thermostat Detail View

After observing how users interact with our iOS and Android applications, we made usability enhancements to surface the most commonly-used features on the thermostat. We removed the side menu and replaced it with a tab bar on the bottom of the thermostat detail view. You can now access thermostat settings and scheduling quickly and easily.



Source: https://sensi.emerson.com/en-us/blog/sensi-thermostat-app

	For example, each Accused Product (including the Emerson Sensi Touch Smart Thermostat (ST75)) communicates stored sensor data (including data related to temperature), corresponding to the received sensor control information to the cloud, the second automation component. The Sensi app can then receive the stored sensor data that was communicated to the second automation component. *See, e.g.*:

Thermostat Detail View

After observing how users interact with our iOS and Android applications, we made usability enhancements to surface the most commonly-used features on the thermostat. We removed the side menu and replaced it with a tab bar on the bottom of the thermostat detail view. You can now access thermostat settings and scheduling quickly and easily.



Source: https://sensi.emerson.com/en-us/blog/sensi-thermostat-app

Claim 2

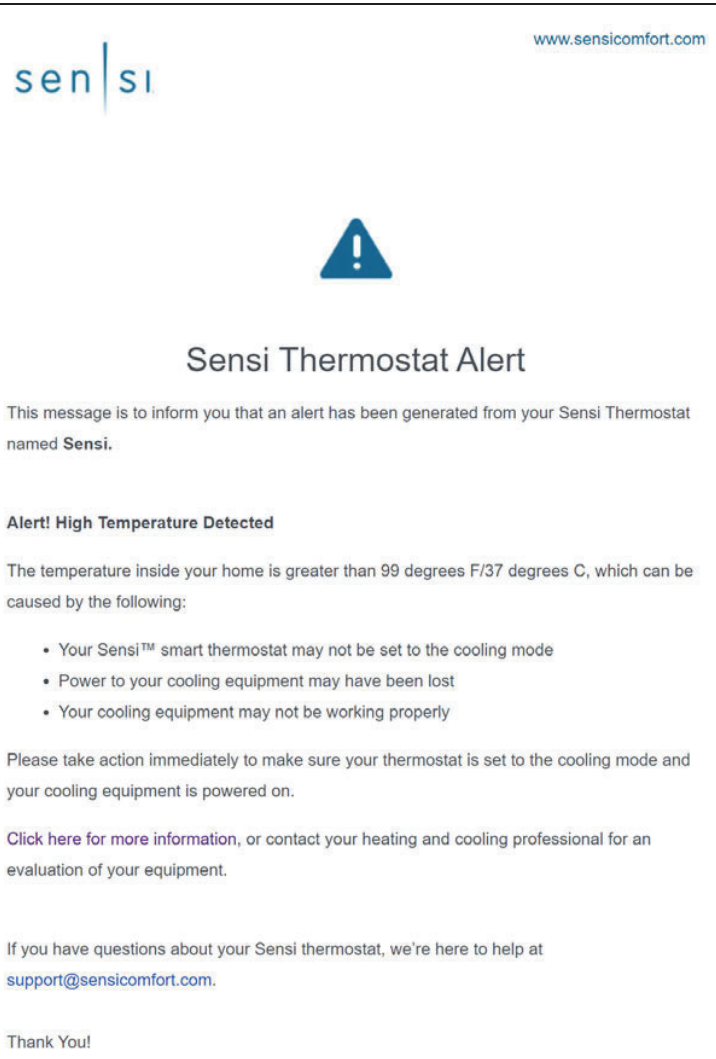
Claim 2	Exemplary Infringement Evidence
[2] The automation component of claim 1, wherein the sensor package includes one or more sensors selected from the group consisting of: a temperature sensor; a humidity sensor; a carbon monoxide sensor; a carbon dioxide sensor and a volatile organic compound sensor.	Each Accused Product comprises the automation component of claim 1, wherein the sensor package includes one or more sensors selected from the group consisting of: a temperature sensor; a humidity sensor; a carbon monoxide sensor; a carbon dioxide sensor and a volatile organic compound sensor. For example, each Accused Product (including the Emerson Sensi Touch Smart Thermostat (ST75)) has a temperature sensor and a humidity sensor. *See, e.g.*:

	Explore the enhanced features and upgraded design Sensi Touch smart thermostat gives you a modern design and convenient updated features for home comfort control on your terms.  **Get reminders** Receive notifications for filter, UV lights, humidifier pad, and HVAC maintenance. **Automatic upgrades** As existing features are enhanced and new features are released, your thermostat software is kept up-to-date automatically. **Color shift** App and thermostat change color to let you know at a glance whether your system is heating or cooling. **Back glow** Perfect for night time or low lighting. **Humidity reading** Tracks humidity for total awareness of your home's atmosphere. **Brightness adjust** Large backlit display offers flexible lighting options. Source: https://sensi.emerson.com/en-us/products/touch-thermostat

Claim 3

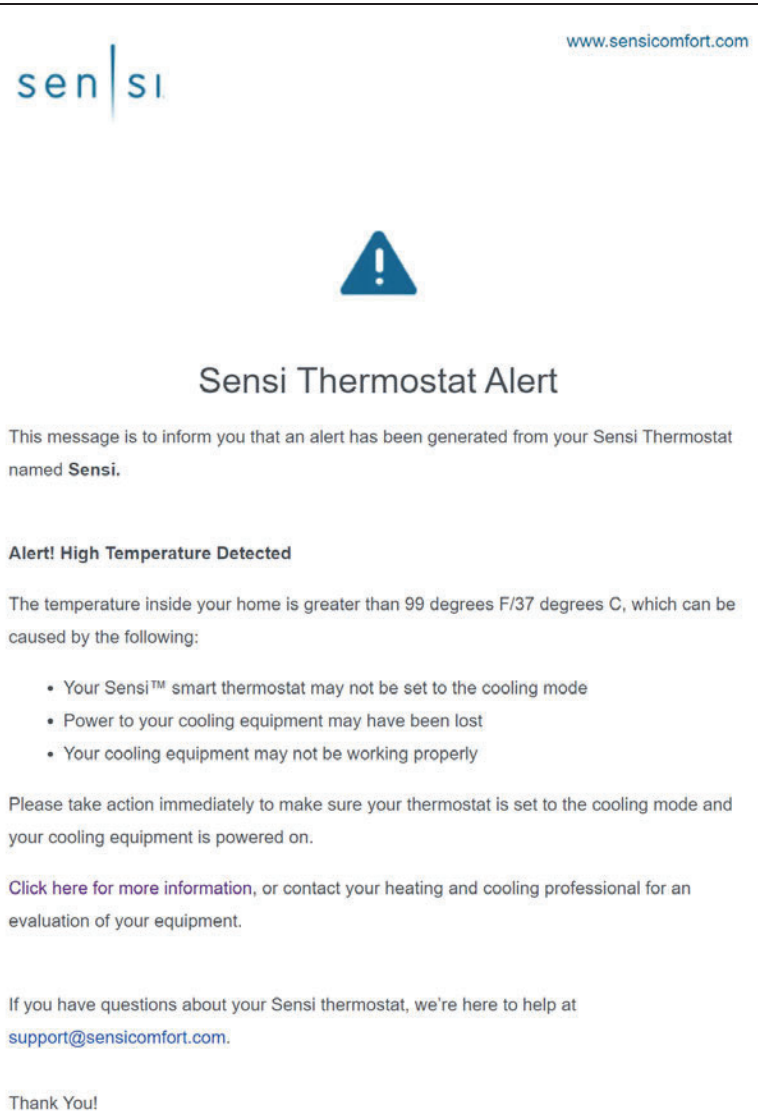
Claim 3	Exemplary Infringement Evidence
[3] The automation component of claim 1, wherein the computer readable	Each Accused Product comprises the automation component of claim 1, wherein the computer readable instructions are further programmed to: identify sensor values within the sensor data that exceed a corresponding change-of-value threshold.

instructions are further programmed to: identify sensor values within the sensor data that exceed a corresponding change-of-value threshold.	For example, each Accused Product (including the Emerson Sensi Touch Smart Thermostat (ST75)) sends smart alerts when the temperature exceeds the high home temperature threshold. For example, when the humidity exceeds the high humidity threshold the "High Humidity" alert is sent. *See, e.g.*: **Smart Alerts** Are there smart alerts available with Sensi thermostats? Yes. Sensi does monitor your HVAC performance as long as the thermostat is online, and an email is generated when one of the following conditions occur: | Alert Name	Triggered
High Home Temperature	Temperature greater than 99°F
Low Home Temperature	Temperature less than 45°F
High Humidity	Humidity greater than 70%
Loss of Heating	Room temperature goes down 5°F during a heating demand
Loss of Cooling	Room temperature goes up 5°F during a cooling demand | High and low temperatures, as well as humidity smart alerts, are not adjustable. Loss of heating or loss of cooling smart alerts are based on your Sensi temperature setting. The email is sent to the email address registered to your Sensi account. If the condition that triggers a smart alert still exists after a period of time, you will receive follow up emails. Some alerts re-trigger daily, while others, weekly. Source: https://sensi.emerson.com/en-us/support/email-alerts-related-to-my-hvac-system

	 Screenshot of a high temperature alert email notification.

Claim 4

Claim 4	Exemplary Infringement Evidence
[4] The automation component of claim 1, wherein the computer readable instructions are further programmed to: set an identification flag for each identified sensor value.	Each Accused Product comprises the automation component of claim 1, wherein the computer readable instructions are further programmed to: set an identification flag for each identified sensor value. For example, each Accused Product (including the Emerson Sensi Touch Smart Thermostat (ST75)) sends smart alerts that include identification flags for each type of alert. *See, e.g.*: Smart Alerts Are there smart alerts available with Sensi thermostats? Yes. Sensi does monitor your HVAC performance as long as the thermostat is online, and an email is generated when one of the following conditions occur: Alert Name / Triggered High Home Temperature — Temperature greater than 99°F Low Home Temperature — Temperature less than 45°F High Humidity — Humidity greater than 70% Loss of Heating — Room temperature goes down 5°F during a heating demand Loss of Cooling — Room temperature goes up 5°F during a cooling demand High and low temperatures, as well as humidity smart alerts, are not adjustable. Loss of heating or loss of cooling smart alerts are based on your Sensi temperature setting. The email is sent to the email address registered to your Sensi account. If the condition that triggers a smart alert still exists after a period of time, you will receive follow up emails. Some alerts re-trigger daily, while others, weekly. Source: https://sensi.emerson.com/en-us/support/email-alerts-related-to-my-hvac-system



Screenshot of a high temperature alert email notification.

Claim 5

Claim 5	Exemplary Infringement Evidence
[5] The automation component of claim 1, wherein the computer readable instructions are further programmed to: communicate all of the stored sensor data corresponding to the received sensor control information to the second automation component.	Each Accused Product comprises the automation component of claim 1, wherein the computer readable instructions are further programmed to: communicate all of the stored sensor data corresponding to the received sensor control information to the second automation component. For example, all changes of temperature and humidity values from each Accused Product (including the Emerson Sensi Touch Smart Thermostat (ST75)) are immediately communicated to the Sensi app. *See, e.g.*:

Thermostat Detail View

After observing how users interact with our iOS and Android applications, we made usability enhancements to surface the most commonly-used features on the thermostat. We removed the side menu and replaced it with a tab bar on the bottom of the thermostat detail view. You can now access thermostat settings and scheduling quickly and easily.



Source: https://sensi.emerson.com/en-us/blog/sensi-thermostat-app

Claim 7

Claim 7	Exemplary Infringement Evidence
[7pre] An automation component configured for wireless communication within a building automation system, the automation component comprising:	To the extent the preamble is limiting, each Accused Product includes an automation component configured for wireless communication within a building automation system. For example, each Accused Product (including the Emerson Sensi Touch Smart Thermostat (ST75)) is an automation component configured for wireless communication within a building automation system. *See, e.g.*: 

SKU: ST75

ST75, Sensi™ Touch smart thermostat (Black)

The award-winning Sensi Touch smart thermostat focuses on providing the best homeowner experience including a large color touch screen, easy set-up, intuitive controls and compatibility with popular home automation systems.

Source: https://sensi.emerson.com/en-us/shop/sensi/sensi-sku-st75

- Monitor HVAC system: Get smart alerts to help detect extreme temperatures & humidity levels or loss of heating/cooling.
- Get reminders: Receive notifications for filter, UV lights, humidifier pad, and HVAC maintenance.
- View usage: Monitor current day and historical heating, cooling and fan runtimes right in the app.

Source: https://sensi.emerson.com/en-us/shop/sensi/products/sensi-sku-st75w



SAVE ABOUT 23% ON HVAC ENERGY[1]
By adjusting the temperature using flexible scheduling, remote access, and geofencing, Sensi thermostat customers save about 23% on HVAC energy usage.

Source: spec-sheet-sensi-touch-smart-thermostat-en-6309540.pdf (emerson.com)

[7a] a multi-sensor package configured to generate a plurality of sensor data for each sensor within the multi-sensor package;	Each Accused Product comprises a multi-sensor package configured to generate a plurality of sensor data for each sensor within the multi-sensor package. For example, each Accused Product (including the Emerson Sensi Touch Smart Thermostat (ST75)) is configured to generate a plurality of sensor data for each sensor within the multi-sensor package. For example, the Emerson Sensi Touch Smart Thermostat (ST75) includes at least humidity and temperature sensors. *See, e.g.*:

Explore the enhanced features and upgraded design

Sensi Touch smart thermostat gives you a modern design and convenient updated features for home comfort control on your terms.



Get reminders

Receive notifications for filter, UV lights, humidifier pad, and HVAC maintenance.

Automatic upgrades

As existing features are enhanced and new features are released, your thermostat software is kept up-to-date automatically.

Color shift

App and thermostat change color to let you know at a glance whether your system is heating or cooling.

Back glow

Perfect for night time or low lighting.

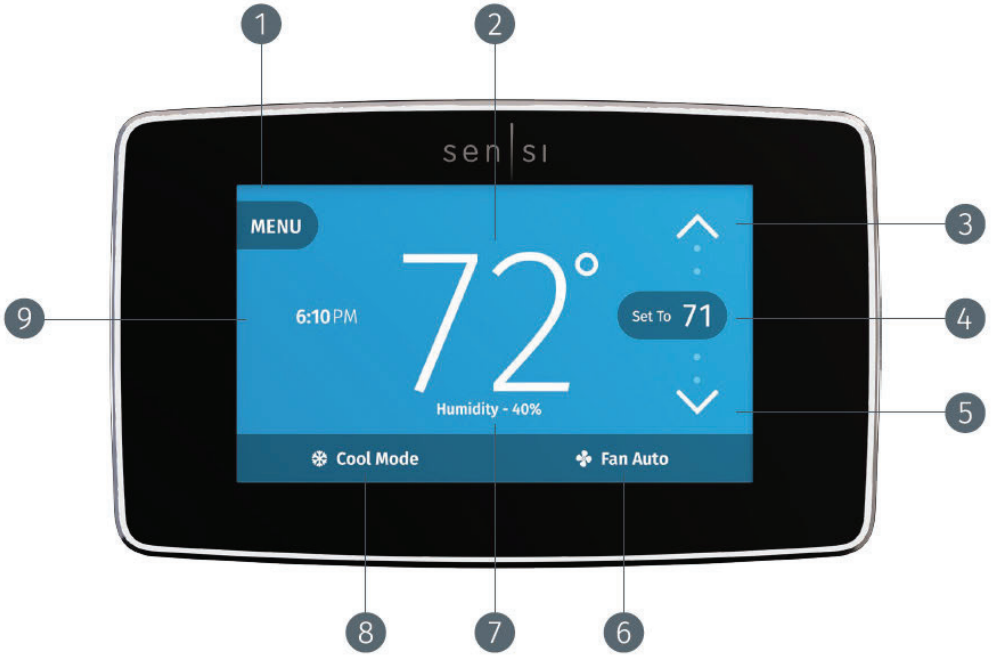
Humidity reading

Tracks humidity for total awareness of your home's atmosphere.

Brightness adjust

Large backlit display offers flexible lighting options.

Source: https://sensi.emerson.com/en-us/products/touch-thermostat



1 MENU
Access thermostat configurations.(See page 5 for more details).

2 CURRENT ROOM TEMPERATURE
The room temperature at the thermostat.

3 UP ARROW
Adjusts the temperature set point or thermostat configuration.

4 CURRENT SET TEMPERATURE
Current set temperature the thermostat will maintain.

5 DOWN ARROW
Adjusts the temperature set point or thermostat configuration.

6 FAN
Switches fan mode from Auto or On. Leave the fan mode on Auto to allow the thermostat to control the fan as necessary.

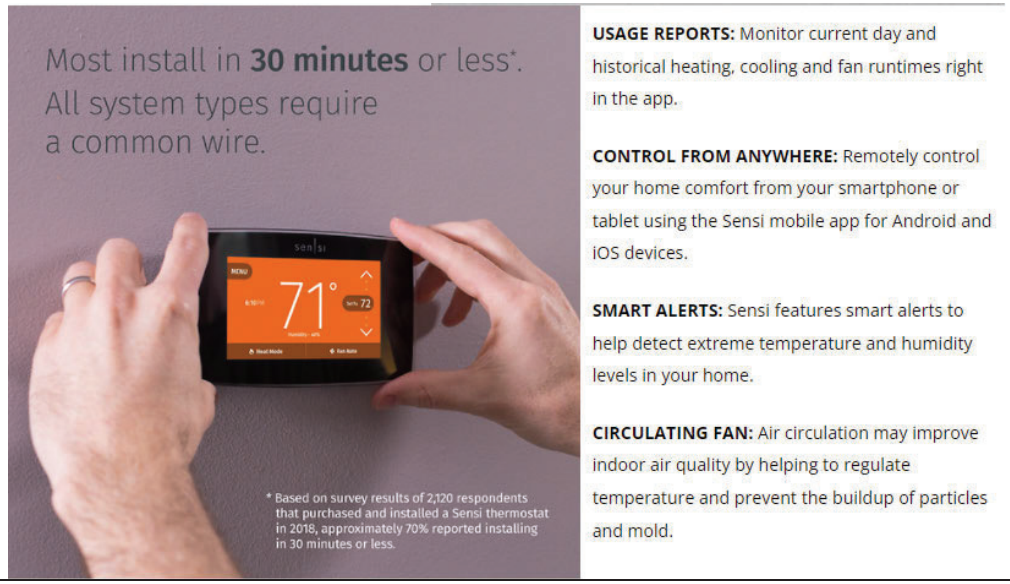
7 HUMIDITY
Displays current humidity

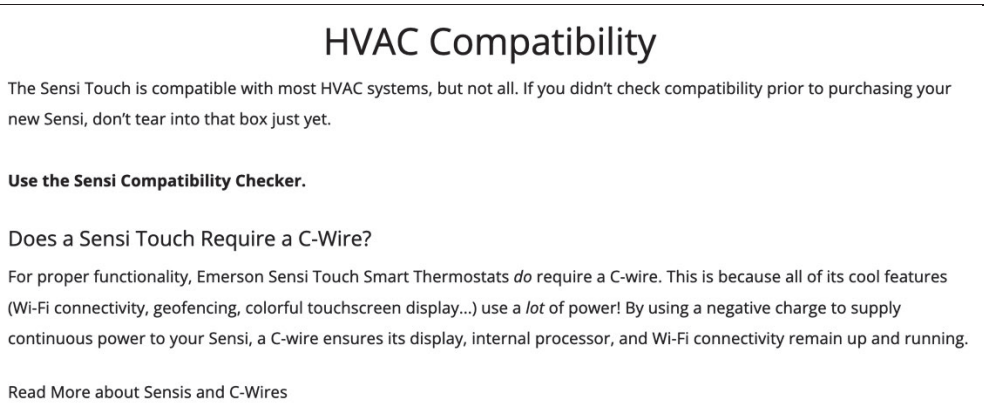
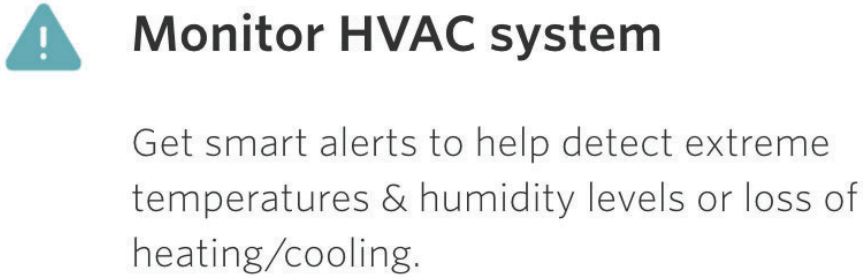
8 MODE
Switches system mode between Heat, Cool, Off, Aux or Auto.

9 TIME
Displays current time.

Source: https://sensi.emerson.com/documents/sensi-touch-smart-thermostat-manual-operation-guide-en-us-5242446.pdf

[7b] a wireless communications component;	Each Accused Product comprises a wireless communications component. For example, each Accused Product (including the Emerson Sensi Touch Smart Thermostat (ST75)) contains a wireless communications component. *See, e.g.*: Wi-Fi & security — Wi-Fi 802.11b/g/n @ 2.4 GHz; WPA and WPA 2 encryption methods Source: Sensi Touch smart thermostat | Sensi US (emerson.com) Home Screen Content Toggle what you want to see on the display from this menu. You can display the current time, humidity or change from Fahrenheit to Celsius. Wi-Fi The Sensi app will instruct you how to connect Sensi to Wi-Fi. You can also turn Wi-Fi on or off at any time. Turn Wi-Fi Off If connecting to Wi-Fi is not an option, turn off Wi-Fi on the thermostat and manually set a time and a schedule from the unit. • Press Menu. • Press Wi-Fi. • Toggle Wi-Fi "Off." • Press the back arrow to return to the main screen.   Source: sensi-touch-smart-thermostat-manual-operation-guide-en-us-6356710.pdf (emerson.com)

[7c] a processor in communication with the wireless communications component and the sensor package;	Each Accused Product comprises a processor in communication with the wireless communications component and the sensor package. For example, each Accused Product (including the Emerson Sensi Touch Smart Thermostat (ST75)) contains a processor that is in communication with the wireless communications component and the sensor package. *See, e.g.*: 

	 Source: Emerson Sensi Touch Smart Thermostat (poweredbyefi.org)
[7d] a memory in communication with the processor, the memory configured to store sensor data provided by the sensor package and computer readable instructions which are executable by the processor; wherein the computer readable instructions are programmed to:	Each Accused Product comprises a memory in communication with the processor, the memory configured to store sensor data provided by the sensor package and computer readable instructions which are executable by the processor. For example, each Accused Product (including the Emerson Sensi Touch Smart Thermostat (ST75)) contains memory that stores sensor data that is collected by the sensor package. For example, the Emerson Sensi Touch Smart Thermostat (ST75) contains memory that stores sensor data related to at least temperature and humidity. *See, e.g.*:  Source: Sensi Touch smart thermostat | Sensi US (emerson.com)

	 Source: spec-sheet-sensi-touch-smart-thermostat-en-6309540.pdf (emerson.com)
[7e] receive status data related to sensor data in control at a second automation component in communication with the building automation system;	In each Accused Product, the computer readable instructions are programmed to receive status data related to sensor data in control at a second automation component in communication with the building automation system. For example, each Accused Product (including the Emerson Sensi Touch Smart Thermostat (ST75)), a first automation component, can receive dehumidification set point status data, related to the humidity sensor data in control. The humidity sensor data controls the HVAC system to overcool or use wired dehumidification. The Emerson Sensi Touch Smart Thermostat (ST75) can also receive temperature set point status data, related to the temperature sensor data in control, that controls the HVAC system to cool or heat. This dehumidification set point can be received from a device running the Sensi app, a second automation component. Likewise, the temperature set point can be received from a device running the Sensi app, a second automation component. *See, e.g.*:

Operation

What is dehumidification and how does it work?

Dehumidification is the process of removing moisture or humidity from the air in your home. This process can be done two ways: wired dehumidification or overcooling.

Note: Neither feature will trigger a cooling cycle on its own. A cooling cycle will only be extended based on whether the humidity percentage is above the desired humidity.

Wired dehumidification – W2/* (Optimal Comfort)

This requires a technician to come in and wire your system to run at a low fan speed during a cooling cycle to achieve dehumidification. Then he will configure your thermostat appropriately, and test operation.

Overcooling (Optimal Dehumidification)

This feature allows anyone with a cooling system to achieve dehumidification. By setting this feature, you allow the thermostat to cool past your set point by up to 3 degrees during an active cooling cycle to achieve the dehumidification percent you desired.

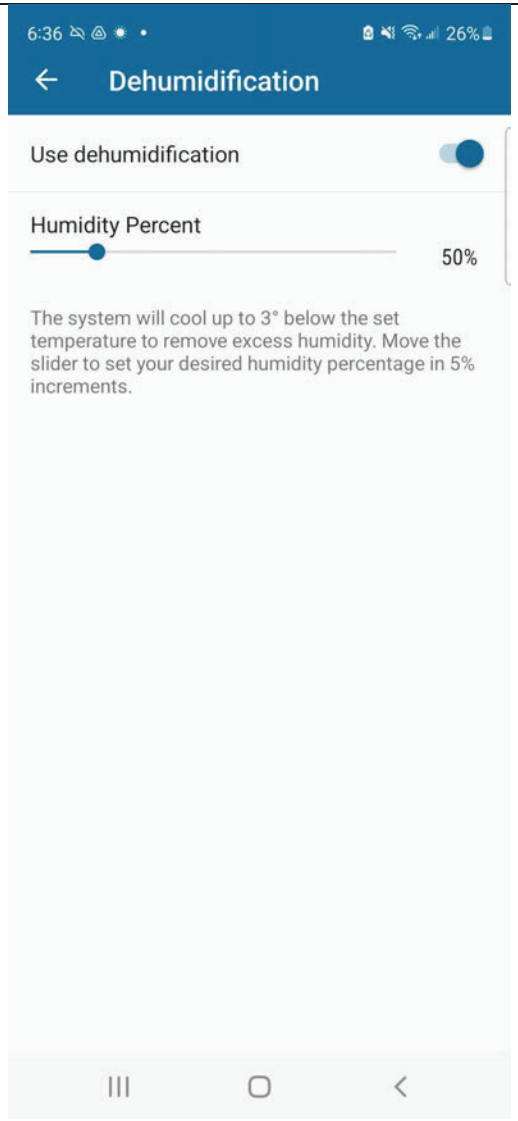
To set this feature on the thermostat, refer to the **Installation Guide of your thermostat model**.

To set this feature with the Sensi app, follow these instructions:

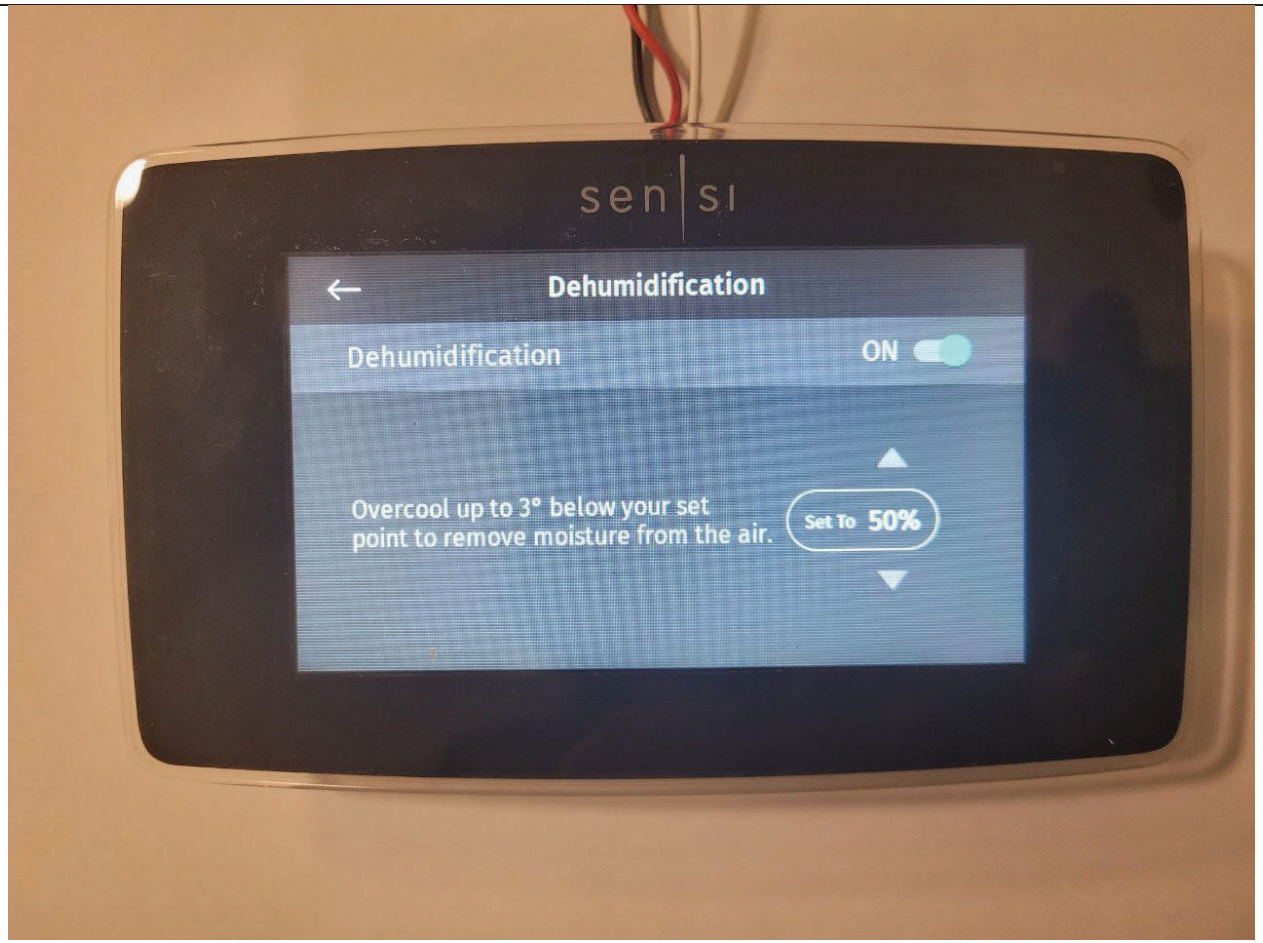
- Open the Sensi app.
- Tap on your thermostat name.
- Tap on the settings gear.
- Tap on System settings.
- Tap on Dehumidification and toggle it On.
- Adjust the Humidity Percentage as desired.
- Go back to the main thermostat page to save changes.

Now that the feature is active, any time the thermostat triggers your cooling system to come on by the set temperature, you may notice that the cooling cycle lasts longer and cools below your set temperature.

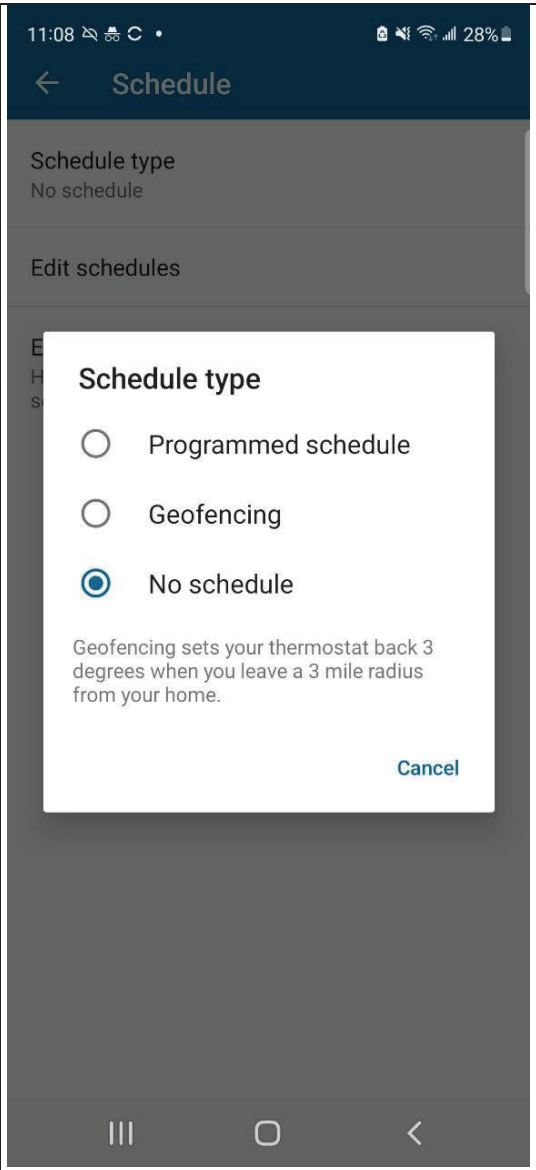
Source: https://sensi.emerson.com/en-us/support/what-is-dehumidification

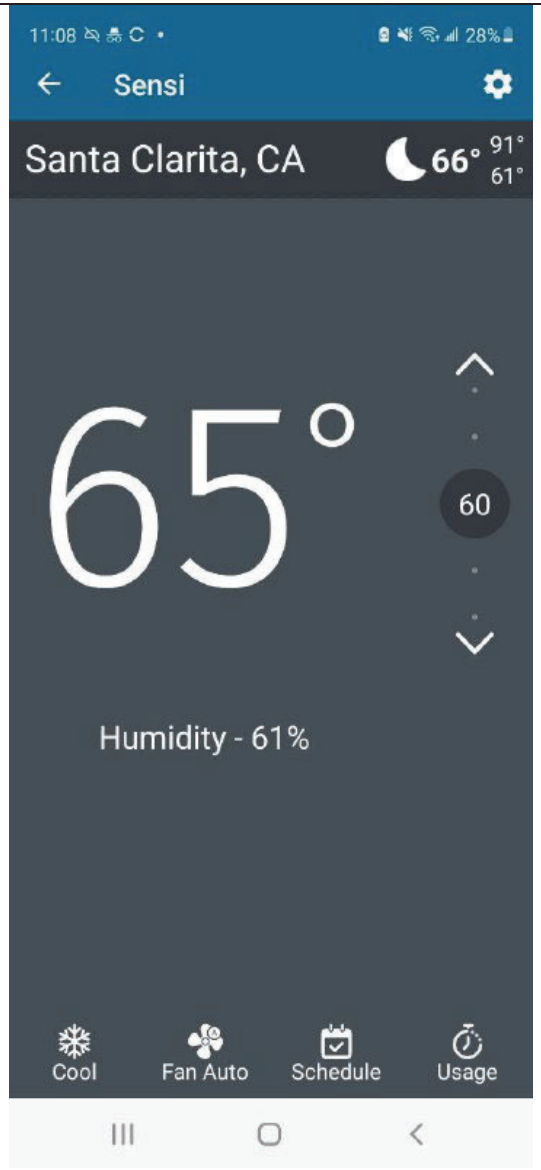


Screenshot of setting dehumidification set point on the Sensi app.

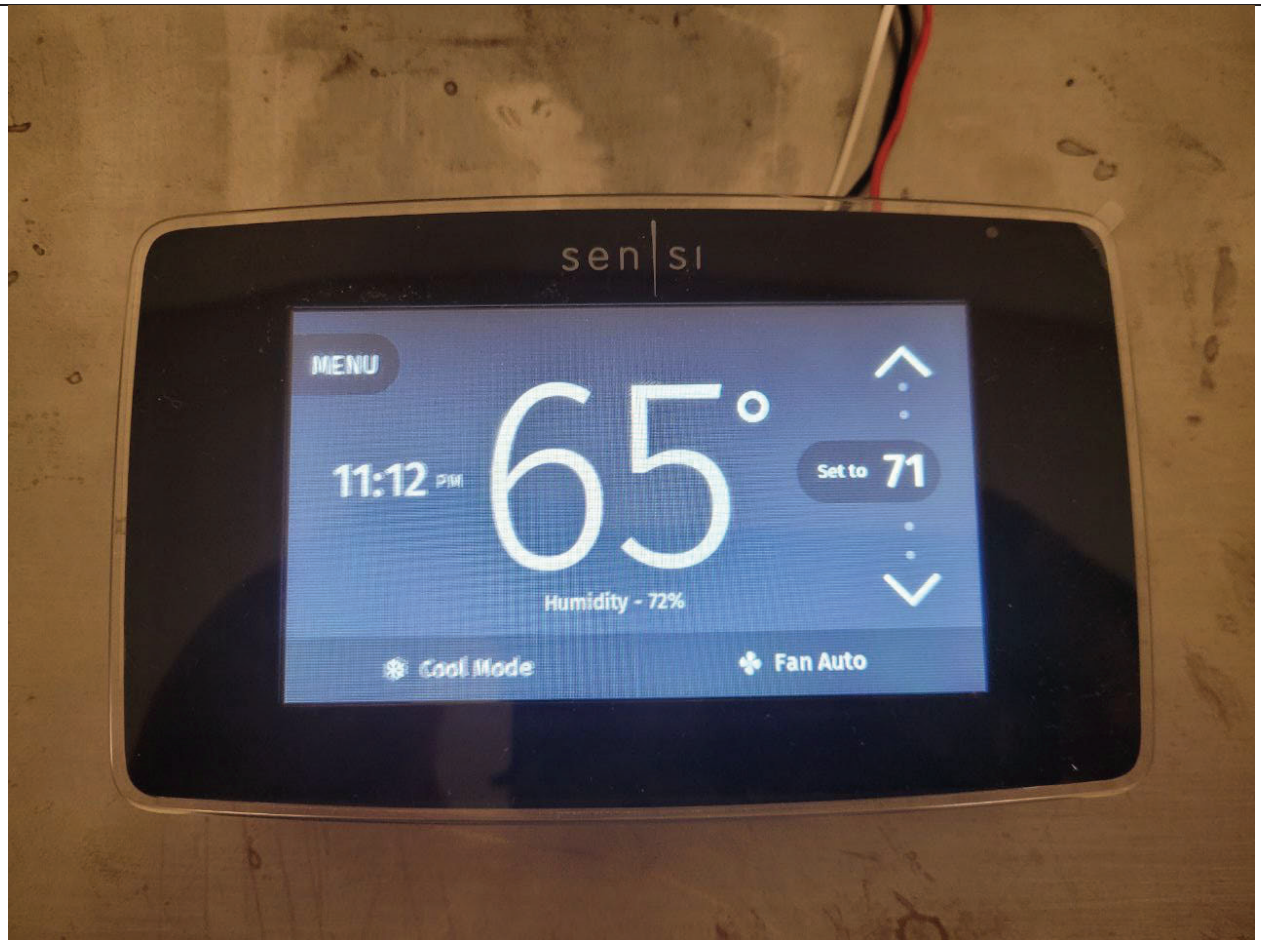
	 Photograph of enabling and setting dehumidification set point status data, received on Emerson Sensi Touch Smart Thermostat (ST75) from the Sensi app.

	Operation ## How do I hold one temperature? There are several ways you can control your Sensi thermostat. You can set a schedule, hold a temperature or use geofencing. If you don't want to set a schedule or use geofencing, you can always hold one temperature, and adjust it as necessary from the wall or through the Sensi app. **How to hold a temperature from the Sensi app** • Tap on the thermostat name. • Tap on **Scheduling**. • Under Schedule Type, tap on **No Schedule**. • Navigate back to the main menu to adjust the set point as necessary using the up or down arrow buttons. Source: https://sensi.emerson.com/en-us/support/hold-one-temperature





Screenshots of setting temperature set point in the Sensi app.

	 Photograph of the temperature set point communicated to the Sensi Touch Smart Thermostat (ST75).
[7f] determine the sensor data in control at the second automation component based on the received status data; and	In each Accused Product, the computer readable instructions are programmed to determine the sensor data in control at the second automation component based on the received status data. For example, each Accused Product (including the Emerson Sensi Touch Smart Thermostat (ST75)) determines the sensor data in control (e.g., temperature or humidity) based on the received status data, the temperature setpoint or humidity set point from the Sensi app.

	See, e.g.:

Operation

What is dehumidification and how does it work?

Dehumidification is the process of removing moisture or humidity from the air in your home. This process can be done two ways: wired dehumidification or overcooling.

Note: Neither feature will trigger a cooling cycle on its own. A cooling cycle will only be extended based on whether the humidity percentage is above the desired humidity.

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This requires a technician to come in and wire your system to run at a low fan speed during a cooling cycle to achieve dehumidification. Then he will configure your thermostat appropriately, and test operation.

Overcooling (Optimal Dehumidification)

This feature allows anyone with a cooling system to achieve dehumidification. By setting this feature, you allow the thermostat to cool past your set point by up to 3 degrees during an active cooling cycle to achieve the dehumidification percent you desired.

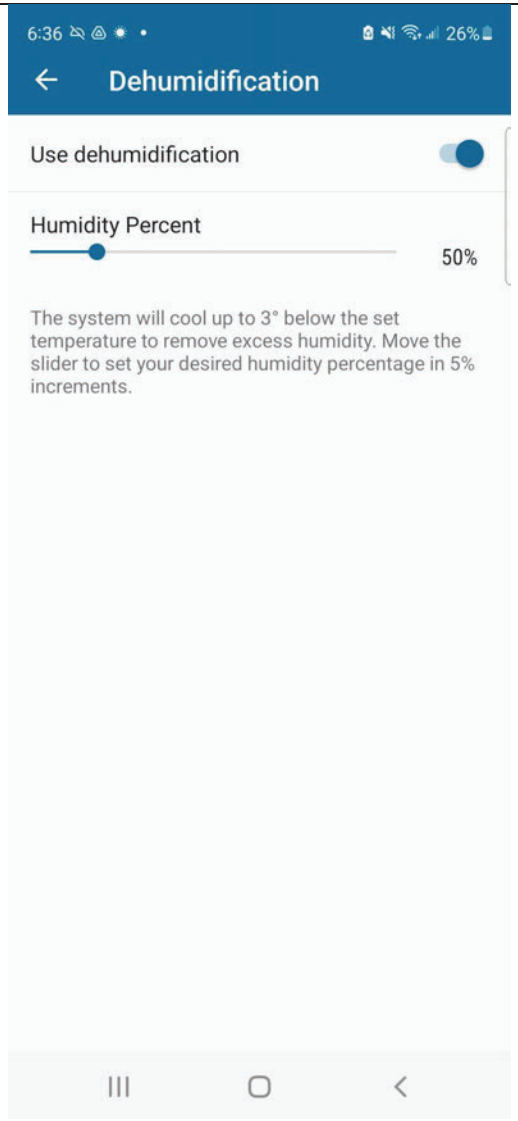
To set this feature on the thermostat, refer to the **Installation Guide of your thermostat model**.

To set this feature with the Sensi app, follow these instructions:

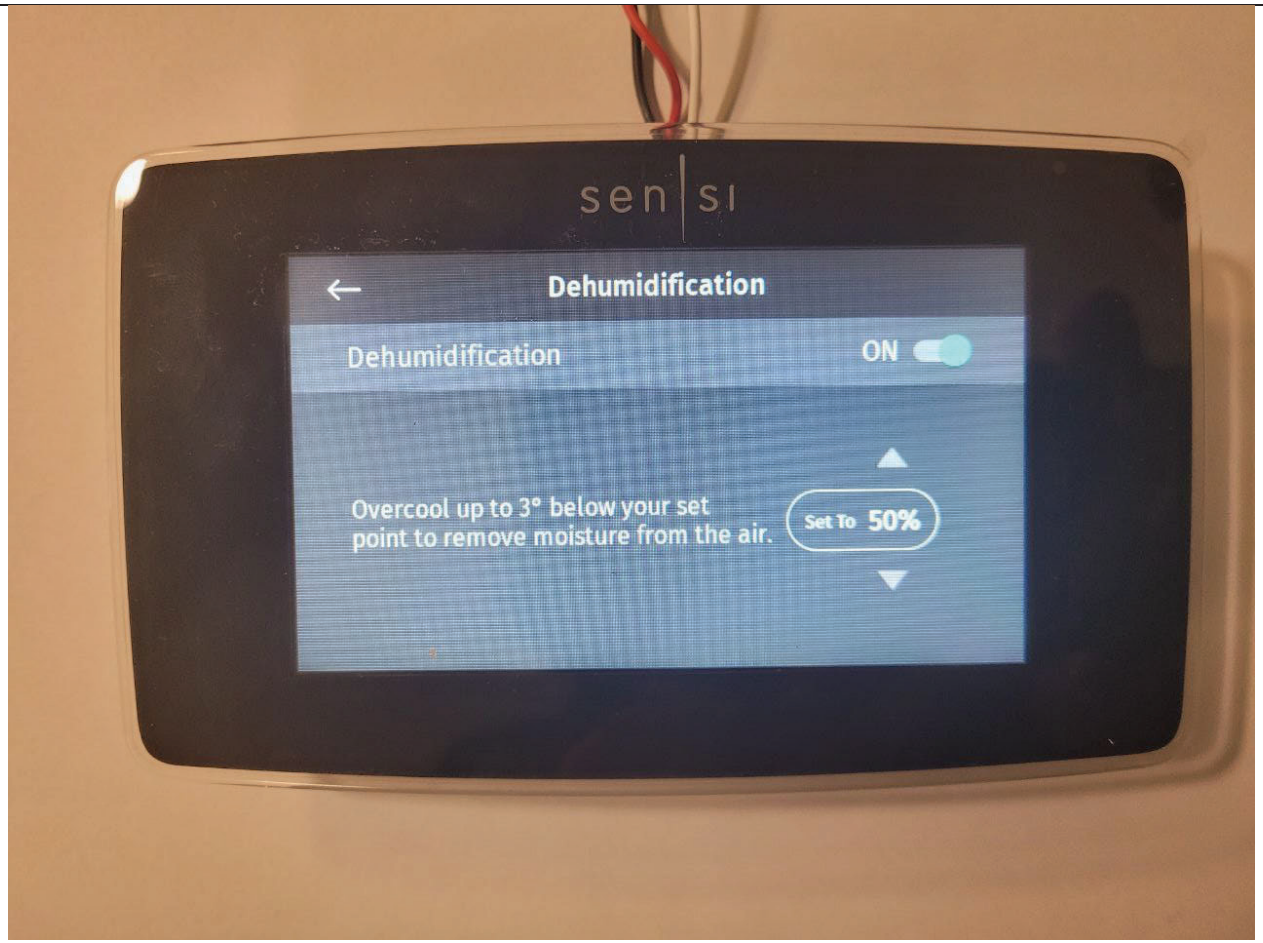
- Open the Sensi app.
- Tap on your thermostat name.
- Tap on the settings gear.
- Tap on System settings.
- Tap on Dehumidification and toggle it On.
- Adjust the Humidity Percentage as desired.
- Go back to the main thermostat page to save changes.

Now that the feature is active, any time the thermostat triggers your cooling system to come on by the set temperature, you may notice that the cooling cycle lasts longer and cools below your set temperature.

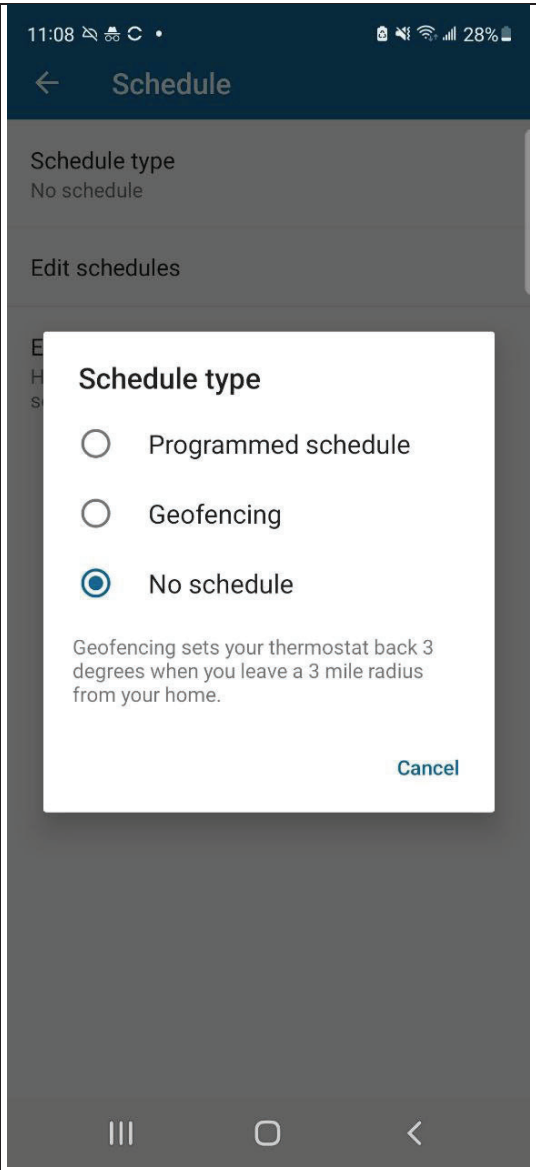
Source: https://sensi.emerson.com/en-us/support/what-is-dehumidification

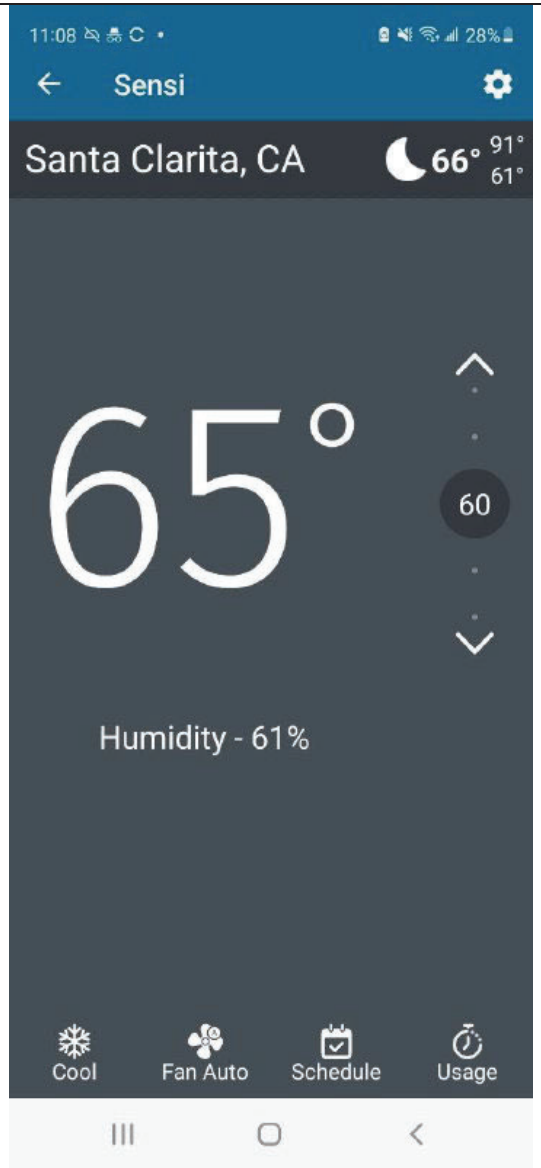


Screenshot of setting dehumidification set point on the Sensi app.

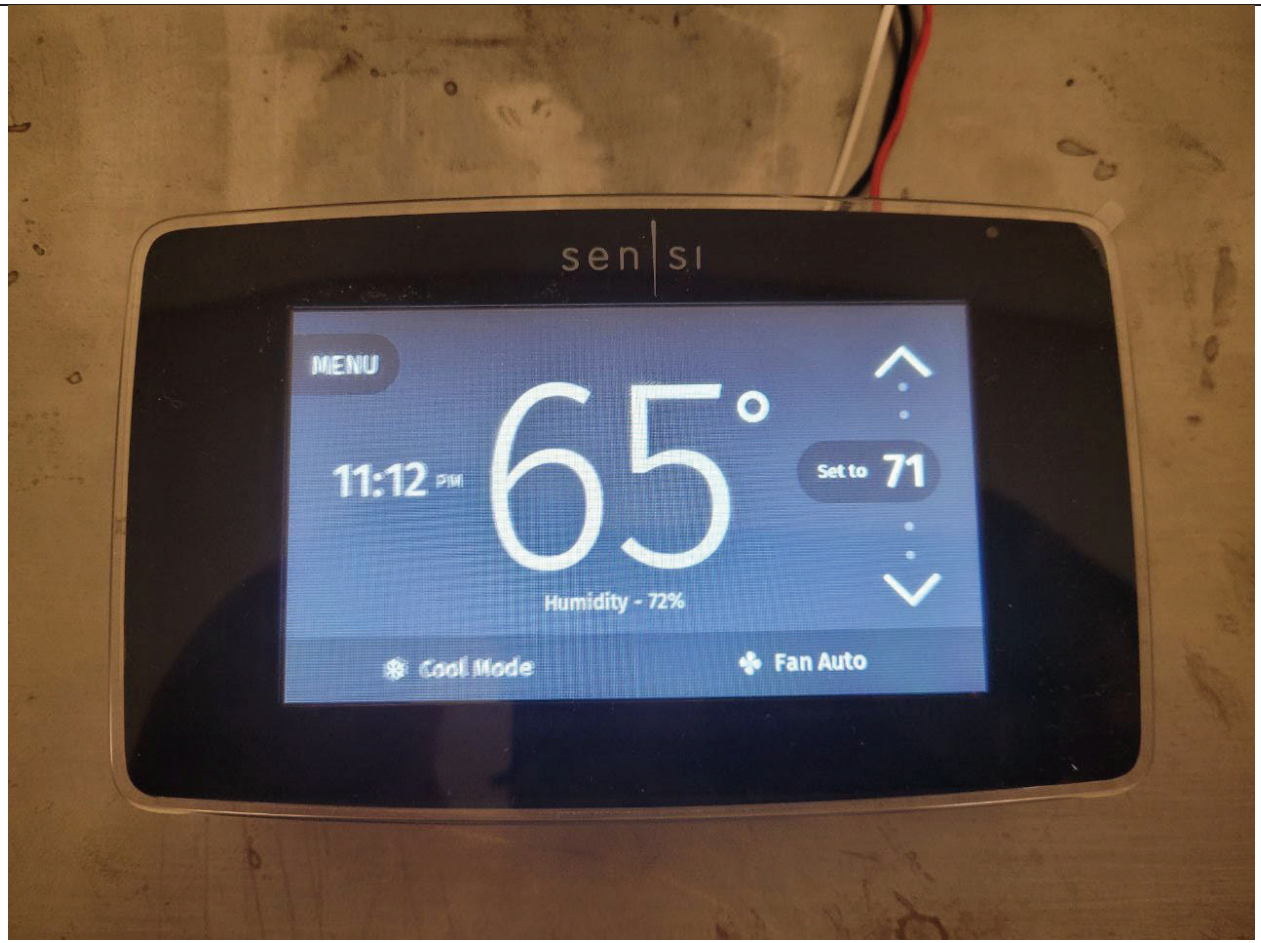
	 Photograph of enabling and setting dehumidification set point status data, received on Emerson Sensi Touch Smart Thermostat (ST75) from the Sensi app.

	Operation ## How do I hold one temperature? There are several ways you can control your Sensi thermostat. You can set a schedule, hold a temperature or use geofencing. If you don't want to set a schedule or use geofencing, you can always hold one temperature, and adjust it as necessary from the wall or through the Sensi app. **How to hold a temperature from the Sensi app** • Tap on the thermostat name. • Tap on **Scheduling**. • Under Schedule Type, tap on **No Schedule**. • Navigate back to the main menu to adjust the set point as necessary using the up or down arrow buttons. Source: https://sensi.emerson.com/en-us/support/hold-one-temperature

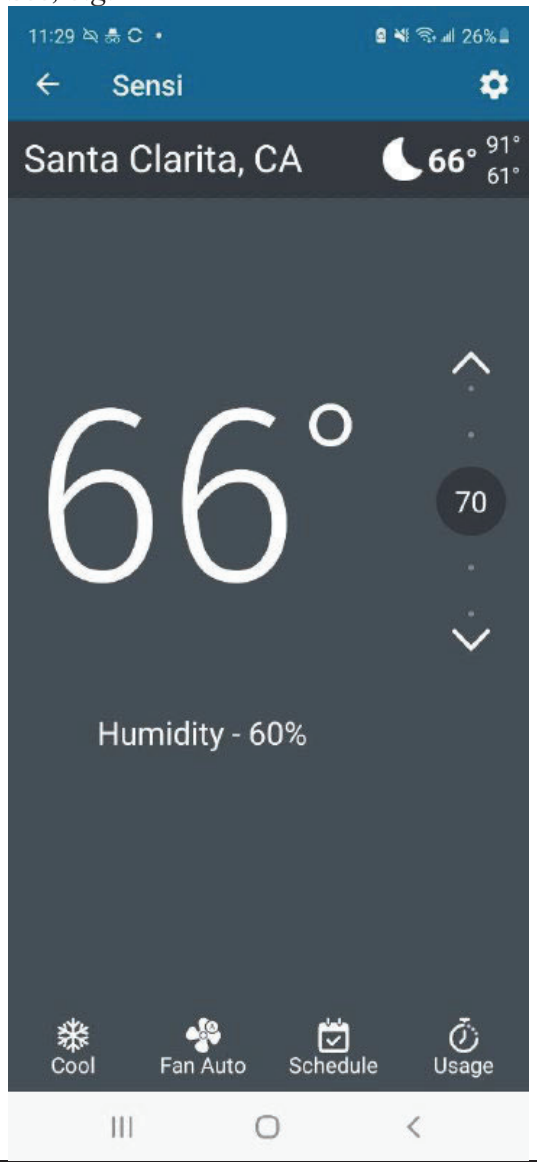




Screenshots of setting temperature set point in the Sensi app.

	 Photograph of the temperature set point communicated to the Sensi Touch Smart Thermostat (ST75).
[7g] communicate the stored sensor data corresponding the sensor data in control to the second automation component.	In each Accused Product, the computer readable instructions are programmed to communicate the stored sensor data corresponding the sensor data in control to the second automation component. For example, each Accused Product (including the Emerson Sensi Touch Smart Thermostat (ST75)) communicates the temperature or humidity sensor data in control to the device running the Sensi app, a second automation component.

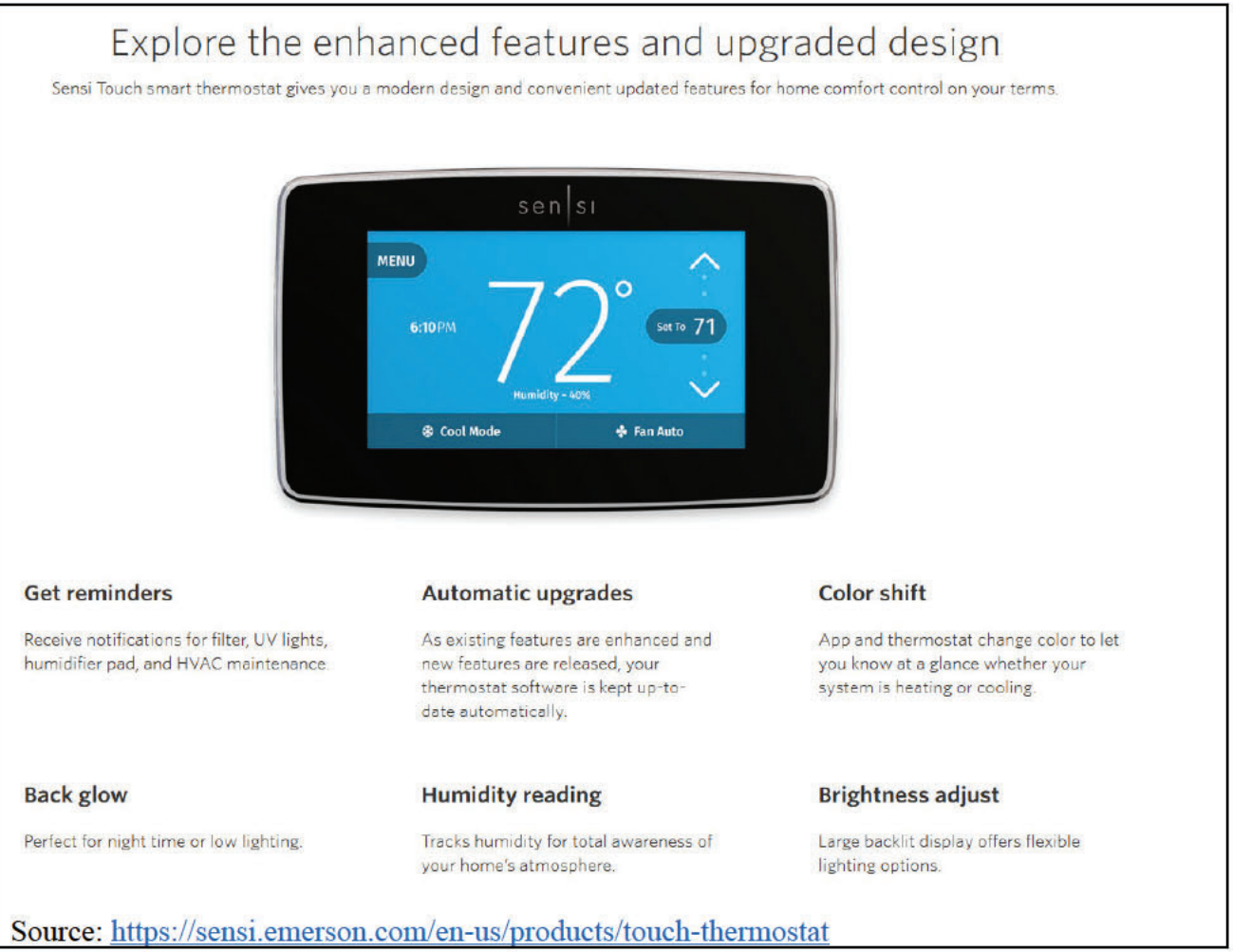
See, e.g.:


11:29
26%
Sensi
Santa Clarita, CA
66°
91°
61°
66°
70
Humidity - 60%
Cool
Fan Auto
Schedule
Usage

	Screenshot of temperature and humidity data communicated to the Sensi app.

Claim 8

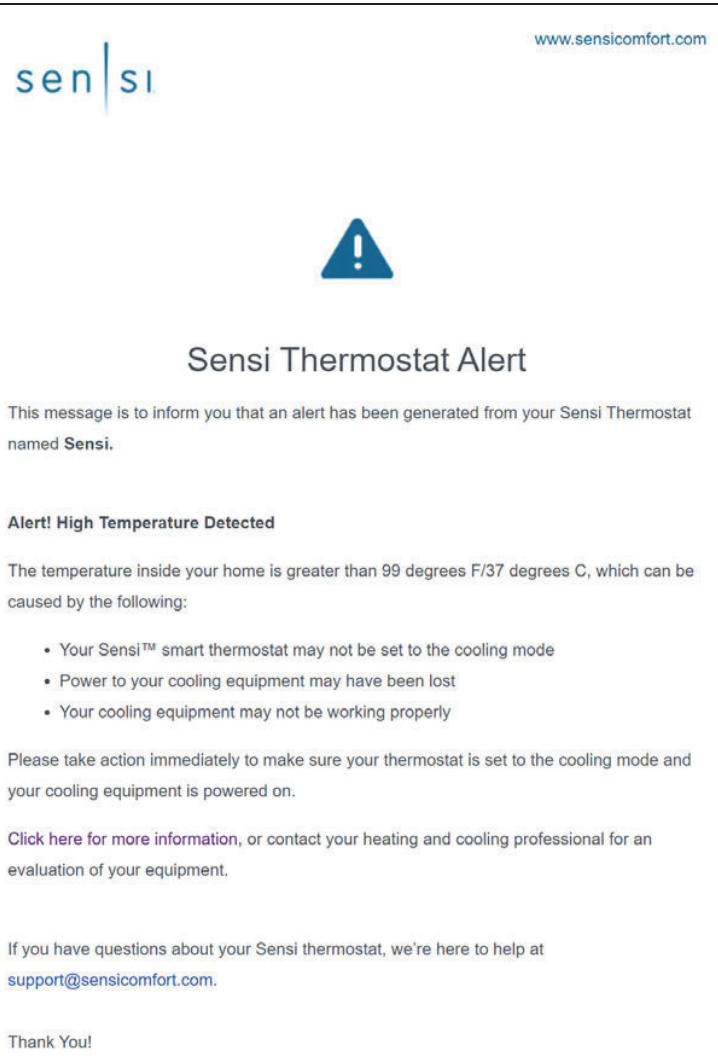
Claim 8	Exemplary Infringement Evidence
[8] The automation component of claim 7, wherein the sensor package includes one or more sensors selected from the group consisting of: a temperature sensor; a humidity sensor; a carbon monoxide sensor; a carbon dioxide sensor and a volatile organic compound sensor.	Each Accused Product comprises the automation component of claim 7, wherein the sensor package includes one or more sensors selected from the group consisting of: a temperature sensor; a humidity sensor; a carbon monoxide sensor; a carbon dioxide sensor and a volatile organic compound sensor. For example, each Accused Product (including the Emerson Sensi Touch Smart Thermostat (ST75)) has a temperature sensor and a humidity sensor. *See, e.g.*:

	 Source: https://sensi.emerson.com/en-us/products/touch-thermostat

Claim 9

Claim 9	Exemplary Infringement Evidence
[9] The automation component of claim 7, wherein the computer readable	Each Accused Product comprises the automation component of claim 7, wherein the computer readable instructions are further programmed to: identify sensor values within the sensor data that exceed a corresponding change-of-value threshold.

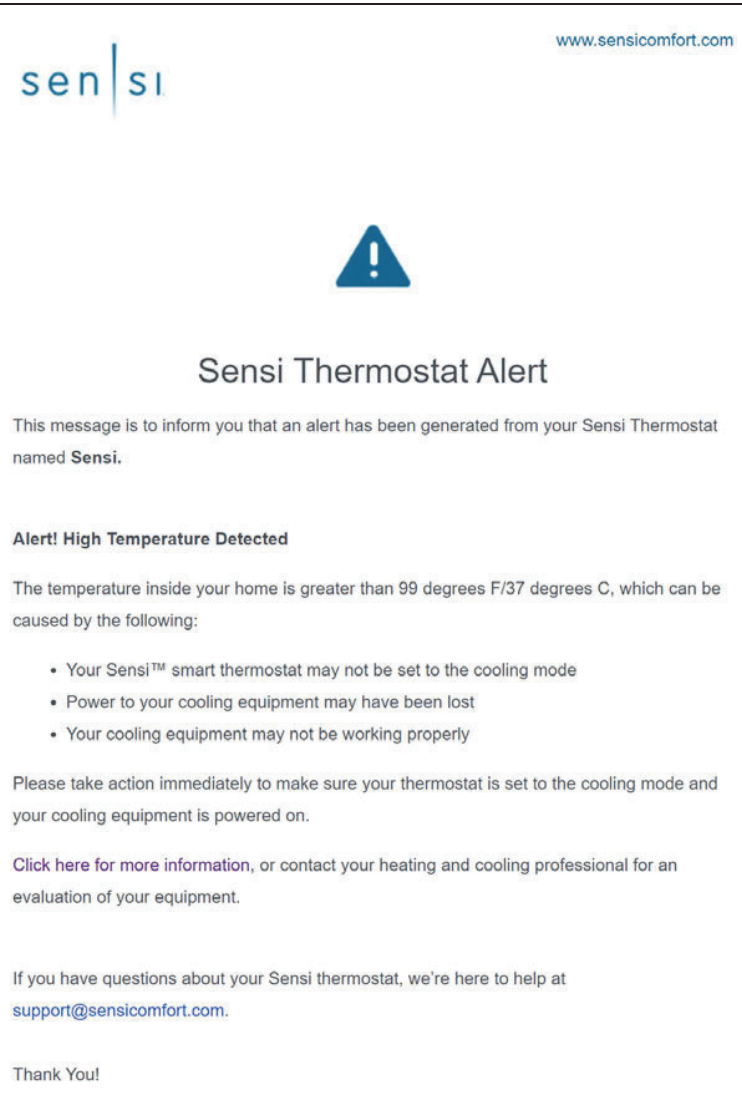
instructions are further programmed to: identify sensor values within the sensor data that exceed a corresponding change-of-value threshold.	For example, each Accused Product (including the Emerson Sensi Touch Smart Thermostat (ST75)) sends smart alerts when the temperature, a sensor value, exceeds the high home temperature threshold. For example, when the humidity exceeds the high humidity threshold the "High Humidity" alert is sent. *See, e.g.*: **Smart Alerts** Are there smart alerts available with Sensi thermostats? Yes. Sensi does monitor your HVAC performance as long as the thermostat is online, and an email is generated when one of the following conditions occur: Alert Name / Triggered High Home Temperature — Temperature greater than 99°F Low Home Temperature — Temperature less than 45°F High Humidity — Humidity greater than 70% Loss of Heating — Room temperature goes down 5°F during a heating demand Loss of Cooling — Room temperature goes up 5°F during a cooling demand High and low temperatures, as well as humidity smart alerts, are not adjustable. Loss of heating or loss of cooling smart alerts are based on your Sensi temperature setting. The email is sent to the email address registered to your Sensi account. If the condition that triggers a smart alert still exists after a period of time, you will receive follow up emails. Some alerts re-trigger daily, while others, weekly. Source: https://sensi.emerson.com/en-us/support/email-alerts-related-to-my-hvac-system



Screenshot of a high temperature alert email notification.

Claim 10

Claim 10	Exemplary Infringement Evidence
[10] The automation component of claim 7, wherein the computer readable instructions are further programmed to: set an identification flag for each identified sensor value.	Each Accused Product comprises the automation component of claim 7, wherein the computer readable instructions are further programmed to: set an identification flag for each identified sensor value. For example, each Accused Product (including the Emerson Sensi Touch Smart Thermostat (ST75)) sends smart alerts that include identification flags for each type of alert. *See, e.g.*: Smart Alerts Are there smart alerts available with Sensi thermostats? Yes. Sensi does monitor your HVAC performance as long as the thermostat is online, and an email is generated when one of the following conditions occur: Alert Name / Triggered High Home Temperature — Temperature greater than 99°F Low Home Temperature — Temperature less than 45°F High Humidity — Humidity greater than 70% Loss of Heating — Room temperature goes down 5°F during a heating demand Loss of Cooling — Room temperature goes up 5°F during a cooling demand High and low temperatures, as well as humidity smart alerts, are not adjustable. Loss of heating or loss of cooling smart alerts are based on your Sensi temperature setting. The email is sent to the email address registered to your Sensi account. If the condition that triggers a smart alert still exists after a period of time, you will receive follow up emails. Some alerts re-trigger daily, while others, weekly. Source: https://sensi.emerson.com/en-us/support/email-alerts-related-to-my-hvac-system

	 Screenshot of a high temperature alert email notification.

Claim 11

Claim 11	Exemplary Infringement Evidence
[11] The automation component of claim 7, wherein the computer readable instructions are further programmed to: communicate all of the stored sensor data corresponding to the received status information to the second automation component.	Each Accused Product comprises the automation component of claim 7, wherein the computer readable instructions are further programmed to: communicate all of the stored sensor data corresponding to the received status information to the second automation component. For example, all changes of temperature and humidity values from each Accused Product (including the Emerson Sensi Touch Smart Thermostat (ST75)) are immediately communicated to the Sensi app. *See, e.g.*:

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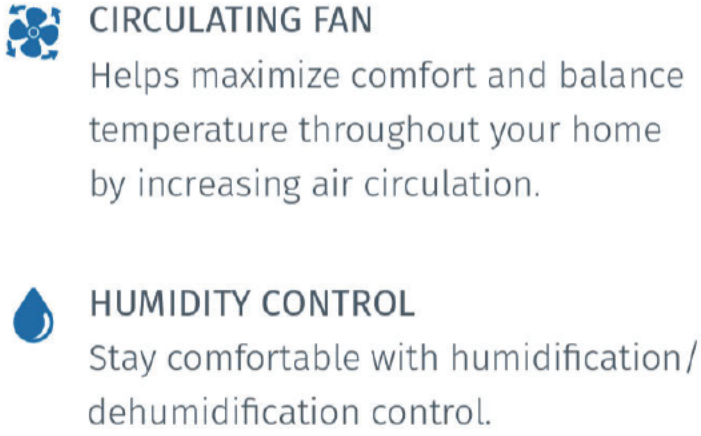
Source: https://sensi.emerson.com/en-us/blog/sensi-thermostat-app

Claim 13

Claim 13	Exemplary Infringement Evidence
[13pre] An automation component configured for wireless communication within a building automation system, the automation component comprising:	To the extent the preamble is limiting, each Accused Product includes an automation component configured for wireless communication within a building automation system. For example, each Accused Product (including the Emerson Sensi Touch Smart Thermostat (ST75)) is an automation component configured for wireless communication within a building automation system. *See, e.g.*: 

	SKU: ST75 **ST75, Sensi™ Touch smart thermostat (Black)** The award-winning Sensi Touch smart thermostat focuses on providing the best homeowner experience including a large color touch screen, easy set-up, intuitive controls and compatibility with popular home automation systems. Source: https://sensi.emerson.com/en-us/shop/sensi/sensi-sku-st75 • Monitor HVAC system: Get smart alerts to help detect extreme temperatures & humidity levels or loss of heating/cooling. • Get reminders: Receive notifications for filter, UV lights, humidifier pad, and HVAC maintenance. • View usage: Monitor current day and historical heating, cooling and fan runtimes right in the app. Source: https://sensi.emerson.com/en-us/shop/sensi/products/sensi-sku-st75w

	 SAVE ABOUT 23% ON HVAC ENERGY[1] By adjusting the temperature using flexible scheduling, remote access, and geofencing, Sensi thermostat customers save about 23% on HVAC energy usage. Source: spec-sheet-sensi-touch-smart-thermostat-en-6309540.pdf (emerson.com)
[13a] a multi-sensor package configured to detect a plurality of variables and generate sensor data for each detected variable;	Each Accused Product comprises a multi-sensor package configured to detect a plurality of variables and generate sensor data for each detected variable. For example, each Accused Product (including the Emerson Sensi Touch Smart Thermostat (ST75)) includes at least temperature and humidity sensors. *See, e.g.*: SENSI ALERT / TRIGGER High temperature: Above 99°F Low temperature: Below 45°F High humidity: Above 70% Loss of heat/cool: Temp goes up or down 5°F during cycle Source: spec-sheet-sensi-touch-smart-thermostat-en-6309540.pdf (emerson.com)

	 Source: spec-sheet-sensi-touch-smart-thermostat-en-6309540.pdf (emerson.com)  Source: spec-sheet-sensi-touch-smart-thermostat-en-6309540.pdf (emerson.com)
[13b] a wireless communications component;	Each Accused Product comprises a wireless communications component. For example, each Accused Product (including the Emerson Sensi Touch Smart Thermostat (ST75)) contains a wireless communications component.

See, e.g.:

Wi-Fi & security	Wi-Fi 802.11b/g/n @ 2.4 GHz WPA and WPA 2 encryption methods

Source: Sensi Touch smart thermostat | Sensi US (emerson.com)

Home Screen Content

Toggle what you want to see on the display from this menu. You can display the current time, humidity or change from Fahrenheit to Celsius.



Wi-Fi

The Sensi app will instruct you how to connect Sensi to Wi-Fi. You can also turn Wi-Fi on or off at any time.

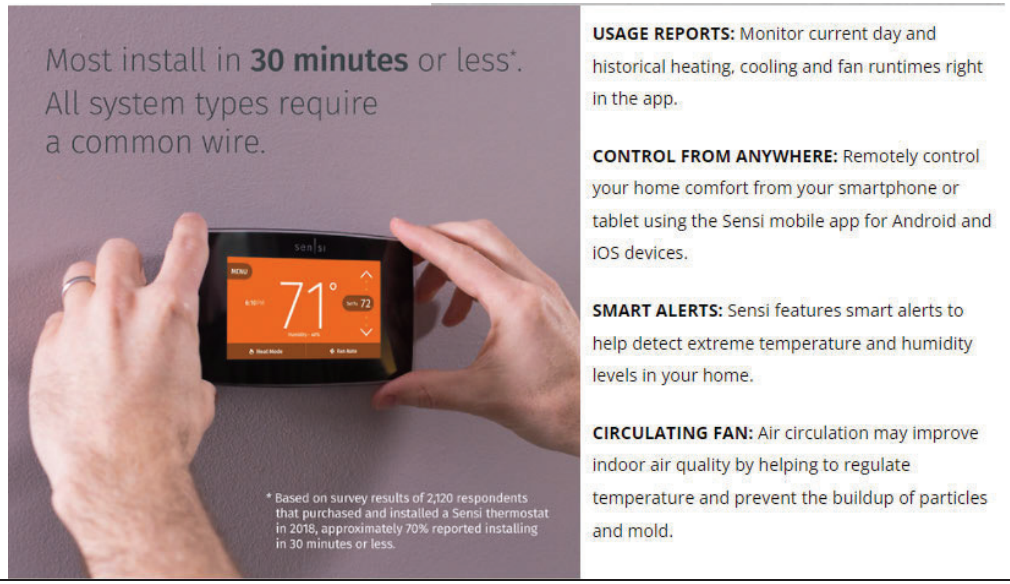
Turn Wi-Fi Off

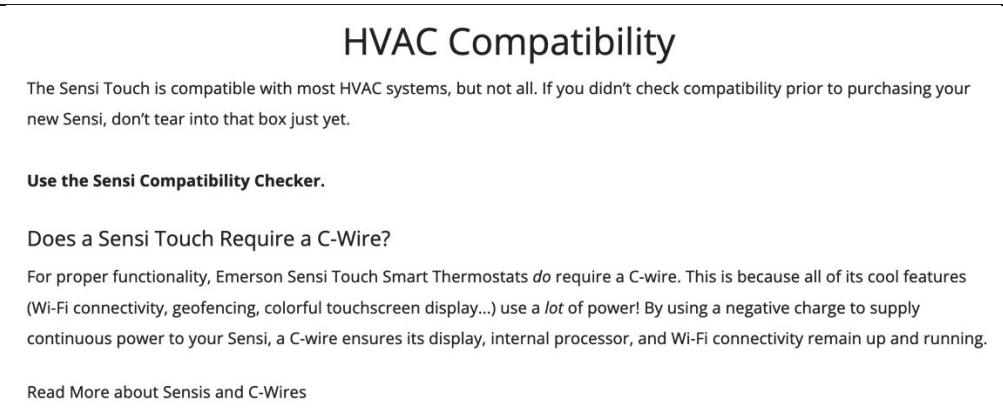
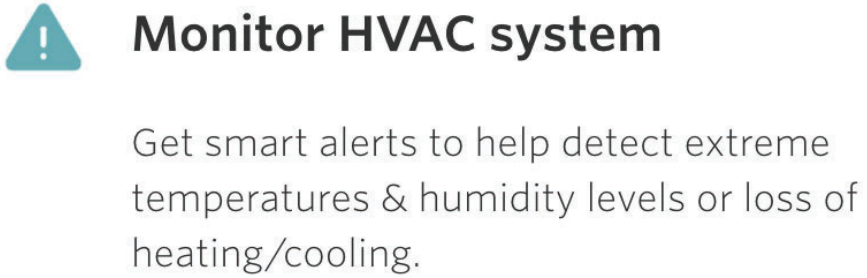
If connecting to Wi-Fi is not an option, turn off Wi-Fi on the thermostat and manually set a time and a schedule from the unit.

- Press Menu.
- Press Wi-Fi.
- Toggle Wi-Fi "Off."
- Press the back arrow to return to the main screen.



Source: sensi-touch-smart-thermostat-manual-operation-guide-en-us-6356710.pdf (emerson.com)

[13c] a processor in communication with the wireless communications component and the sensor package;	Each Accused Product comprises a processor in communication with the wireless communications component and the sensor package. For example, each Accused Product (including the Emerson Sensi Touch Smart Thermostat (ST75)) contains a processor that is in communication with the wireless communications component and the sensor package. *See, e.g.*: 

	 Source: Emerson Sensi Touch Smart Thermostat (poweredbyefi.org)
[13d] a memory in communication with the processor, the memory configured to store sensor data provided by the sensor package and computer readable instructions which are executable by the processor; wherein the computer readable instructions are programmed to:	Each Accused Product comprises a memory in communication with the processor, the memory configured to store sensor data provided by the sensor package and computer readable instructions which are executable by the processor. For example, each Accused Product (including the Emerson Sensi Touch Smart Thermostat (ST75)) contains memory that stores sensor data that is collected by the sensor package. For example, the Emerson Sensi Touch Smart Thermostat (ST75) contains memory that stores sensor data related to at least temperature and humidity. *See, e.g.*:  Source: Sensi Touch smart thermostat | Sensi US (emerson.com)

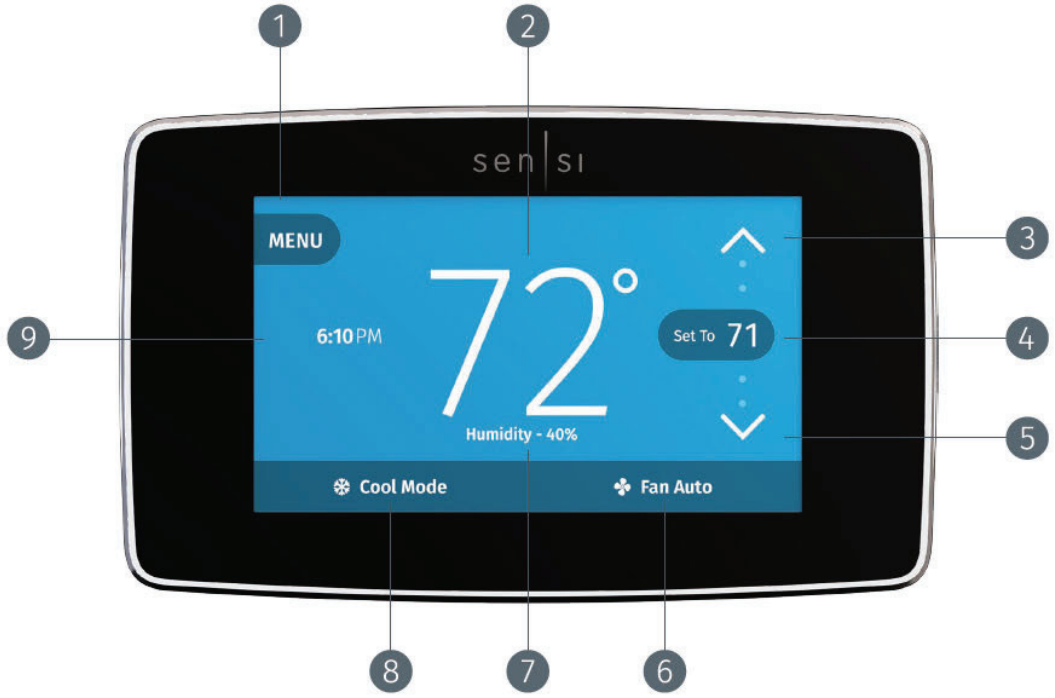
	 Source: spec-sheet-sensi-touch-smart-thermostat-en-6309540.pdf (emerson.com)
[13e] receive a wake-up command from a second automation component;	In each Accused Product, the computer readable instructions are programmed to receive a wake-up command from a second automation component. For example, each Accused Product (including the Emerson Sensi Touch Smart Thermostat (ST75)) is programmed to receive a wake-up command from a device running the Sensi app, a second automation component. For example, the user can set the target temperature or mode within the Sensi app. *See, e.g.*:

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Source: https://sensi.emerson.com/en-us/blog/sensi-thermostat-app



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The room temperature at the thermostat.

3 UP ARROW
Adjusts the temperature set point or thermostat configuration.

4 CURRENT SET TEMPERATURE
Current set temperature the thermostat will maintain.

5 DOWN ARROW
Adjusts the temperature set point or thermostat configuration.

6 FAN
Switches fan mode from Auto or On. Leave the fan mode on Auto to allow the thermostat to control the fan as necessary.

7 HUMIDITY
Displays current humidity

8 MODE
Switches system mode between Heat, Cool, Off, Aux or Auto.

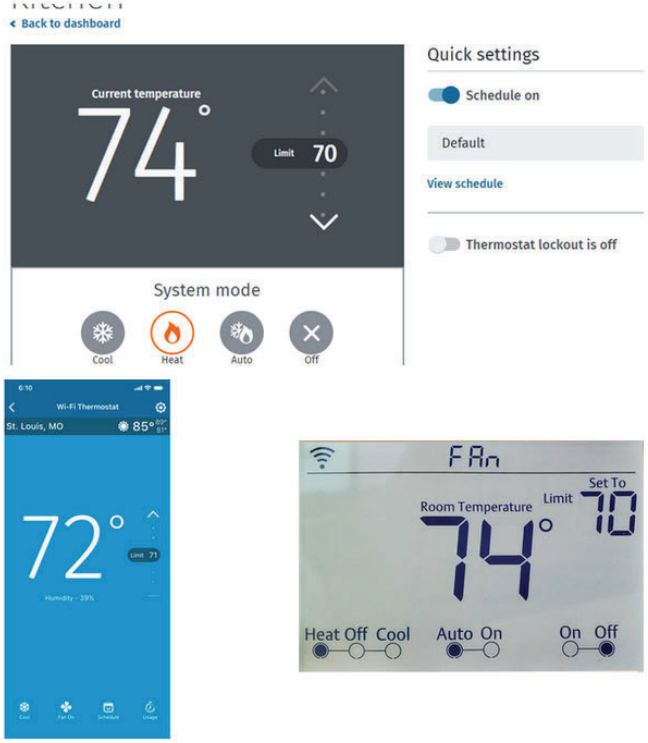
9 TIME
Displays current time.

	Source: https://sensi.emerson.com/documents/sensi-touch-smart-thermostat-manual-operation-guide-en-us-5242446.pdf For example, each Accused Product (including the Emerson Sensi Touch Smart Thermostat (ST75)) is programmed to receive a wake-up command from a device running the Sensi app, a second automation component. For example, temperature limits for the thermostat can be set using the Sensi app. *See, e.g.*: **What are Temperature Limits?** Temperature Limits allow building and facility managers to set limits to set point adjustments. This allows someone to set a range of temperatures that occupants can adjust between. This helps balance occupant comfort and reduce energy inefficiencies. **Using the Sensi app** **How can I set Temperature Limits in the Sensi app?** • Open the Sensi app. • Tap on your thermostat name. • Tap on the settings gear. • Tap on System settings. • Find Temperature Limits and adjust your Cooling Minimum Setpoint and your Heating Maximum Setpoint as necessary with the + or - buttons. *Example: If the homeowner does not want an occupant to be able to cool the home less than 71°F, adjust the Cooling Min Setpoint to 71.* Source: https://sensi.emerson.com/en-us/support/temperature-limits-faq

FAQ

How do I know if I've reached the limit?

Once Temperature Limit have been set, the thermostat itself, the Sensi app and the Sensi Multiple Thermostat Manager service will show "Limit" when someone tries to adjust past the Temperature Limit.



Source: https://sensi.emerson.com/en-us/support/temperature-limits-faq

For example, each Accused Product (including the Emerson Sensi Touch Smart Thermostat (ST75)) is programmed to receive a wake-up command from the cloud, a second automation component. For example, the user can set the target temperature or mode within the Sensi app, which relays it to the cloud. The cloud then sends the wake-up command to the thermostat.

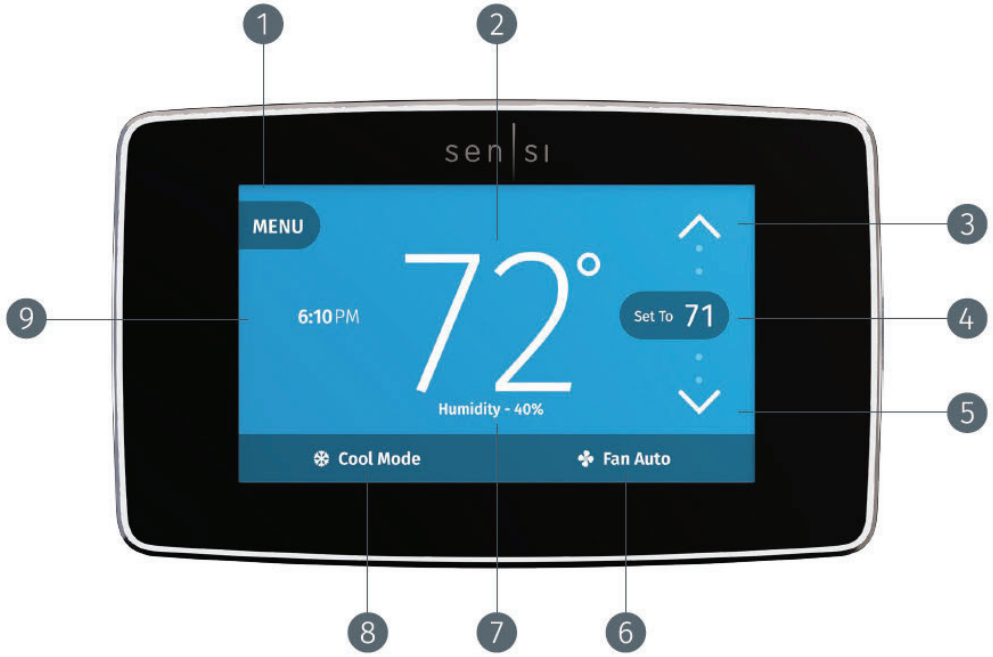
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Current set temperature the thermostat will maintain.

5 DOWN ARROW
Adjusts the temperature set point or thermostat configuration.

6 FAN
Switches fan mode from Auto or On. Leave the fan mode on Auto to allow the thermostat to control the fan as necessary.

7 HUMIDITY
Displays current humidity

8 MODE
Switches system mode between Heat, Cool, Off, Aux or Auto.

9 TIME
Displays current time.

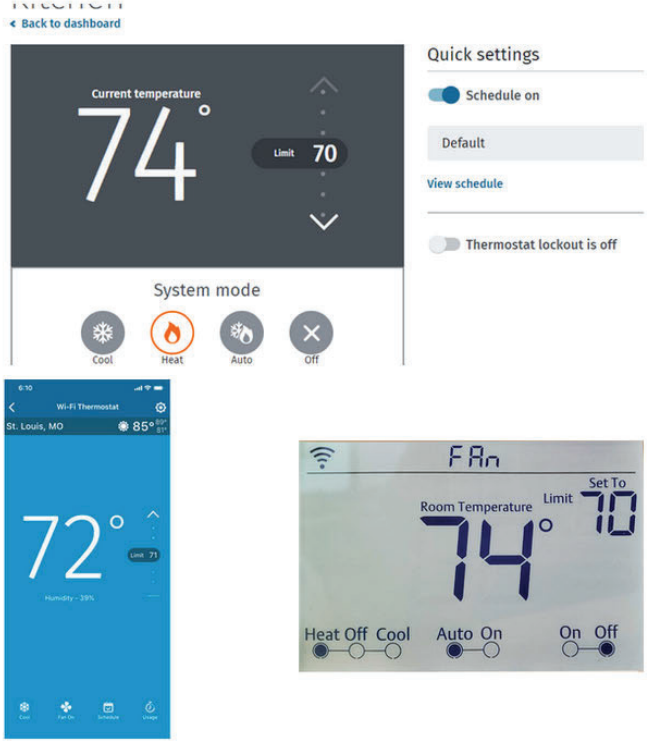
Source: https://sensi.emerson.com/documents/sensi-touch-smart-thermostat-manual-operation-guide-en-us-5242446.pdf

	For example, each Accused Product (including the Emerson Sensi Touch Smart Thermostat (ST75)) is programmed to receive a wake-up command from the cloud, a second automation component. For example, temperature limits for the thermostat can be set using the Sensi app, which are relayed to the cloud, a second automation component. The cloud then sends the wake-up command to the thermostat. *See, e.g.*: **What are Temperature Limits?** Temperature Limits allow building and facility managers to set limits to set point adjustments. This allows someone to set a range of temperatures that occupants can adjust between. This helps balance occupant comfort and reduce energy inefficiencies. **Using the Sensi app** **How can I set Temperature Limits in the Sensi app?** • Open the Sensi app. • Tap on your thermostat name. • Tap on the settings gear. • Tap on System settings. • Find Temperature Limits and adjust your Cooling Minimum Setpoint and your Heating Maximum Setpoint as necessary with the + or - buttons. *Example: If the homeowner does not want an occupant to be able to cool the home less than 71°F, adjust the Cooling Min Setpoint to 71.* Source: https://sensi.emerson.com/en-us/support/temperature-limits-faq

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Source: https://sensi.emerson.com/en-us/support/temperature-limits-faq

For example, each Accused Product (including the Emerson Sensi Touch Smart Thermostat (ST75)) is programmed to receive a wake-up command from a second automation component, such as a handset or tablet, using the Sensi app. For example, the wake-up command can be triggered based on the location of the wireless device using the geofencing feature.

See, e.g.:

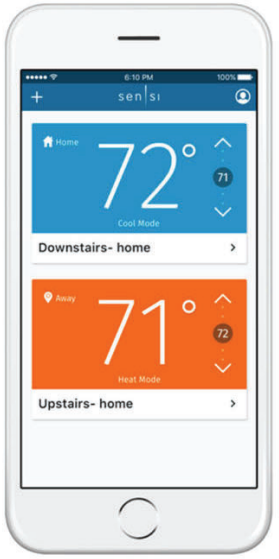
Dashboard

The app is now easier to navigate through multiple thermostats thanks to a dashboard view - from one thermostat to many, you can control your comfort with a few taps. To access more detailed information about a thermostat, tap on the thermostat name and be taken to the thermostat detail view.

Geofencing

For those living an unprogrammed life, we created the Geofencing feature. By using your phone's location relative to your individual thermostat's location, we can automatically set your mode to home or away, creating a 3-degree offset to save you money while you're gone. You will need to enable the geofencing feature for each thermostat in your home.

Read more about using the Geofencing feature.



Source: https://sensi.emerson.com/en-us/blog/sensi-thermostat-app

What is geofencing, and how does it work with Sensi thermostats?

Geofencing is a way to automatically control your Sensi thermostat based on your location. When you travel 3 miles away from your home the Sensi app will signal for your thermostat to change set points and save energy. Your thermostat will lower the temperature 3 degrees when you are in heat mode or raise 3 degrees in cool mode. When you travel back to within 3 miles from your home, your thermostat will be set back to the temperature you had selected before you left.

If you're a busy person with no set schedule, the geofencing feature allows you to be more efficient with your heating and cooling energy usage without needing to remember to adjust your thermostat.

If you tend to have a predictable schedule from day-to-day or week-to-week, the scheduling feature may fit your lifestyle better.

If you'd like to turn on Geofencing, open the Sensi app.

- Tap on your thermostat name.
- Tap **Scheduling**.
- Tap **Schedule type**.
- Tap **Geofencing**.

Source: https://sensi.emerson.com/en-us/support/what-is-geofencing-and-how-does-it-work-with-sensi-thermostats

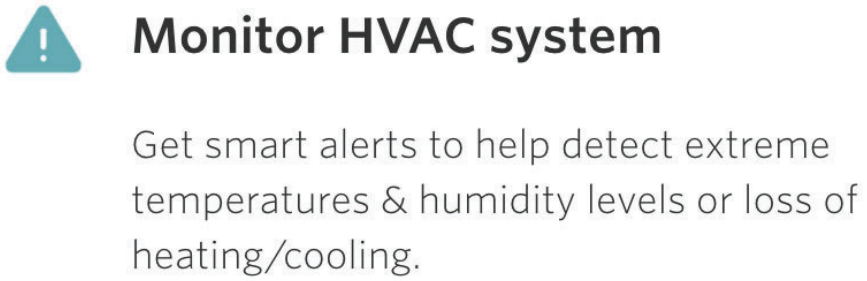
Choosing between scheduling and geofencing.

You can choose to have your Sensi thermostat on a programmed schedule or in geofencing mode (or no schedule). Only one option can be turned on a time.

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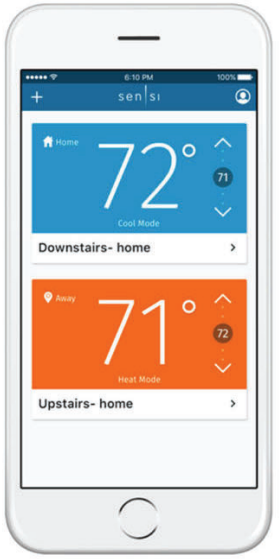
If you tend to have a predictable schedule from day to day and week to week, the scheduling feature may fit your lifestyle better.

Source: https://sensi.emerson.com/en-us/support/choosing-between-scheduling-and-geofencing

[13f] communicate stored sensor data related to the sensor data in control at a second automation component; and	In each Accused Product, the computer readable instructions are programmed to communicate stored sensor data related to the sensor data in control at a second automation component. For example, each Accused Product (including the Emerson Sensi Touch Smart Thermostat (ST75)) is programmed to communicate stored sensor data related to the sensor data in control at a second automation component, such as a handset or tablet. The Emerson Sensi Touch Smart Thermostat (ST75) is programmed to communicate stored sensor data (including data related to temperature and humidity) with the cloud and with applications that can connect to the system, such as the Sensi app. *See, e.g.*:  Source: Sensi Touch smart thermostat | Sensi US (emerson.com)

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[13g] receive a power-down command from the second automation component.	In each Accused Product, the computer readable instructions are programmed to receive a power-down command from the second automation component.

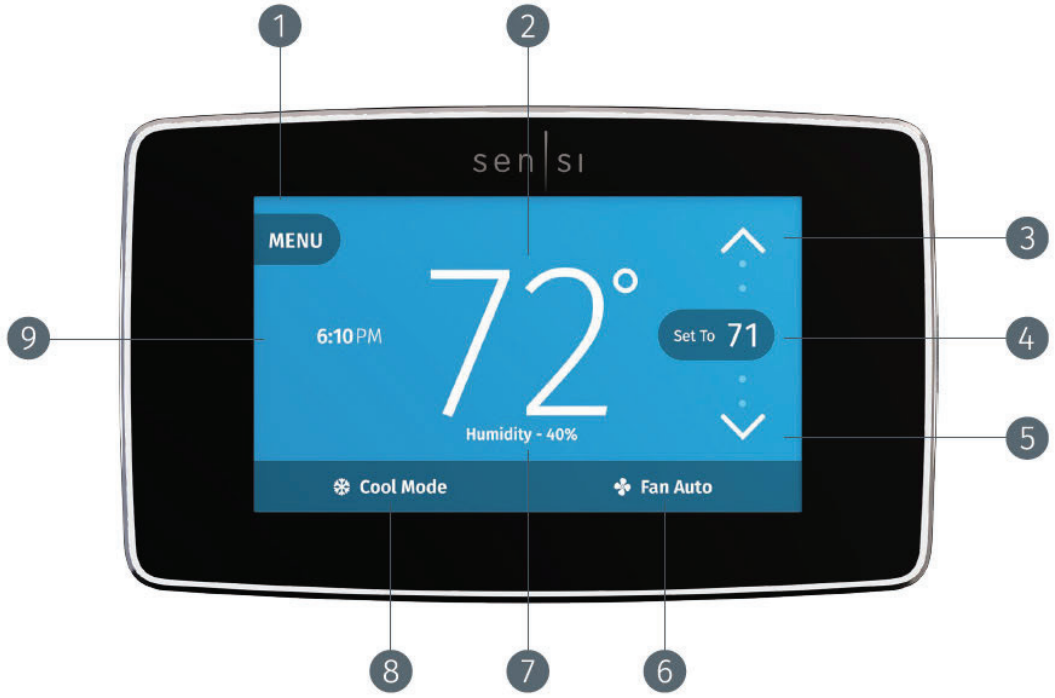
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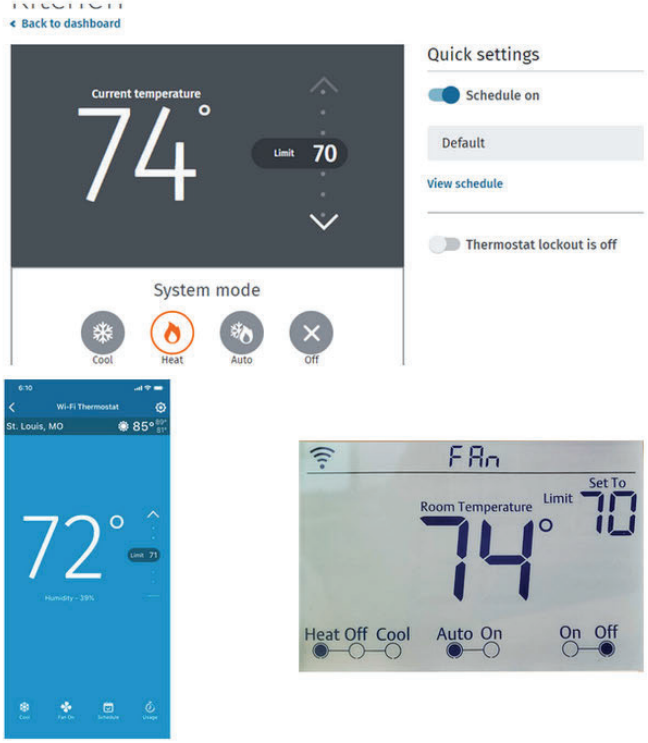
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For example, each Accused Product (including the Emerson Sensi Touch Smart Thermostat (ST75)) is programmed to receive a power-down command from the cloud, a second automation component. For example, the user can set the target temperature within the Sensi app, which relays this set temperature to the cloud. The cloud then sends the power-down command to the thermostat.

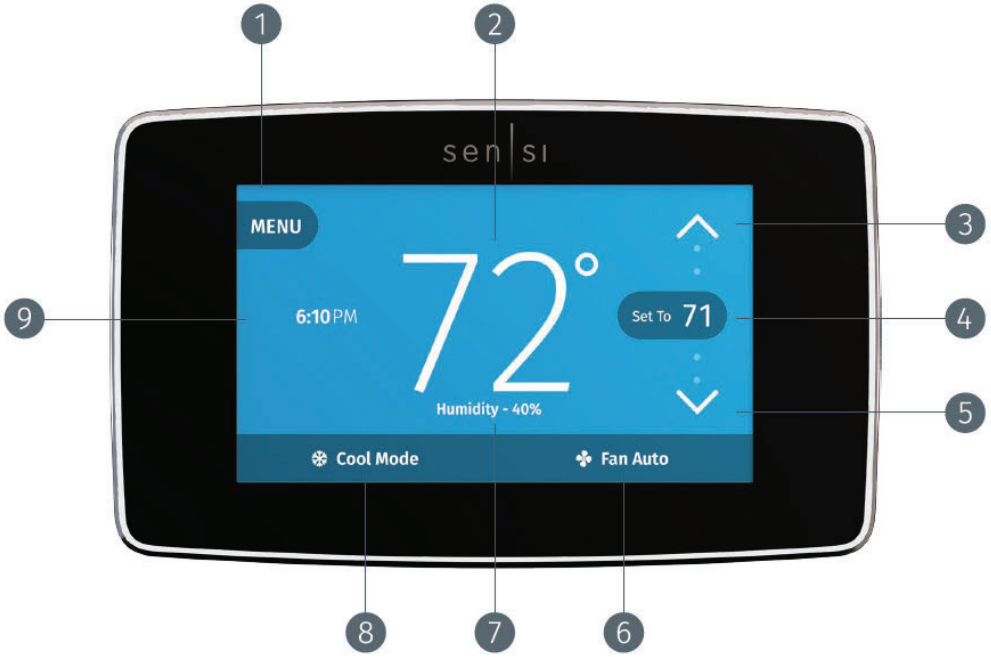
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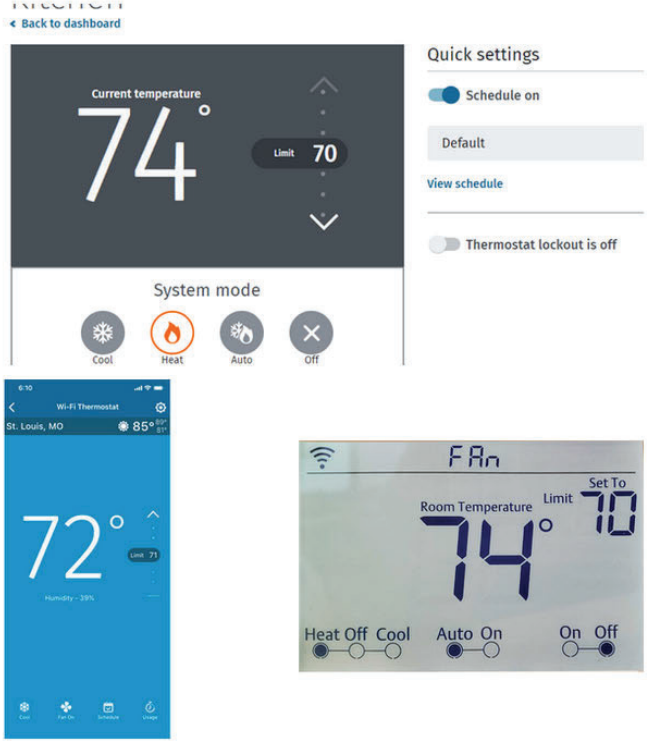
Source: https://sensi.emerson.com/documents/sensi-touch-smart-thermostat-manual-operation-guide-en-us-5242446.pdf

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How do I know if I've reached the limit?

Once Temperature Limit have been set, the thermostat itself, the Sensi app and the Sensi Multiple Thermostat Manager service will show "Limit" when someone tries to adjust past the Temperature Limit.



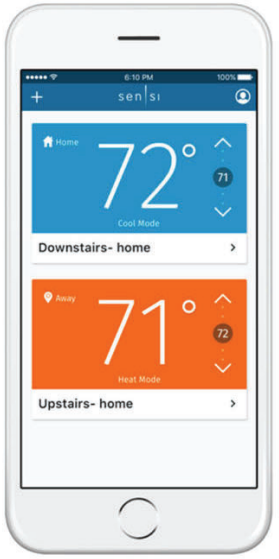
Source: https://sensi.emerson.com/en-us/support/temperature-limits-faq

For example, each Accused Product (including the Emerson Sensi Touch Smart Thermostat (ST75)) is programmed to receive a power-down command from the second automation component, such as a handset or tablet. For example, the power-down command can be triggered based on the location of the wireless device using the geofencing feature.

See, e.g.:

Dashboard

The app is now easier to navigate through multiple thermostats thanks to a dashboard view - from one thermostat to many, you can control your comfort with a few taps. To access more detailed information about a thermostat, tap on the thermostat name and be taken to the thermostat detail view.

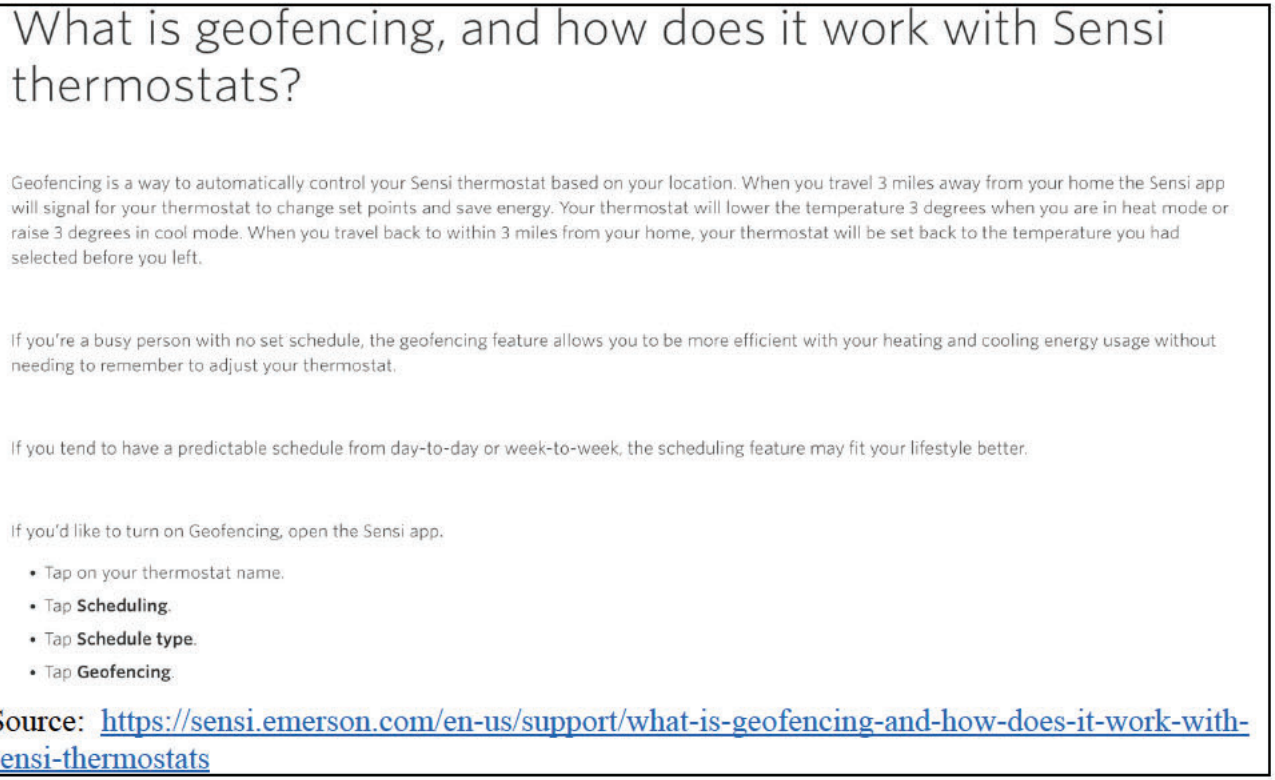


Geofencing

For those living an unprogrammed life, we created the Geofencing feature. By using your phone's location relative to your individual thermostat's location, we can automatically set your mode to home or away, creating a 3-degree offset to save you money while you're gone. You will need to enable the geofencing feature for each thermostat in your home.

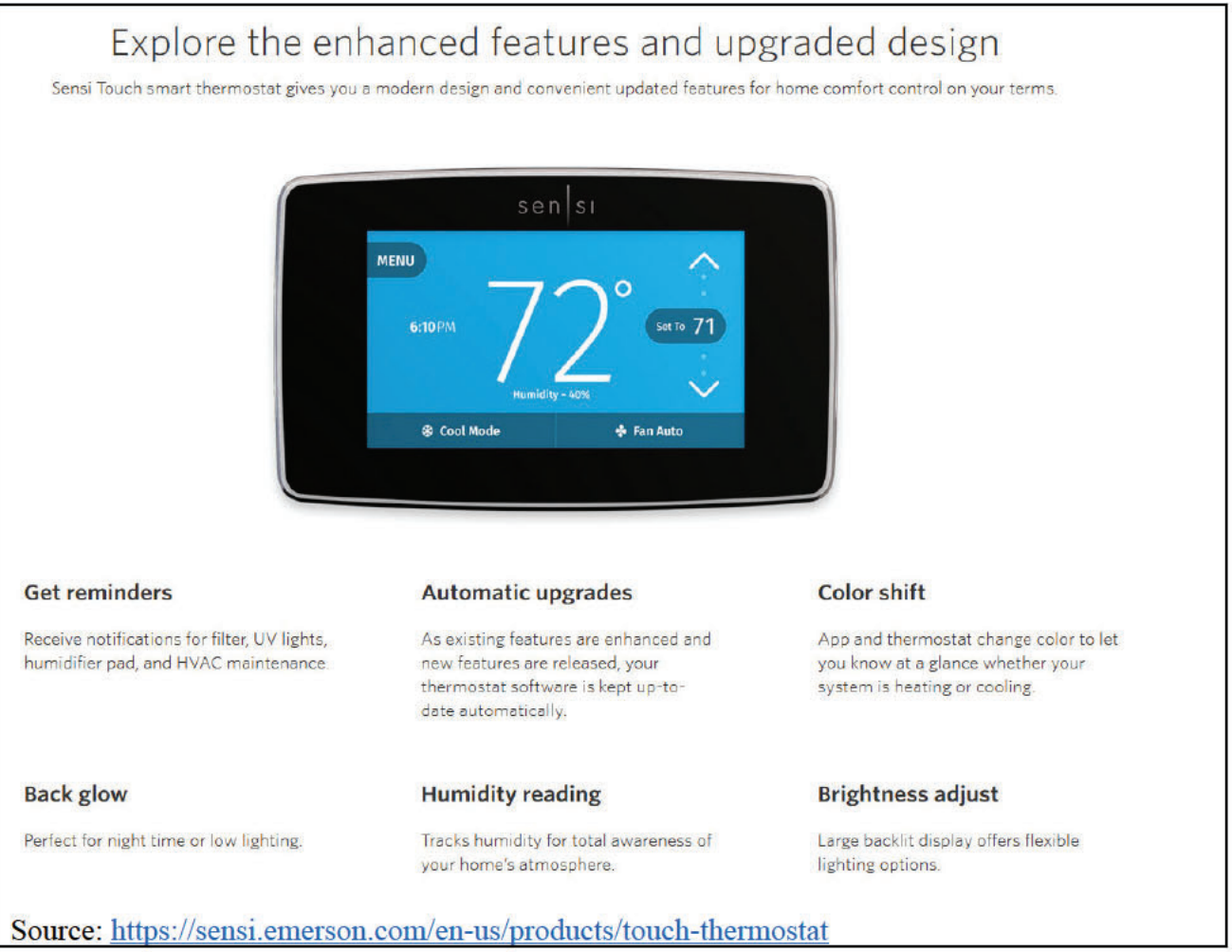
Read more about using the Geofencing feature.

Source: https://sensi.emerson.com/en-us/blog/sensi-thermostat-app

Claim 14

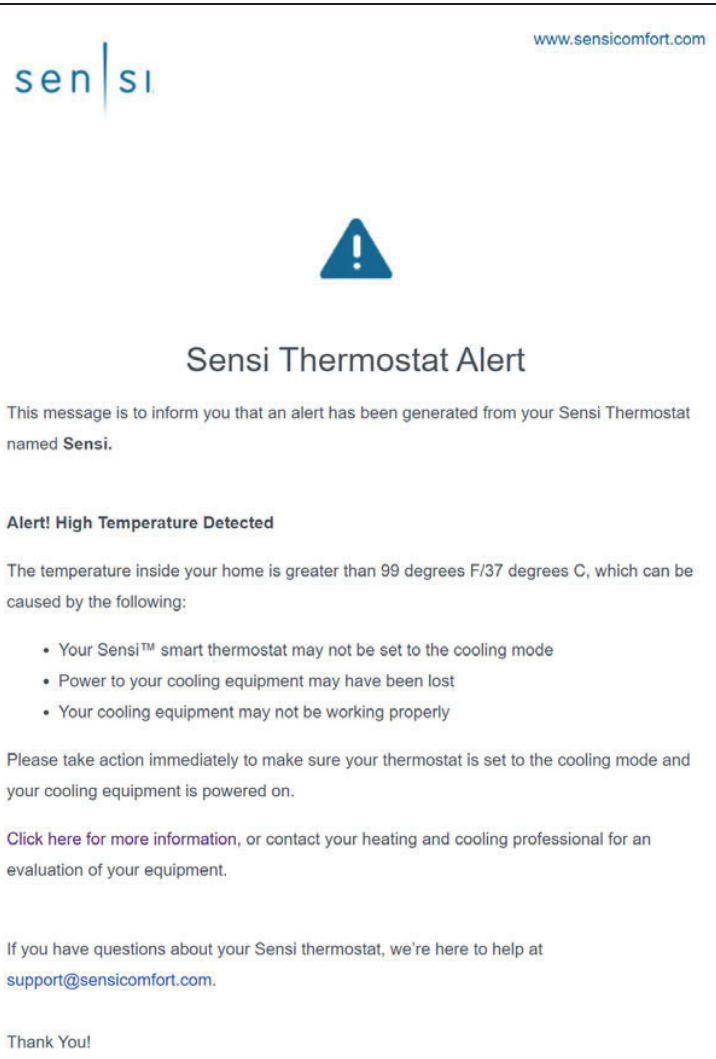
Claim 14	Exemplary Infringement Evidence
[14] The automation component of claim 13, wherein the sensor package includes one or more sensors selected from the group consisting of: a temperature sensor; a humidity sensor; a carbon monoxide sensor; a carbon dioxide sensor and a	Each Accused Product comprises the automation component of claim 13, wherein the sensor package includes one or more sensors selected from the group consisting of: a temperature sensor; a humidity sensor; a carbon monoxide sensor; a carbon dioxide sensor and a volatile organic compound sensor. For example, each Accused Product (including the Emerson Sensi Touch Smart Thermostat (ST75)) has a temperature sensor and a humidity sensor. *See, e.g.*:

volatile organic compound sensor.	 Source: https://sensi.emerson.com/en-us/products/touch-thermostat

Claim 15

Claim 15	Exemplary Infringement Evidence
[15] The automation component of claim 13, wherein the computer readable	Each Accused Product comprises the automation component of claim 13, wherein the computer readable instructions are further programmed to: identify sensor values within the sensor data that exceed a corresponding change-of-value threshold.

instructions are further programmed to: identify sensor values within the sensor data that exceed a corresponding change-of-value threshold.	For example, each Accused Product (including the Emerson Sensi Touch Smart Thermostat (ST75)) sends smart alerts when the temperature, a sensor value, exceeds the high home temperature threshold. For example, when the humidity exceeds the high humidity threshold the "High Humidity" alert is sent. *See, e.g.*: **Smart Alerts** Are there smart alerts available with Sensi thermostats? Yes. Sensi does monitor your HVAC performance as long as the thermostat is online, and an email is generated when one of the following conditions occur: | Alert Name	Triggered
High Home Temperature	Temperature greater than 99°F
Low Home Temperature	Temperature less than 45°F
High Humidity	Humidity greater than 70%
Loss of Heating	Room temperature goes down 5°F during a heating demand
Loss of Cooling	Room temperature goes up 5°F during a cooling demand | High and low temperatures, as well as humidity smart alerts, are not adjustable. Loss of heating or loss of cooling smart alerts are based on your Sensi temperature setting. The email is sent to the email address registered to your Sensi account. If the condition that triggers a smart alert still exists after a period of time, you will receive follow up emails. Some alerts re-trigger daily, while others, weekly. Source: https://sensi.emerson.com/en-us/support/email-alerts-related-to-my-hvac-system

	 Screenshot of a high temperature alert email notification.

Claim 16

Claim 16	Exemplary Infringement Evidence
[16] The automation component of claim 13, wherein the computer readable instructions are further programmed to: set an identification flag for each identified sensor value.	Each Accused Product comprises the automation component of claim 13, wherein the computer readable instructions are further programmed to: set an identification flag for each identified sensor value. For example, each Accused Product (including the Emerson Sensi Touch Smart Thermostat (ST75)) sends smart alerts that include identification flags for each type of alert. *See, e.g.*: **Smart Alerts** Are there smart alerts available with Sensi thermostats? Yes. Sensi does monitor your HVAC performance as long as the thermostat is online, and an email is generated when one of the following conditions occur: Alert Name / Triggered High Home Temperature — Temperature greater than 99°F Low Home Temperature — Temperature less than 45°F High Humidity — Humidity greater than 70% Loss of Heating — Room temperature goes down 5°F during a heating demand Loss of Cooling — Room temperature goes up 5°F during a cooling demand High and low temperatures, as well as humidity smart alerts, are not adjustable. Loss of heating or loss of cooling smart alerts are based on your Sensi temperature setting. The email is sent to the email address registered to your Sensi account. If the condition that triggers a smart alert still exists after a period of time, you will receive follow up emails. Some alerts re-trigger daily, while others, weekly. Source: https://sensi.emerson.com/en-us/support/email-alerts-related-to-my-hvac-system

Claim 17

Claim 17	Exemplary Infringement Evidence
[17] The automation component of claim 13, wherein the computer readable instructions are further programmed to: communicate all of the stored sensor data corresponding to the received status information to the second automation component.	Each Accused Product comprises the automation component of claim 13, wherein the computer readable instructions are further programmed to: communicate all of the stored sensor data corresponding to the received status information to the second automation component. For example, all changes of temperature and humidity values from each Accused Product (including the Emerson Sensi Touch Smart Thermostat (ST75)) are immediately communicated to the Sensi app. *See, e.g.*:

Thermostat Detail View

After observing how users interact with our iOS and Android applications, we made usability enhancements to surface the most commonly-used features on the thermostat. We removed the side menu and replaced it with a tab bar on the bottom of the thermostat detail view. You can now access thermostat settings and scheduling quickly and easily.

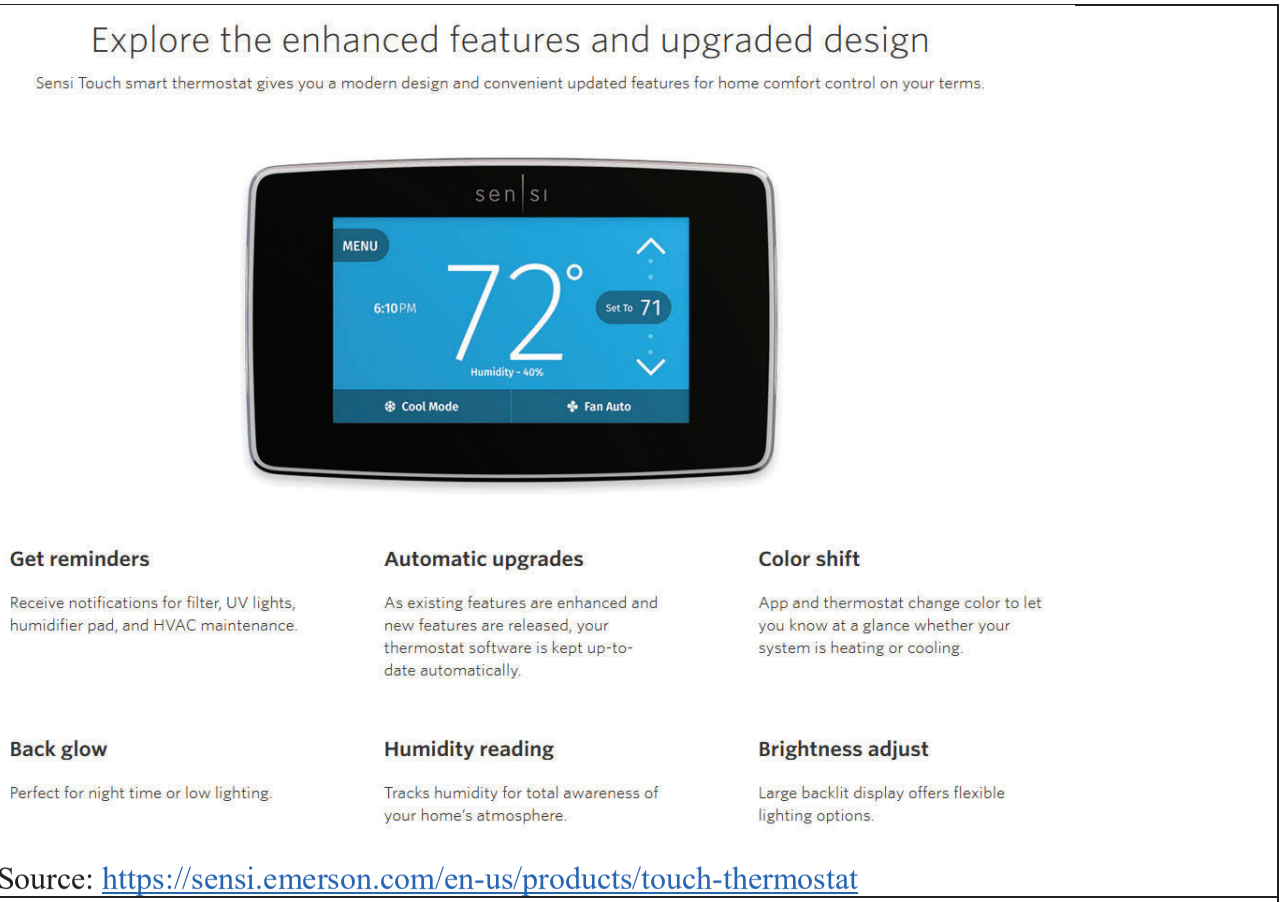


Source: https://sensi.emerson.com/en-us/blog/sensi-thermostat-app

Claim 20

Claim 20	Exemplary Infringement Evidence
[20pre] A method for providing power saving wireless communication within a building automation system, the method comprising:	To the extent the preamble is limiting, each Accused Product includes a method for providing power saving wireless communication within a building automation system. For example, each Accused Product (including the Emerson Sensi Touch Smart Thermostat (ST75)) only sends smart alerts under certain conditions. *See, e.g.*:

	Smart Alerts Are there smart alerts available with Sensi thermostats? Yes. Sensi does monitor your HVAC performance as long as the thermostat is online, and an email is generated when one of the following conditions occur: | Alert Name	Triggered | |---|---| | High Home Temperature | Temperature greater than 99°F | | Low Home Temperature | Temperature less than 45°F | | High Humidity | Humidity greater than 70% | | Loss of Heating | Room temperature goes down 5°F during a heating demand | | Loss of Cooling | Room temperature goes up 5°F during a cooling demand | High and low temperatures, as well as humidity smart alerts, are not adjustable. Loss of heating or loss of cooling smart alerts are based on your Sensi temperature setting. The email is sent to the email address registered to your Sensi account. If the condition that triggers a smart alert still exists after a period of time, you will receive follow up emails. Some alerts re-trigger daily, while others, weekly. **Note:** You can choose to opt out of smart alerts when signing up for a Sensi account. If you do choose to opt out when signing up but change your mind, you can always opt into alerts under **Email and Notifications** in your Sensi app. Source: https://sensi.emerson.com/en-us/support/email-alerts-related-to-my-hvac-system
[20a] scanning sensor data associated with each of a plurality of sensors contained within a multi-sensor package of a first automation component;	Each Accused Product comprises scanning sensor data associated with each of a plurality of sensors contained within a multi-sensor package of a first automation component. For example, each Accused Product (including the Emerson Sensi Touch Smart Thermostat (ST75)) scans data from at least humidity and temperature sensors. *See, e.g.*:

	 Source: https://sensi.emerson.com/en-us/products/touch-thermostat
[20b] identifying changed sensor values within the sensor data;	Each Accused Product comprises identifying changed sensor values within the sensor data. For example, each Accused Product (including the Emerson Sensi Touch Smart Thermostat (ST75)) can identify changed sensor values within the sensor data and trigger an alert when temperature and/or humidity values change outside a range. *See, e.g.*:

Smart Alerts

Are there smart alerts available with Sensi thermostats?

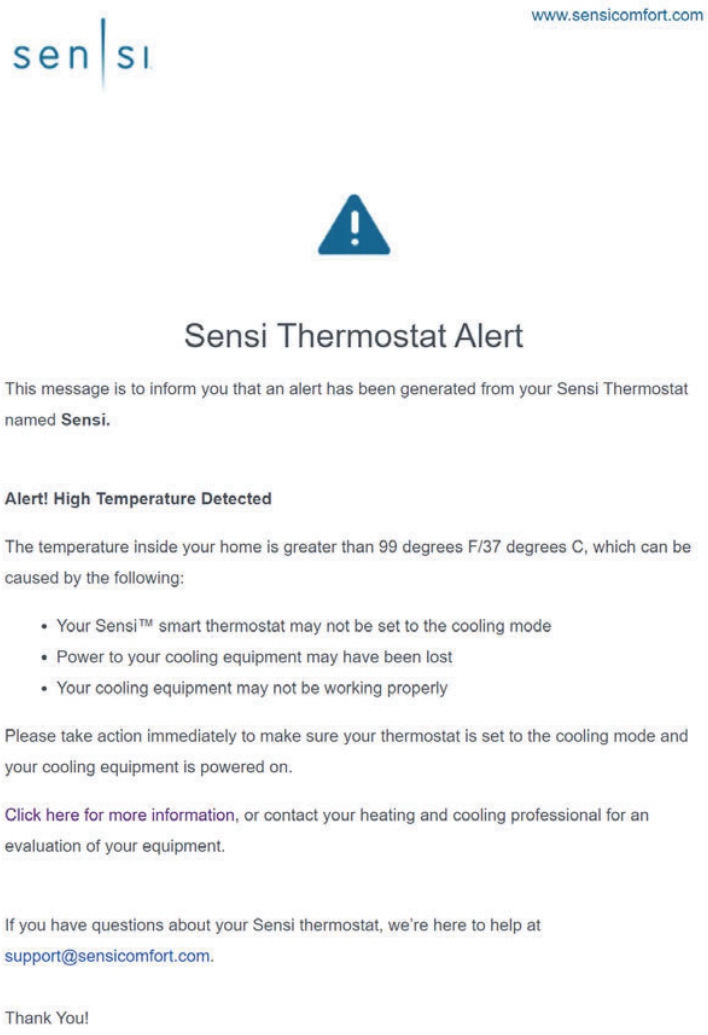
Yes. Sensi does monitor your HVAC performance as long as the thermostat is online, and an email is generated when one of the following conditions occur:

Alert Name	Triggered
High Home Temperature	Temperature greater than 99°F
Low Home Temperature	Temperature less than 45°F
High Humidity	Humidity greater than 70%
Loss of Heating	Room temperature goes down 5°F during a heating demand
Loss of Cooling	Room temperature goes up 5°F during a cooling demand

High and low temperatures, as well as humidity smart alerts, are not adjustable. Loss of heating or loss of cooling smart alerts are based on your Sensi temperature setting. The email is sent to the email address registered to your Sensi account. If the condition that triggers a smart alert still exists after a period of time, you will receive follow up emails. Some alerts re-trigger daily, while others, weekly.

Note: You can choose to opt out of smart alerts when signing up for a Sensi account. If you do choose to opt out when signing up but change your mind, you can always opt into alerts under **Email and Notifications** in your Sensi app.

Source: https://sensi.emerson.com/en-us/support/email-alerts-related-to-my-hvac-system



Screenshot of a high temperature alert email notification.

[20c] receiving a first communication from a second automation component in communication with the first automation component and the building automation system; and	Each Accused Product comprises receiving a first communication from a second automation component in communication with the first automation component and the building automation system. For example, each Accused Product (including the Emerson Sensi Touch Smart Thermostat (ST75)) can receive a first communication from a device running the Sensi app, a second automation component, to setup smart alert notifications. *See, e.g.*:

Smart Alerts

Are there smart alerts available with Sensi thermostats?

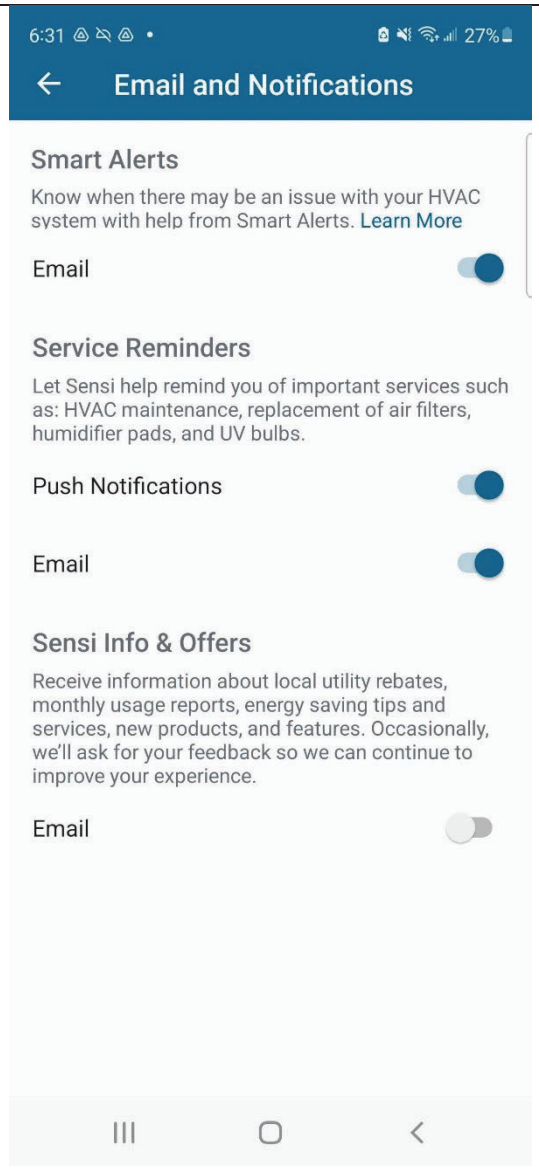
Yes. Sensi does monitor your HVAC performance as long as the thermostat is online, and an email is generated when one of the following conditions occur:

Alert Name	Triggered
High Home Temperature	Temperature greater than 99°F
Low Home Temperature	Temperature less than 45°F
High Humidity	Humidity greater than 70%
Loss of Heating	Room temperature goes down 5°F during a heating demand
Loss of Cooling	Room temperature goes up 5°F during a cooling demand

High and low temperatures, as well as humidity smart alerts, are not adjustable. Loss of heating or loss of cooling smart alerts are based on your Sensi temperature setting. The email is sent to the email address registered to your Sensi account. If the condition that triggers a smart alert still exists after a period of time, you will receive follow up emails. Some alerts re-trigger daily, while others, weekly.

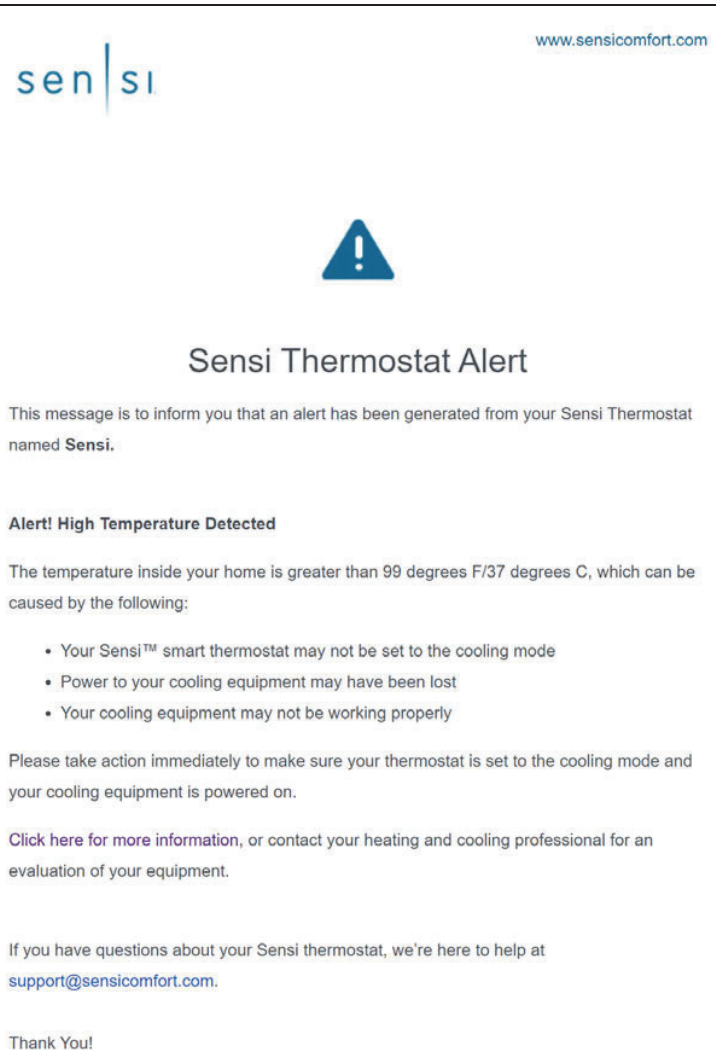
Note: You can choose to opt out of smart alerts when signing up for a Sensi account. If you do choose to opt out when signing up but change your mind, you can always opt into alerts under **Email and Notifications** in your Sensi app.

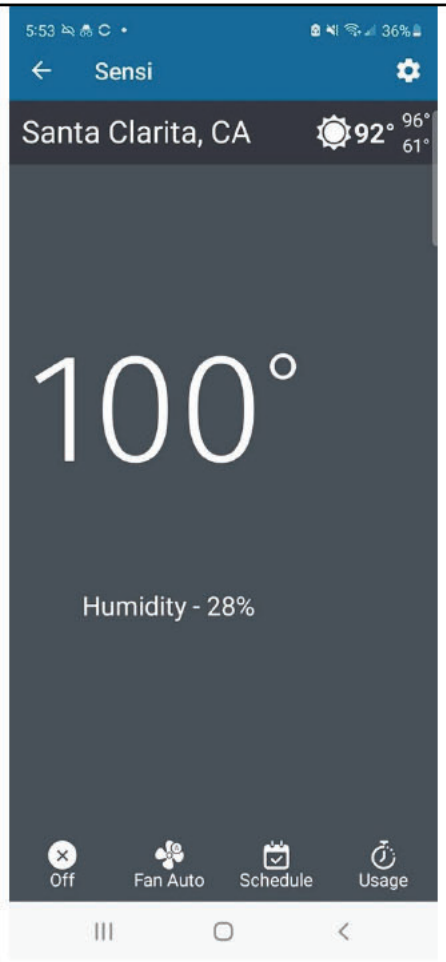
Source: https://sensi.emerson.com/en-us/support/email-alerts-related-to-my-hvac-system



Screenshot from the Sensi app showing the setting of alerts.

[20d] communicating a portion of the identified changed sensor values associated with the first communication received from the second automation component.	Each Accused Product comprises communicating a portion of the identified changed sensor values associated with the first communication received from the second automation component. For example, each Accused Product (including the Emerson Sensi Touch Smart Thermostat (ST75)) communicates values of temperature and/or humidity during an alert. *See, e.g.*:

	 Screenshot of a high temperature alert email notification.



Screenshot of the temperature communicated to the Sensi app during the high temperature alert.

Claim 21

Claim 21	Exemplary Infringement Evidence
[21] The method of claim 20, wherein identifying changed sensor values includes	Each Accused Product comprises the method of claim 20, wherein identifying changed sensor values includes identifying changed sensor values as a function of a change-of-value threshold.

identifying changed sensor values as a function of a change-of-value threshold.	For example, each Accused Product (including the Emerson Sensi Touch Smart Thermostat (ST75)) sends loss of heating or cooling alerts when the temperature changes by more than a change-of-value threshold of 5 degrees. *See, e.g.*: **Smart Alerts** Are there smart alerts available with Sensi thermostats? Yes. Sensi does monitor your HVAC performance as long as the thermostat is online, and an email is generated when one of the following conditions occur: | Alert Name	Triggered | |---|---| | High Home Temperature | Temperature greater than 99°F | | Low Home Temperature | Temperature less than 45°F | | High Humidity | Humidity greater than 70% | | Loss of Heating | Room temperature goes down 5°F during a heating demand | | Loss of Cooling | Room temperature goes up 5°F during a cooling demand | High and low temperatures, as well as humidity smart alerts, are not adjustable. Loss of heating or loss of cooling smart alerts are based on your Sensi temperature setting. The email is sent to the email address registered to your Sensi account. If the condition that triggers a smart alert still exists after a period of time, you will receive follow up emails. Some alerts re-trigger daily, while others, weekly. Source: https://sensi.emerson.com/en-us/support/email-alerts-related-to-my-hvac-system

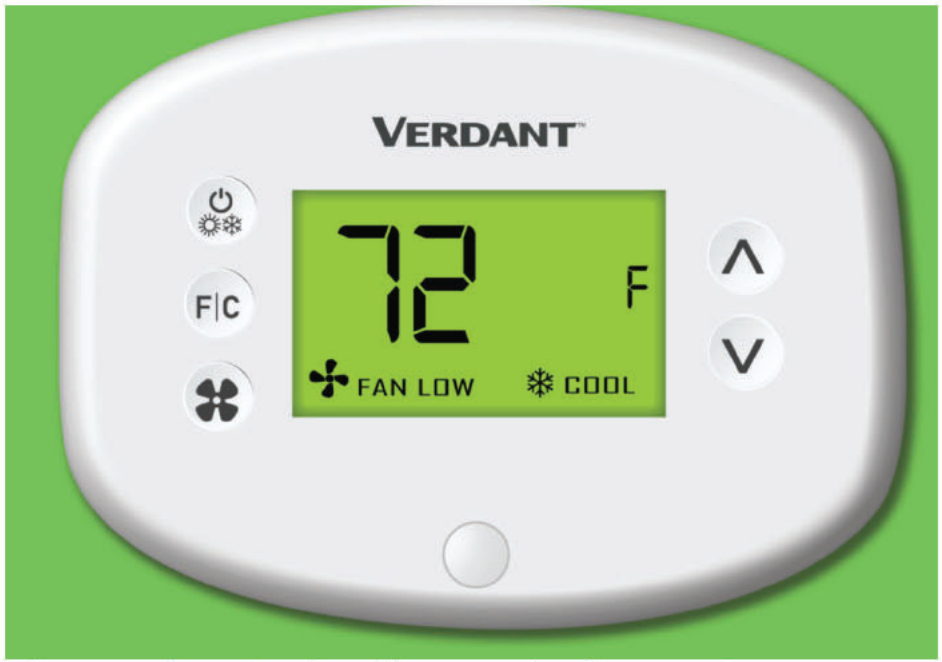
EXHIBIT B

Emerson's Infringement of U.S. Patent No. 8,224,282 ("'282 Patent")

Accused Products

Emerson products, including without limitation the Verdant VX Series and ZX Series Thermostats ("Accused Products"), infringe at least Claims 1, 2, 5, 7, 8, 11, 13, 14, and 17 of the '282 Patent.

Claim 1

Claim 1	Exemplary Infringement Evidence
[1pre] An automation component configured for wireless communication within a building automation system, the automation component comprising:	To the extent the preamble is limiting, each Accused Product includes an automation component configured for wireless communication within a building automation system. For example, each Accused Product (including the Verdant VX Thermostat) is an automation component configured for wireless communication within a building automation system. *See, e.g.*:  Source: https://www.verdant.co/products/thermostats/vx-thermostat/

	Built-in wireless mesh-networking enables optional remote management features. Fully configurable settings allow for customization of energy savings to fit any situation. ■ **Temperature Setback** automatically adjusts the temperature when rooms are unoccupied to save energy. Source: https://www.verdant.co/wp-content/uploads/2018/08/VX-TW-KT-W-SpecSheet.pdf "Auto Changeover Set Point Offset" - the difference between the guest-selected set point and the heat and cool changeover temperatures; "1st Stage Differential - Heat" - the temperature that the thermostat has to sense between the automatic changeover temperature for heat and the room temperature before a call for the 1st stage heating is initiated; Source: https://fccid.io/XEYWX-DB/User-Manual/Manual-5127106.pdf
[1a] a multi-sensor package configured to detect a plurality of variables and generate sensor data for each detected variable;	Each Accused Product comprises a multi-sensor package configured to detect a plurality of variables and generate sensor data for each detected variable. For example, each Accused Product (including the Verdant VX Thermostat) includes at least temperature, humidity, and occupancy sensors. *See, e.g.*: The Verdant VX Series thermostat delivers unprecedented energy savings without compromising guest comfort. An Integrated occupancy sensor allows for energy saving when rooms are unoccupied.

Occupancy Sensor Beam Width	±47° (94°)
Wireless Frequency	902-928MHz
Temperature Accuracy	±1°F

Source: https://www.verdant.co/wp-content/uploads/2021/09/VX-TW-KT-W.pdf

- Temperature Recovery allows for setting a maximum time permitted for establishing a comfortable room temperature.
- Setback Optimization monitors the temperature recovery rate and optimizes setback temperatures.
- Setback Limits control the maximum and minimum room temperature when a room is in setback mode.
- Set Point Limits prevent guests from setting the room temperature to extreme, energy-wasting levels.

Source: https://www.verdant.co/wp-content/uploads/2021/09/VX-TW-KT-W.pdf

VERDANT THERMOSTAT COMPARISON

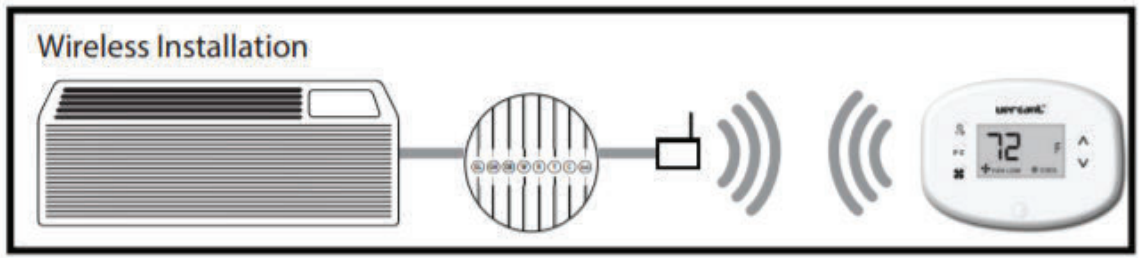
	Verdant ZX	Verdant VX
Wired	Yes	Yes
WIreless	Yes	Yes
Occupancy Detection	Yes	Yes
Night Occupancy Mode	Yes	Yes
Dynamic Intelligent Recovery	Yes	Yes
Display	e-paper	LCD
Online Management	Yes	Yes*
Humidity Control	Yes	Yes

Source: https://d1-auth.climate.emerson.com/en-us/products/thermostats/thermostats

Functionality	Sensor Functionality Code
Occupancy Sensor	100
Sensor with Magnetic door switch	010*
Temperature Sensor	001

Source: https://fccid.io/XEYWX-DB/User-Manual/Manual-5127106.pdf

[1b] a wireless communications component;	Each Accused Product comprises a wireless communications component. For example, each Accused Product (including the Verdant VX Thermostat) contains a wireless communications component.

	See, e.g.: Built-in wireless mesh-networking enables optional online management features. Fully configurable settings allow for customization of energy savings to fit any situation. Source: https://www.verdant.co/wp-content/uploads/2021/09/VX-TW-KT-W.pdf Wireless Frequency 902-928MHz 902-928MHz Source: https://www.verdant.co/wp-content/uploads/2021/09/VX-TW-KT-W.pdf
[1c] a processor in communication with the wireless communications component and the sensor package;	Each Accused Product comprises a processor in communication with the wireless communications component and the sensor package. For example, each Accused Product (including the Verdant VX Thermostat) contains a processor that is in communication with the wireless communications component and the sensor package. *See, e.g.*:  Source: https://www.verdant.co/wp-content/uploads/2018/08/VX-TW-KT-W-SpecSheet.pdf

	Discovering an Active Sensor  The thermostat will display the first sensor discovered in the pairing process. Ensure that the unique device number displayed on the screen matches the unique ID found on the sensor. ➤ Press the F|C button to pair the discovered sensor to the HVAC Controller. ➤ Repeat this process as necessary for additional sensors. Source: https://fccid.io/XEYWX-DB/User-Manual/Manual-5127106.pdf
[1d] a memory in communication with the processor, the memory configured to store sensor data provided by the sensor package and computer readable instructions which are executable by the processor; wherein the computer readable instructions are programmed to:	Each Accused Product comprises a memory in communication with the processor, the memory configured to store sensor data provided by the sensor package and computer readable instructions which are executable by the processor. For example, each Accused Product (including the Verdant VX Thermostat) contains memory that stores sensor data that is collected by the sensor package. For example, the Verdant VX Thermostat contains memory that stores sensor data related to at least temperature, humidity, and occupancy. *See, e.g.*:

	■ **Temperature Setback** automatically adjusts the temperature when rooms are unoccupied to save energy. ■ **Temperature Recovery** allows for setting a maximum time permitted for establishing a comfortable room temperature. ■ **Setback Optimization** monitors the temperature recovery rate and optimizes setback temperatures. Source: https://www.verdant.co/wp-content/uploads/2018/08/VX-TW-KT-W-SpecSheet.pdf "Auto Restore On" - thermostat will restore the most recent guest settings when new occupancy is detected; "Auto Restore Off" - thermostat will NOT restore the most recent guest and will remain turned off settings when new occupancy is detected; Source: https://fccid.io/XEYWX-DB/User-Manual/Manual-5127106.pdf
[1d.1] receive sensor control information related to sensor data in control at a second automation component in communication with the building automation system; and	In each Accused Product, the computer readable instructions are programmed to receive sensor control information related to sensor data in control at a second automation component in communication with the building automation system. For example, each Accused Product (including the Verdant VX Thermostat) can be paired with each other and a Verdant Online Connection Kit in order to receive sensor control information from a second automation component running the Verdant EI app. *See, e.g.*:

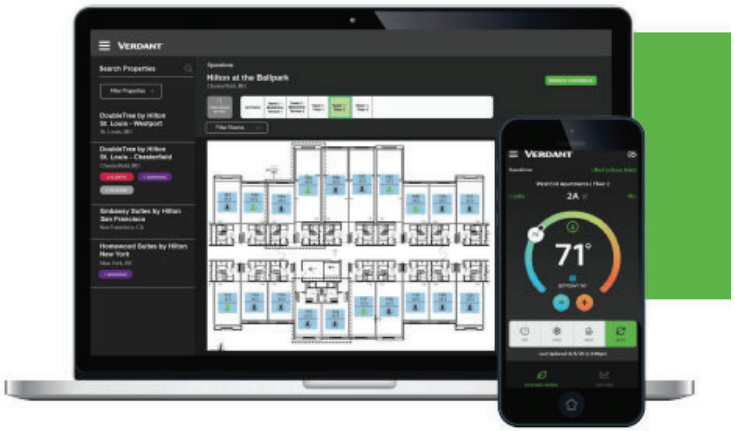
Verdant's Proprietary 900MHz Communication Protocol

All Verdant thermostats and accessories are networked and automatically form a deep mesh network, thereby enabling centralized control of all thermostats in a building from a cloud-based owner console.

All thermostats and accessories communicate via 900MHz (RF) to one another, and each thermostat acts as a node in the network, thereby boosting the signal throughout the building. The data from each thermostat is received by the Online Connection Kit (OL-KT), which is hard-wired via ethernet cable to an open internet port on property.

Source: https://www.verdant.co/knowledge-base/900mhz-protocol/

Monitor Your HVAC System from Anywhere



Verdant EI™ includes a cloud-based dashboard and smartphone app to help you monitor your property in real-time and change unocupied settings on the fly:

SAVINGS DASHBOARD

Login to your portal and monitor your real-time or historical savings data. If you manage various properties, segment your savings by property, brand, size, etc.

ROOM OCCUPANCY

Allow your maintenance staff to identify any room requiring special attention. It also gives your housekeeping staff real-time occupancy status eliminating guest disruptions while cleaning rooms.

OPERATIONS

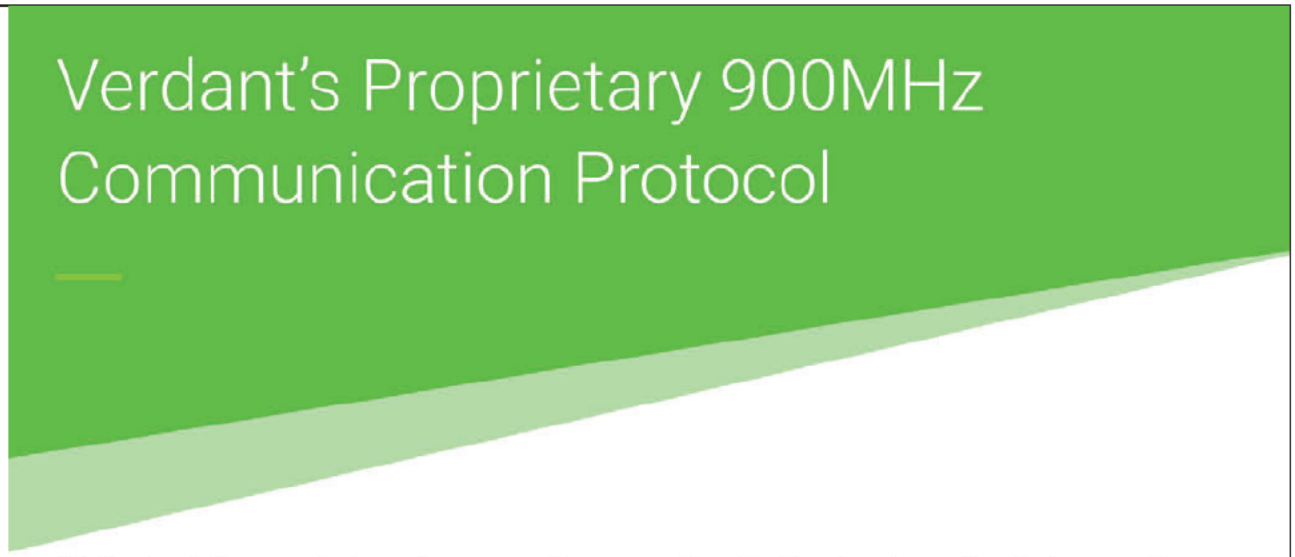
See each thermostat laid out on your floor plan and check current room temperature. Instantaneously adjust each room's setpoint when rooms are unoccupied and monitor humidity levels to prevent guest complaints.

USER MANAGEMENT

Easily add & remove staff access and adjust user permissions for each of your properties.

Source: https://www.verdant.co/wp-content/uploads/2021/09/Verdant-EI-Hospitality-brochure_Sep2021.pdf

	 Source: https://www.verdant.co/ei/
[1d.2] communicate a portion of the stored sensor data corresponding to the received sensor control information to the second automation component.	In each Accused Product, the computer readable instructions are programmed to communicate a portion of the stored sensor data corresponding to the received sensor control information to the second automation component. For example, each Accused Product (including the Verdant VX Thermostat) communicates stored sensor data to the Verdant EI app. *See, e.g.*:

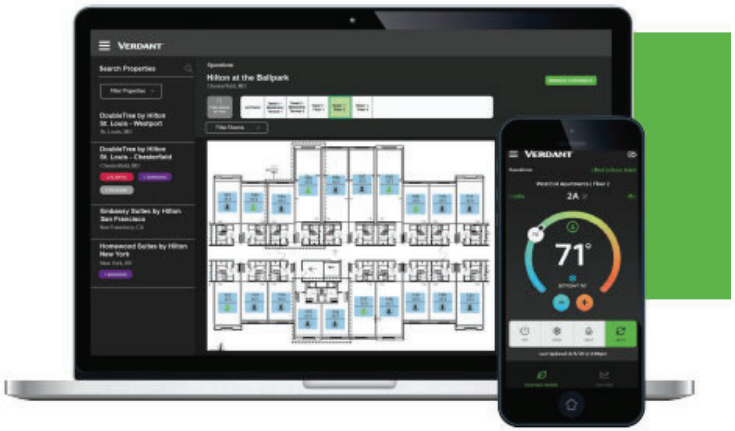


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Source: https://www.verdant.co/knowledge-base/900mhz-protocol/
https://www.verdant.co/knowledge-base/900mhz-protocol/

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Allow your maintenance staff to identify any room requiring special attention. It also gives your housekeeping staff real-time occupancy status eliminating guest disruptions while cleaning rooms.

OPERATIONS

See each thermostat laid out on your floor plan and check current room temperature. Instantaneously adjust each room's setpoint when rooms are unoccupied and monitor humidity levels to prevent guest complaints.

USER MANAGEMENT

Easily add & remove staff access and adjust user permissions for each of your properties.

Source: https://www.verdant.co/wp-content/uploads/2021/09/Verdant-EI-Hospitality-brochure_Sep2021.pdf



Source: https://www.verdant.co/ei/

Claim 2

Claim 2	Exemplary Infringement Evidence
[2] The automation component of claim 1, wherein the sensor package includes one or more sensors selected from the group consisting of: a temperature sensor; a humidity sensor; a carbon monoxide sensor; a carbon dioxide sensor and a volatile organic compound sensor.	Each Accused Product comprises the automation component of claim 1, wherein the sensor package includes one or more sensors selected from the group consisting of: a temperature sensor; a humidity sensor; a carbon monoxide sensor; a carbon dioxide sensor and a volatile organic compound sensor. For example, each Accused Product (including the Verdant VX Thermostat) includes temperature and humidity sensors. *See, e.g.*:

The Verdant VX Series thermostat delivers unprecedented energy savings without compromising guest comfort. An Integrated occupancy sensor allows for energy saving when rooms are unoccupied.

Occupancy Sensor Beam Width	±47° (94°)
Wireless Frequency	902-928MHz
Temperature Accuracy	±1°F

Source: https://www.verdant.co/wp-content/uploads/2021/09/VX-TW-KT-W.pdf

- Temperature Recovery allows for setting a maximum time permitted for establishing a comfortable room temperature.
- Setback Optimization monitors the temperature recovery rate and optimizes setback temperatures.
- Setback Limits control the maximum and minimum room temperature when a room is in setback mode.
- Set Point Limits prevent guests from setting the room temperature to extreme, energy-wasting levels.

Source: https://www.verdant.co/wp-content/uploads/2021/09/VX-TW-KT-W.pdf

VERDANT THERMOSTAT COMPARISON

	Verdant ZX	Verdant VX
Wired	Yes	Yes
WIreless	Yes	Yes
Occupancy Detection	Yes	Yes
Night Occupancy Mode	Yes	Yes
Dynamic Intelligent Recovery	Yes	Yes
Display	e-paper	LCD
Online Management	Yes	Yes*
Humidity Control	Yes	Yes

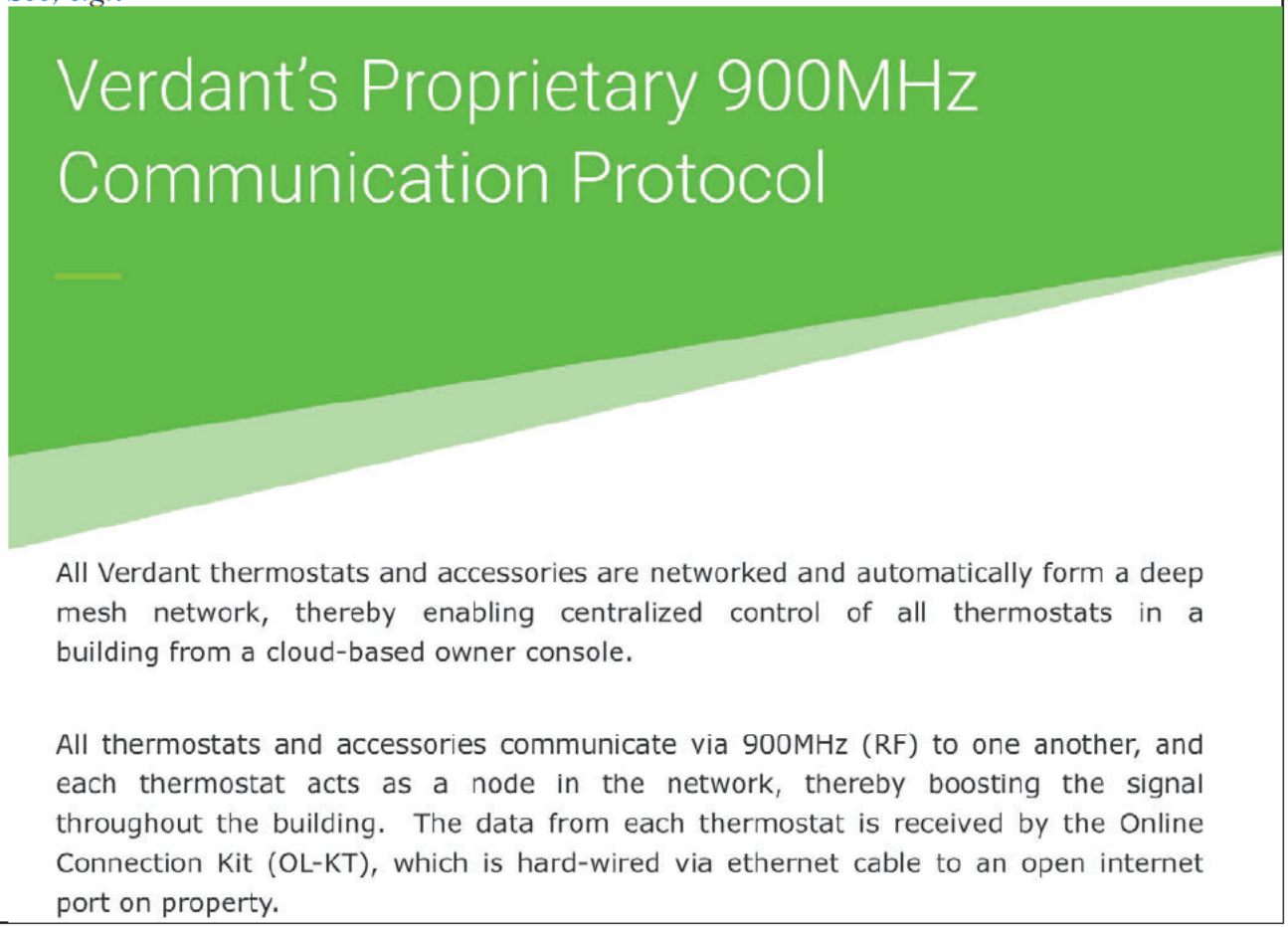
Source: https://d1-auth.climate.emerson.com/en-us/products/thermostats/thermostats

Functionality	Sensor Functionality Code
Occupancy Sensor	100
Sensor with Magnetic door switch	010*
Temperature Sensor	001

Source: https://fccid.io/XEYWX-DB/User-Manual/Manual-5127106.pdf

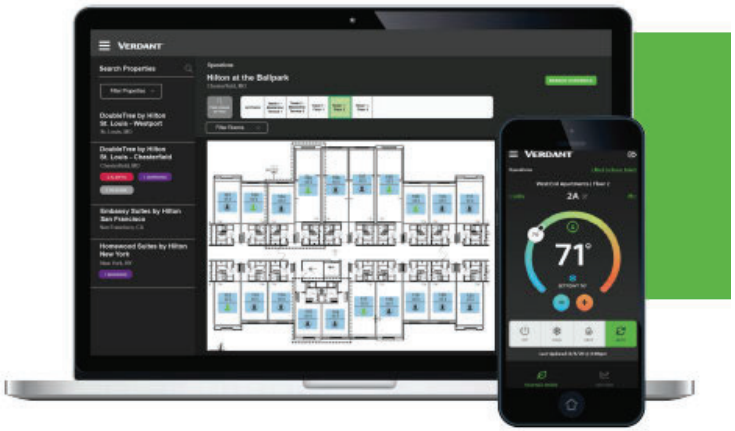
Claim 5

Claim 5	Accused Products

[5] The automation component of claim 1, wherein the computer readable instructions are further programmed to: communicate all of the stored sensor data corresponding to the received sensor control information to the second automation component.	Each Accused Product comprises the automation component of claim 1, wherein the computer readable instructions are further programmed to communicate all of the stored sensor data corresponding to the received sensor control information to the second automation component. For example, all stored sensor data corresponding to the received sensor control information from the the Accused Product is communicated to the Verdant EI app. *See, e.g.*: 

	Source: https://www.verdant.co/knowledge-base/900mhz-protocol/ https://www.verdant.co/knowledge-base/900mhz-protocol/

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ROOM OCCUPANCY

Allow your maintenance staff to identify any room requiring special attention. It also gives your housekeeping staff real-time occupancy status eliminating guest disruptions while cleaning rooms.



OPERATIONS

See each thermostat laid out on your floor plan and check current room temperature. Instantaneously adjust each room's setpoint when rooms are unoccupied and monitor humidity levels to prevent guest complaints.

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Easily add & remove staff access and adjust user permissions for each of your properties.

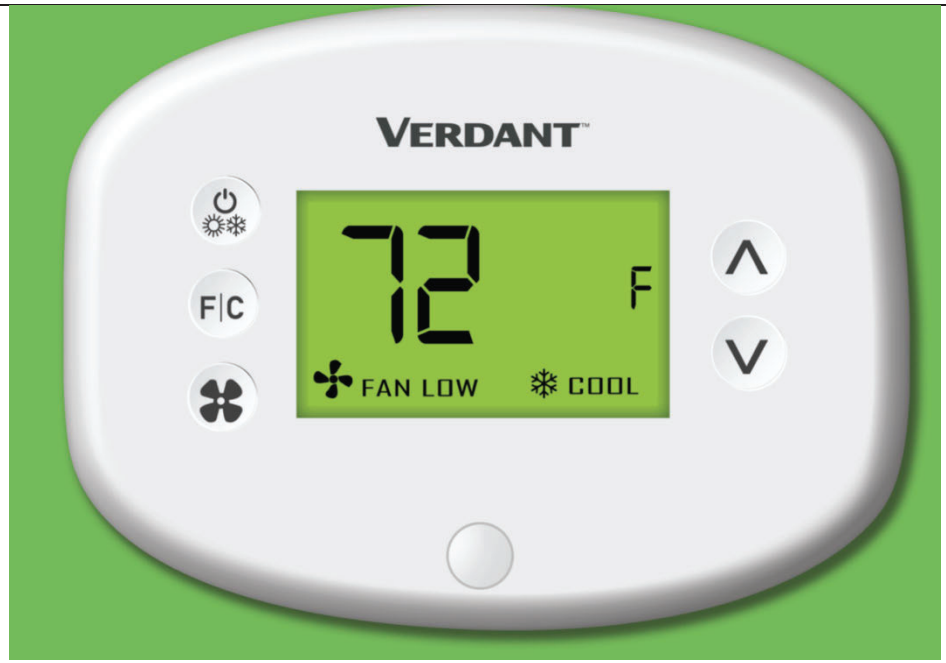
Source: https://www.verdant.co/wp-content/uploads/2021/09/Verdant-EI-Hospitality-brochure_Sep2021.pdf



Source: https://www.verdant.co/ei/

Claim 7

Claim 7	Exemplary Infringement Evidence
[7pre] An automation component configured for wireless communication within a building automation system, the automation component comprising:	To the extent the preamble is limiting, each Accused Product includes an automation component configured for wireless communication within a building automation system. For example, each Accused Product (including the Verdant VX Thermostat) is an automation component configured for wireless communication within a building automation system. *See, e.g.*:



Source: https://www.verdant.co/products/thermostats/vx-thermostat/

Built-in wireless mesh-networking enables optional remote management features.

Fully configurable settings allow for customization of energy savings to fit any situation.

- **Temperature Setback** automatically adjusts the temperature when rooms are unoccupied to save energy.

Source: https://www.verdant.co/wp-content/uploads/2018/08/VX-TW-KT-W-SpecSheet.pdf

	"Auto Changeover Set Point Offset" - the difference between the guest-selected set point and the heat and cool changeover temperatures; "1st Stage Differential - Heat" - the temperature that the thermostat has to sense between the automatic changeover temperature for heat and the room temperature before a call for the 1st stage heating is initiated; Source: https://fccid.io/XEYWX-DB/User-Manual/Manual-5127106.pdf
[7a] a multi-sensor package configured to generate a plurality of sensor data for each sensor within the multi-sensor package;	Each Accused Product comprises a multi-sensor package configured to generate a plurality of sensor data for each sensor within the multi-sensor package. For example, each Accused Product (including the Verdant VX Thermostat) includes at least temperature, humidity, and occupancy sensors. *See, e.g.*: The Verdant VX Series thermostat delivers unprecedented energy savings without compromising guest comfort. An Integrated occupancy sensor allows for energy saving when rooms are unoccupied. Occupancy Sensor Beam Width: ±47° (94°) Wireless Frequency: 902-928MHz Temperature Accuracy: ±1°F Source: https://www.verdant.co/wp-content/uploads/2021/09/VX-TW-KT-W.pdf

	▫ Temperature Recovery allows for setting a maximum time permitted for establishing a comfortable room temperature. ▫ Setback Optimization monitors the temperature recovery rate and optimizes setback temperatures. ▫ Setback Limits control the maximum and minimum room temperature when a room is in setback mode. ▫ Set Point Limits prevent guests from setting the room temperature to extreme, energy-wasting levels. Source: https://www.verdant.co/wp-content/uploads/2021/09/VX-TW-KT-W.pdf

VERDANT THERMOSTAT COMPARISON

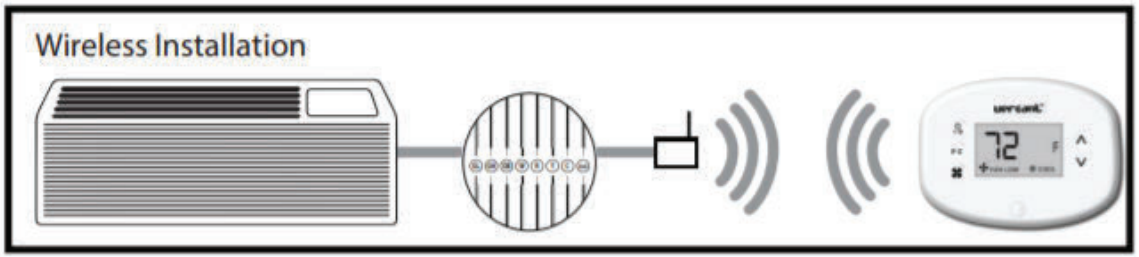
	Verdant ZX	Verdant VX
Wired	Yes	Yes
WIreless	Yes	Yes
Occupancy Detection	Yes	Yes
Night Occupancy Mode	Yes	Yes
Dynamic Intelligent Recovery	Yes	Yes
Display	e-paper	LCD
Online Management	Yes	Yes*
Humidity Control	Yes	Yes

Source: https://d1-auth.climate.emerson.com/en-us/products/thermostats/thermostats

Functionality	Sensor Functionality Code
Occupancy Sensor	100
Sensor with Magnetic door switch	010*
Temperature Sensor	001

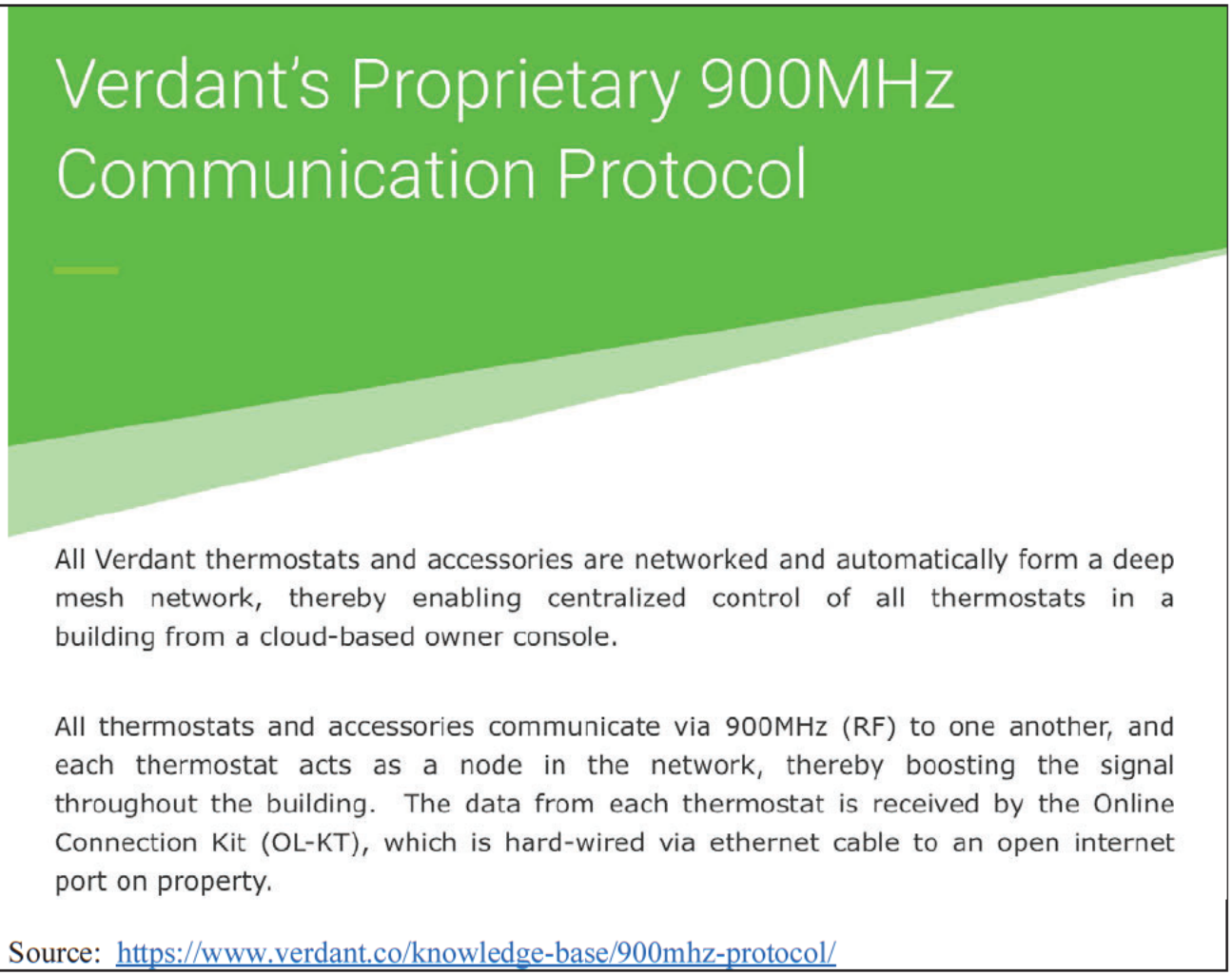
Source: https://fccid.io/XEYWX-DB/User-Manual/Manual-5127106.pdf

[7b] a wireless communications component;	Each Accused Product comprises a wireless communications component. For example, each Accused Product (including the Verdant VX Thermostat) contains a wireless communications component.

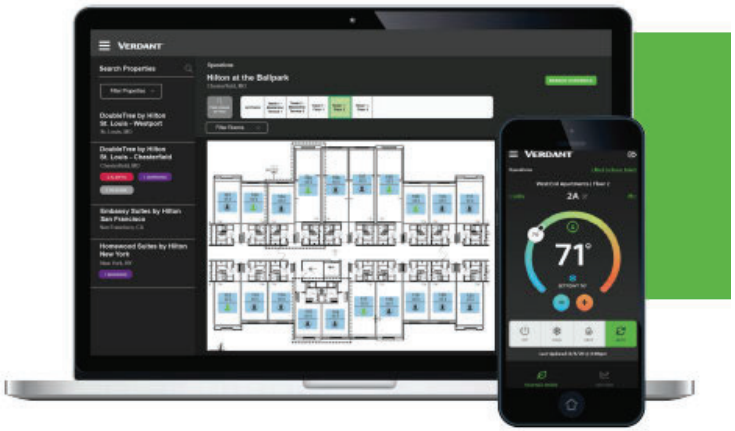
	See, e.g.: Built-in wireless mesh-networking enables optional online management features. Fully configurable settings allow for customization of energy savings to fit any situation. Source: https://www.verdant.co/wp-content/uploads/2021/09/VX-TW-KT-W.pdf Wireless Frequency 902-928MHz 902-928MHz Source: https://www.verdant.co/wp-content/uploads/2021/09/VX-TW-KT-W.pdf
[7c] a processor in communication with the wireless communications component and the sensor package;	Each Accused Product comprises a processor in communication with the wireless communications component and the sensor package. For example, each Accused Product (including the Verdant VX Thermostat) contains a processor that is in communication with the wireless communications component and the sensor package. *See, e.g.*:  Source: https://www.verdant.co/wp-content/uploads/2018/08/VX-TW-KT-W-SpecSheet.pdf

	Discovering an Active Sensor  The thermostat will display the first sensor discovered in the pairing process. Ensure that the unique device number displayed on the screen matches the unique ID found on the sensor. ➤ Press the F|C button to pair the discovered sensor to the HVAC Controller. ➤ Repeat this process as necessary for additional sensors. Source: https://fccid.io/XEYWX-DB/User-Manual/Manual-5127106.pdf
[7d] a memory in communication with the processor, the memory configured to store sensor data provided by the sensor package and computer readable instructions which are executable by the processor; wherein the computer readable instructions are programmed to:	Each Accused Product comprises a memory in communication with the processor, the memory configured to store sensor data provided by the sensor package and computer readable instructions which are executable by the processor. For example, each Accused Product (including the Verdant VX Thermostat) contains memory that stores sensor data that is collected by the sensor package. For example, the Verdant VX Thermostat contains memory that stores sensor data related to at least temperature, humidity, and occupancy. *See, e.g.*:

	■ **Temperature Setback** automatically adjusts the temperature when rooms are unoccupied to save energy. ■ **Temperature Recovery** allows for setting a maximum time permitted for establishing a comfortable room temperature. ■ **Setback Optimization** monitors the temperature recovery rate and optimizes setback temperatures. Source: https://www.verdant.co/wp-content/uploads/2018/08/VX-TW-KT-W-SpecSheet.pdf "Auto Restore On" - thermostat will restore the most recent guest settings when new occupancy is detected; "Auto Restore Off" - thermostat will NOT restore the most recent guest and will remain turned off settings when new occupancy is detected; Source: https://fccid.io/XEYWX-DB/User-Manual/Manual-5127106.pdf
[7d.1] receive status data related to sensor data in control at a second automation component in communication with the building automation system;	In each Accused Product, the computer readable instructions are programmed to receive status data related to sensor data in control at a second automation component in communication with the building automation system. For example, each Accused Product (including the Verdant VX Thermostat) can be paired with each other and a Verdant Online Connection Kit in order to receive status data related to sensor data in control from a second automation component running the Verdant EI app. For example, the status data may include the selection of a temperature control mode using temperature data or automatic humidity control mode using humidity data. *See, e.g.*:


Verdant's Proprietary 900MHz Communication Protocol
All Verdant thermostats and accessories are networked and automatically form a deep mesh network, thereby enabling centralized control of all thermostats in a building from a cloud-based owner console.
All thermostats and accessories communicate via 900MHz (RF) to one another, and each thermostat acts as a node in the network, thereby boosting the signal throughout the building. The data from each thermostat is received by the Online Connection Kit (OL-KT), which is hard-wired via ethernet cable to an open internet port on property.
Source: https://www.verdant.co/knowledge-base/900mhz-protocol/

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ROOM OCCUPANCY

Allow your maintenance staff to identify any room requiring special attention. It also gives your housekeeping staff real-time occupancy status eliminating guest disruptions while cleaning rooms.



OPERATIONS

See each thermostat laid out on your floor plan and check current room temperature. Instantaneously adjust each room's setpoint when rooms are unoccupied and monitor humidity levels to prevent guest complaints.

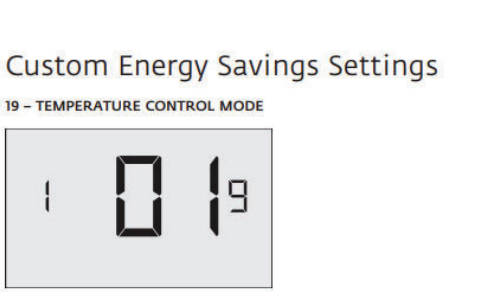
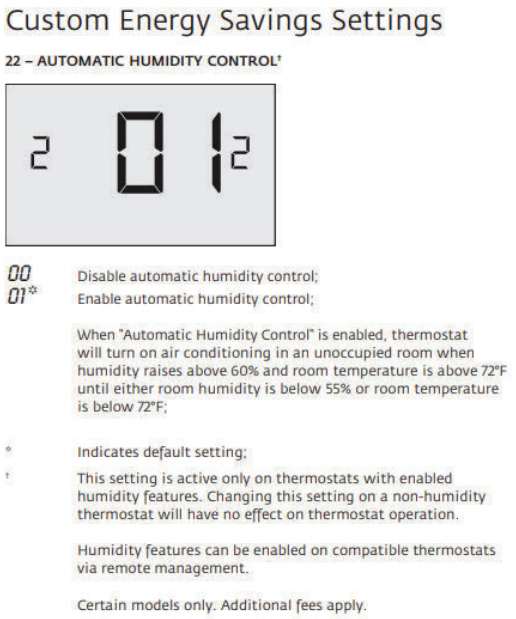
USER MANAGEMENT

Easily add & remove staff access and adjust user permissions for each of your properties.

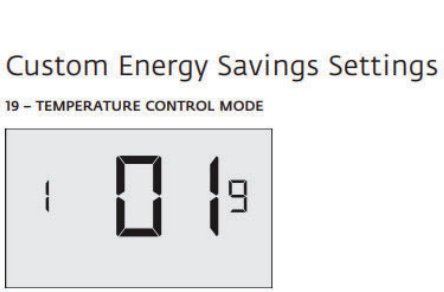
Source: https://www.verdant.co/wp-content/uploads/2021/09/Verdant-EI-Hospitality-brochure_Sep2021.pdf

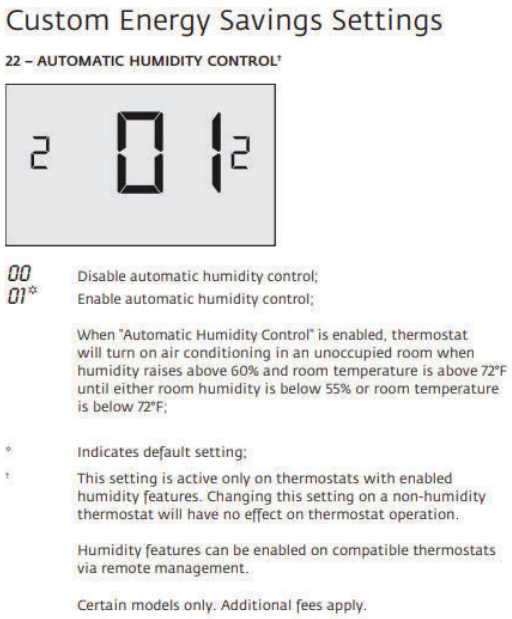
	VIEW ENERGY SAVINGS IN REAL TIME The energy management dashboard gives you access to energy savings data at the property, floor, or room level. **MONITOR EQUIPMENT EFFICIENCY** Diagnose and perform maintenance on inefficient HVAC equipment by monitoring runtimes in each unique room. **COMPLETE HOUSEKEEPING TASKS QUICKLY** With access to real-time occupancy information, housekeeping staff can identify empty rooms, performing daily tasks quickly without knocking on doors or disturbing guest comfort.  **MANAGE SETTINGS FROM ANYWHERE** The Verdant EI™ app allows you to remotely change temperature, set rooms to VIP mode, and allocate user permissions from any internet connected device. **ASSIGN USER PERMISSIONS** Ensure your employees have access to only the tools they need to do their jobs effectively. **RECEIVE DAILY NOTIFICATIONS** Customize your alert settings to get daily, weekly, or monthly updates about energy savings at your property. Source: https://www.verdant.co/ei/

	 Source: https://www.verdant.co/knowledge-base/patented-features/

	  Source: https://www.manualslib.com/manual/1509053/Verdant-Vx-Series.html?page=1#manual
[7d.2] determine the sensor data in control at the second automation component based on the received status data; and	In each Accused Product, the computer readable instructions are programmed to determine the sensor data in control at the second automation component based on the received status data. For example, each Accused Product (including the Verdant VX Thermostat) is able to determine whether to use temperature data if a temperature setpoint is enabled or humidity data if automatic humidity control is enabled. *See, e.g.*:

	Min & Max Setback limits The temperature threshold (in degrees) upon which the thermostat activates heating or cooling in an unoccupied room. **Humidity Control** The threshold (in percentage) at which the air conditioner will activate fan and air conditioning to mitigate humidity in a room. Source: https://www.verdant.co/knowledge-base/patented-features/

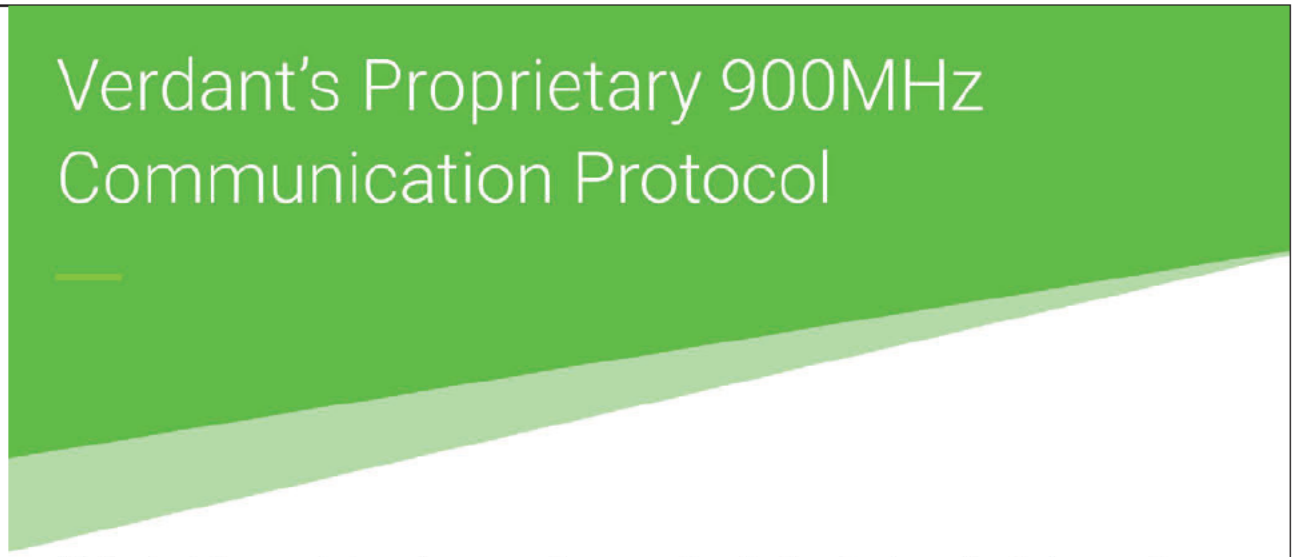
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Source: https://www.manualslib.com/manual/1509053/Verdant-Vx-Series.html?page=1#manual</td>
</tr>
<tr>
<td>[7d.3] communicate the stored sensor data corresponding the sensor data in control to the second automation component.</td>
<td>In each Accused Product, the computer readable instructions are programmed to communicate the stored sensor data corresponding the sensor data in control to the second automation component.

For example, each Accused Product (including the Verdant VX Thermostat) communicates stored sensor data to the Verdant EI app.

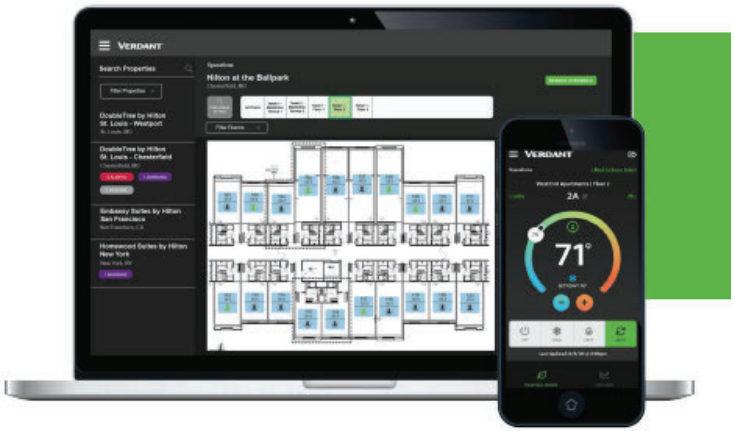
See, e.g.:</td>
</tr>
</table>



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OPERATIONS

See each thermostat laid out on your floor plan and check current room temperature. Instantaneously adjust each room's setpoint when rooms are unoccupied and monitor humidity levels to prevent guest complaints.

USER MANAGEMENT

Easily add & remove staff access and adjust user permissions for each of your properties.

Source: https://www.verdant.co/wp-content/uploads/2021/09/Verdant-EI-Hospitality-brochure_Sep2021.pdf

	VIEW ENERGY SAVINGS IN REAL TIME The energy management dashboard gives you access to energy savings data at the property, floor, or room level. MONITOR EQUIPMENT EFFICIENCY Diagnose and perform maintenance on inefficient HVAC equipment by monitoring runtimes in each unique room. COMPLETE HOUSEKEEPING TASKS QUICKLY With access to real-time occupancy information, housekeeping staff can identify empty rooms, performing daily tasks quickly without knocking on doors or disturbing guest comfort.  MANAGE SETTINGS FROM ANYWHERE The Verdant EI™ app allows you to remotely change temperature, set rooms to VIP mode, and allocate user permissions from any internet connected device. ASSIGN USER PERMISSIONS Ensure your employees have access to only the tools they need to do their jobs effectively. RECEIVE DAILY NOTIFICATIONS Customize your alert settings to get daily, weekly, or monthly updates about energy savings at your property. Source: https://www.verdant.co/ei/

Claim 8

Claim 8	Exemplary Infringement Evidence
[8] The automation component of claim 7, wherein the sensor package includes one or more sensors selected from the group consisting of: a temperature sensor; a humidity sensor; a carbon monoxide sensor; a carbon dioxide sensor and a volatile organic compound sensor.	Each Accused Product comprises the automation component of claim 7, wherein the sensor package includes one or more sensors selected from the group consisting of: a temperature sensor; a humidity sensor; a carbon monoxide sensor; a carbon dioxide sensor and a volatile organic compound sensor. For example, each Accused Product (including the Verdant VX Thermostat) includes temperature and humidity sensors. *See, e.g.*:

The Verdant VX Series thermostat delivers unprecedented energy savings without compromising guest comfort. An Integrated occupancy sensor allows for energy saving when rooms are unoccupied.

Occupancy Sensor Beam Width	±47° (94°)
Wireless Frequency	902-928MHz
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Source: https://www.verdant.co/wp-content/uploads/2021/09/VX-TW-KT-W.pdf

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Wired	Yes	Yes
WIreless	Yes	Yes
Occupancy Detection	Yes	Yes
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Dynamic Intelligent Recovery	Yes	Yes
Display	e-paper	LCD
Online Management	Yes	Yes*
Humidity Control	Yes	Yes

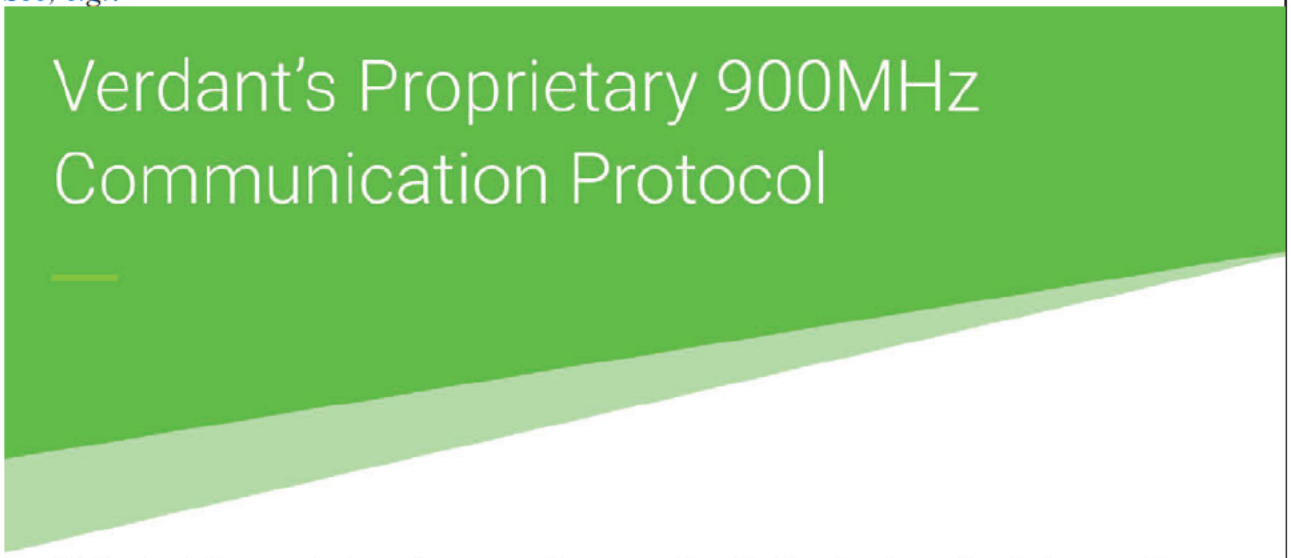
Source: https://d1-auth.climate.emerson.com/en-us/products/thermostats/thermostats

Functionality	Sensor Functionality Code
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Sensor with Magnetic door switch	010*
Temperature Sensor	001

Source: https://fccid.io/XEYWX-DB/User-Manual/Manual-5127106.pdf

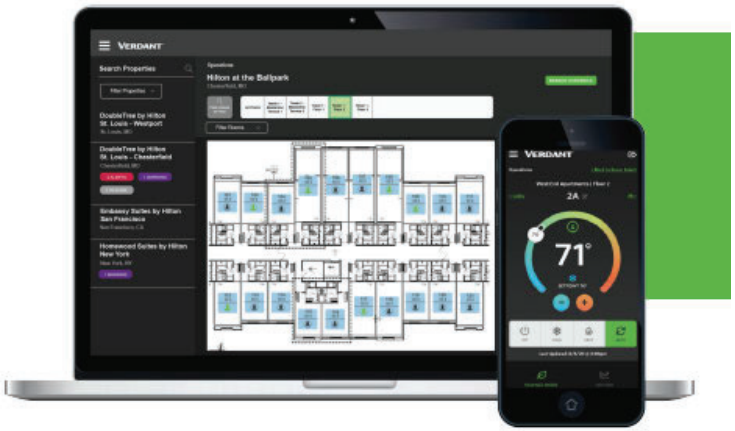
Claim 11

Claim 11	Exemplary Infringement Evidence

[11] The automation component of claim 7, wherein the computer readable instructions are further programmed to: communicate all of the stored sensor data corresponding to the received status information to the second automation component.	Each Accused Product comprises the automation component of claim 7, wherein the computer readable instructions are further programmed to communicate all of the stored sensor data corresponding to the received status information to the second automation component. For example, all stored sensor data corresponding to the received status information from the Accused Product is communicated to the Verdant EI app. *See, e.g.*: 

	Source: https://www.verdant.co/knowledge-base/900mhz-protocol/ https://www.verdant.co/knowledge-base/900mhz-protocol/

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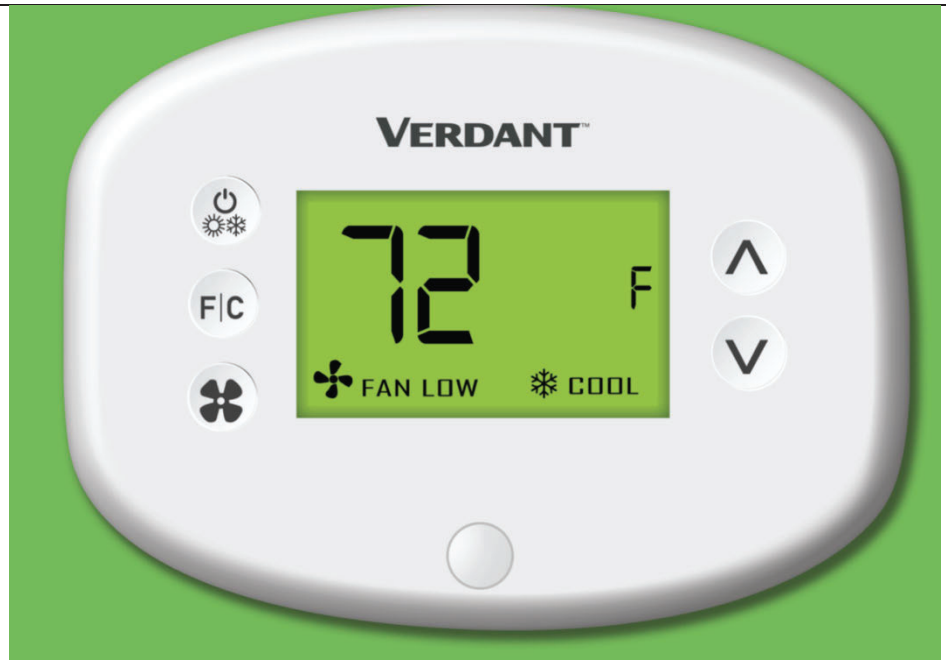
Source: https://www.verdant.co/wp-content/uploads/2021/09/Verdant-EI-Hospitality-brochure_Sep2021.pdf



Source: https://www.verdant.co/ei/

Claim 13

Claim 13	Exemplary Infringement Evidence
[13pre] An automation component configured for wireless communication within a building automation system, the automation component comprising:	To the extent the preamble is limiting, each Accused Product includes an automation component configured for wireless communication within a building automation system. For example, each Accused Product (including the Verdant VX Thermostat) is an automation component configured for wireless communication within a building automation system. *See, e.g.*:



Source: https://www.verdant.co/products/thermostats/vx-thermostat/

Built-in wireless mesh-networking enables optional remote management features.

Fully configurable settings allow for customization of energy savings to fit any situation.

- **Temperature Setback** automatically adjusts the temperature when rooms are unoccupied to save energy.

Source: https://www.verdant.co/wp-content/uploads/2018/08/VX-TW-KT-W-SpecSheet.pdf

	"Auto Changeover Set Point Offset" - the difference between the guest-selected set point and the heat and cool changeover temperatures; "1st Stage Differential - Heat" - the temperature that the thermostat has to sense between the automatic changeover temperature for heat and the room temperature before a call for the 1st stage heating is initiated; Source: https://fccid.io/XEYWX-DB/User-Manual/Manual-5127106.pdf
[13a] a multi-sensor package configured to detect a plurality of variables and generate sensor data for each detected variable;	Each Accused Product comprises a multi-sensor package configured to detect a plurality of variables and generate sensor data for each detected variable. For example, each Accused Product (including the Verdant VX Thermostat) includes at least temperature, humidity, and occupancy sensors. *See, e.g.*: The Verdant VX Series thermostat delivers unprecedented energy savings without compromising guest comfort. An Integrated occupancy sensor allows for energy saving when rooms are unoccupied. Occupancy Sensor Beam Width: ±47° (94°) Wireless Frequency: 902-928MHz Temperature Accuracy: ±1°F Source: https://www.verdant.co/wp-content/uploads/2021/09/VX-TW-KT-W.pdf

	▫ Temperature Recovery allows for setting a maximum time permitted for establishing a comfortable room temperature. ▫ Setback Optimization monitors the temperature recovery rate and optimizes setback temperatures. ▫ Setback Limits control the maximum and minimum room temperature when a room is in setback mode. ▫ Set Point Limits prevent guests from setting the room temperature to extreme, energy-wasting levels. Source: https://www.verdant.co/wp-content/uploads/2021/09/VX-TW-KT-W.pdf

VERDANT THERMOSTAT COMPARISON

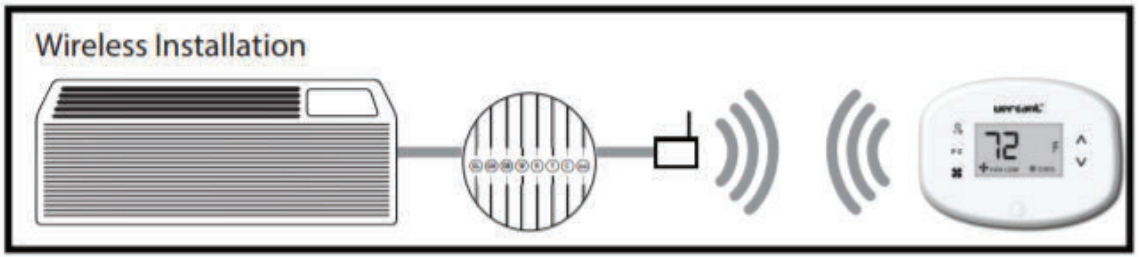
	Verdant ZX	Verdant VX
Wired	Yes	Yes
WIreless	Yes	Yes
Occupancy Detection	Yes	Yes
Night Occupancy Mode	Yes	Yes
Dynamic Intelligent Recovery	Yes	Yes
Display	e-paper	LCD
Online Management	Yes	Yes*
Humidity Control	Yes	Yes

Source: https://d1-auth.climate.emerson.com/en-us/products/thermostats/thermostats

Functionality	Sensor Functionality Code
Occupancy Sensor	100
Sensor with Magnetic door switch	010*
Temperature Sensor	001

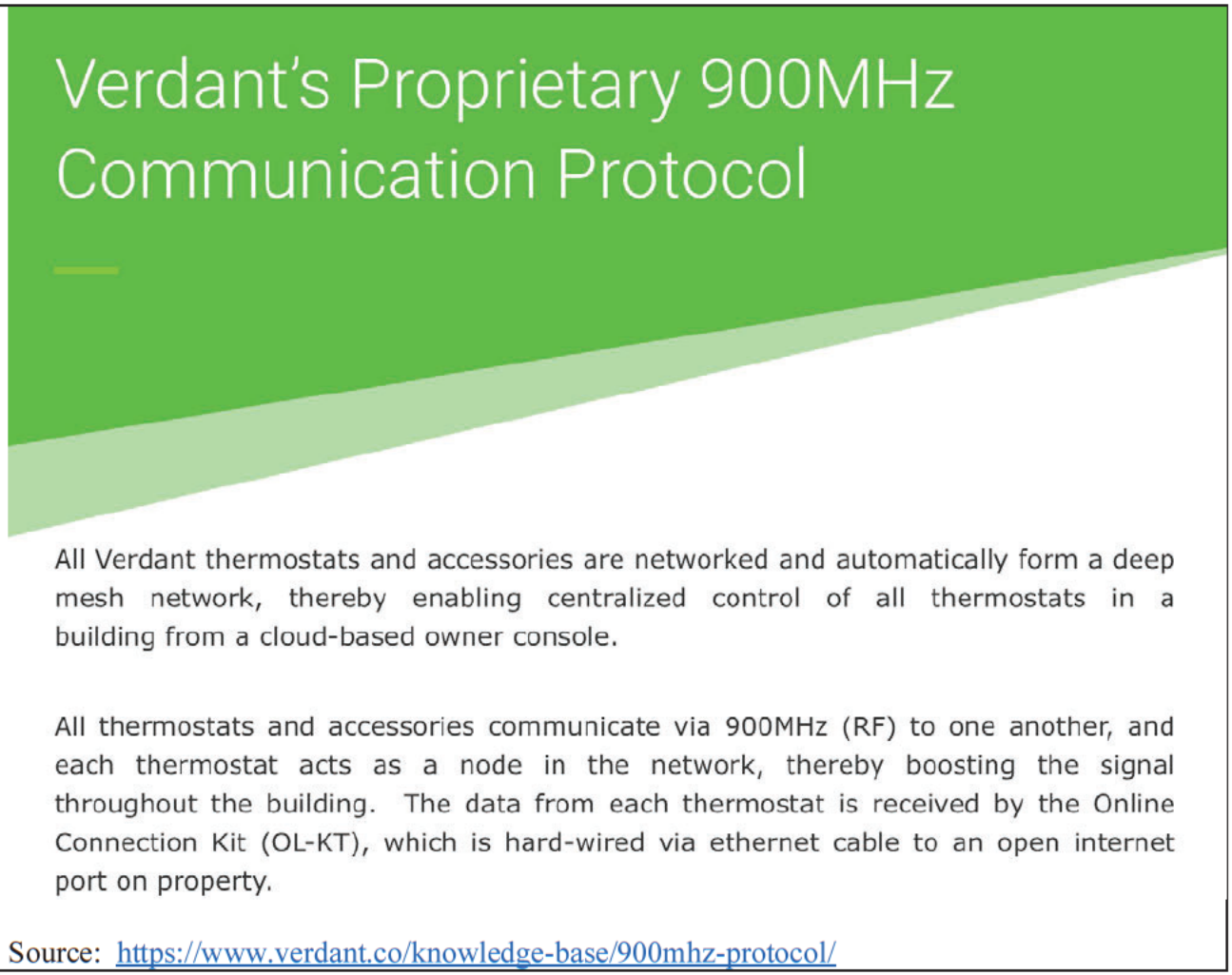
Source: https://fccid.io/XEYWX-DB/User-Manual/Manual-5127106.pdf

[13b] a wireless communications component;	Each Accused Product comprises a wireless communications component. For example, each Accused Product (including the Verdant VX Thermostat) contains a wireless communications component.

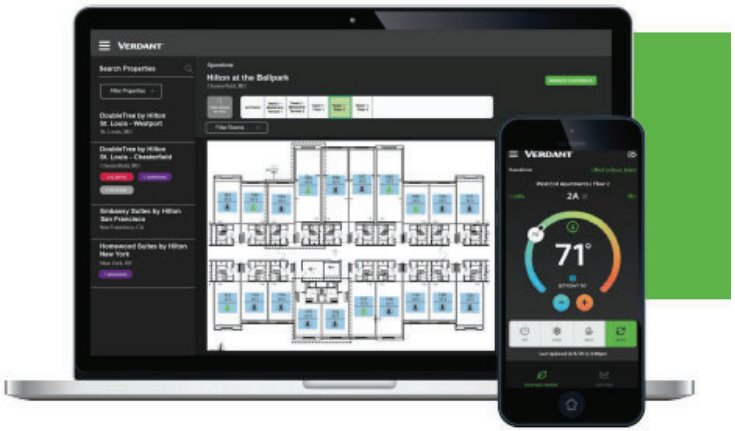
	See, e.g.: Built-in wireless mesh-networking enables optional online management features. Fully configurable settings allow for customization of energy savings to fit any situation. Source: https://www.verdant.co/wp-content/uploads/2021/09/VX-TW-KT-W.pdf Wireless Frequency 902-928MHz 902-928MHz Source: https://www.verdant.co/wp-content/uploads/2021/09/VX-TW-KT-W.pdf
[13c] a processor in communication with the wireless communications component and the sensor package;	Each Accused Product comprises a processor in communication with the wireless communications component and the sensor package. For example, each Accused Product (including the Verdant VX Thermostat) contains a processor that is in communication with the wireless communications component and the sensor package. *See, e.g.*:  Source: https://www.verdant.co/wp-content/uploads/2018/08/VX-TW-KT-W-SpecSheet.pdf

	Discovering an Active Sensor  The thermostat will display the first sensor discovered in the pairing process. Ensure that the unique device number displayed on the screen matches the unique ID found on the sensor. ➤ Press the F|C button to pair the discovered sensor to the HVAC Controller. ➤ Repeat this process as necessary for additional sensors. Source: https://fccid.io/XEYWX-DB/User-Manual/Manual-5127106.pdf
[13d] a memory in communication with the processor, the memory configured to store sensor data provided by the sensor package and computer readable instructions which are executable by the processor; wherein the computer readable instructions are programmed to:	Each Accused Product comprises a memory in communication with the processor, the memory configured to store sensor data provided by the sensor package and computer readable instructions which are executable by the processor. For example, each Accused Product (including the Verdant VX Thermostat) contains memory that stores sensor data that is collected by the sensor package. For example, the Verdant VX Thermostat contains memory that stores sensor data related to at least temperature, humidity, and occupancy. *See, e.g.*:

	■ **Temperature Setback** automatically adjusts the temperature when rooms are unoccupied to save energy. ■ **Temperature Recovery** allows for setting a maximum time permitted for establishing a comfortable room temperature. ■ **Setback Optimization** monitors the temperature recovery rate and optimizes setback temperatures. Source: https://www.verdant.co/wp-content/uploads/2018/08/VX-TW-KT-W-SpecSheet.pdf "Auto Restore On" - thermostat will restore the most recent guest settings when new occupancy is detected; "Auto Restore Off" - thermostat will NOT restore the most recent guest and will remain turned off settings when new occupancy is detected; Source: https://fccid.io/XEYWX-DB/User-Manual/Manual-5127106.pdf
[13d.1] receive a wake-up command from a second automation component;	In each Accused Product, the computer readable instructions are programmed to receive a wake-up command from a second automation component. For example, each Accused Product (including the Verdant VX Thermostat) can be paired with each other and a Verdant Online Connection Kit in order to receive a wake-up command, such as changing the temperature setpoint of an occupied room, from a second automation component running the Verdant EI app. *See, e.g.*:


Verdant's Proprietary 900MHz Communication Protocol
All Verdant thermostats and accessories are networked and automatically form a deep mesh network, thereby enabling centralized control of all thermostats in a building from a cloud-based owner console.
All thermostats and accessories communicate via 900MHz (RF) to one another, and each thermostat acts as a node in the network, thereby boosting the signal throughout the building. The data from each thermostat is received by the Online Connection Kit (OL-KT), which is hard-wired via ethernet cable to an open internet port on property.
Source: https://www.verdant.co/knowledge-base/900mhz-protocol/

Monitor Your HVAC System from Anywhere



Verdant EI™ includes a cloud-based dashboard and smartphone app to help you monitor your property in real-time and change unocupied settings on the fly:

SAVINGS DASHBOARD

Login to your portal and monitor your real-time or historical savings data. If you manage various properties, segment your savings by property, brand, size, etc.

ROOM OCCUPANCY

Allow your maintenance staff to identify any room requiring special attention. It also gives your housekeeping staff real-time occupancy status eliminating guest disruptions while cleaning rooms.

OPERATIONS

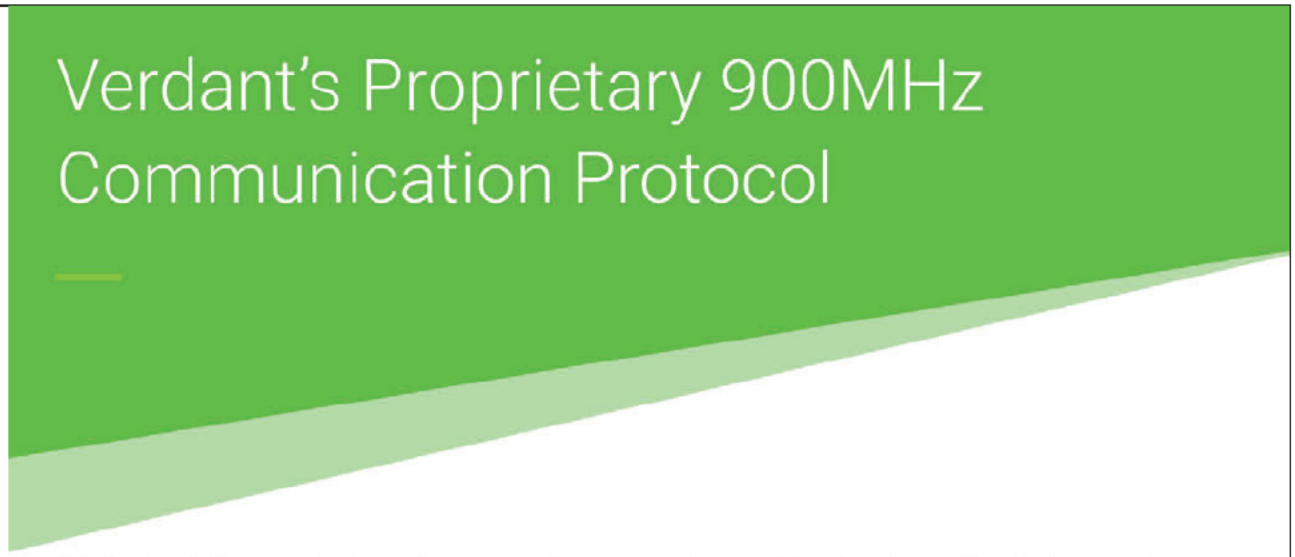
See each thermostat laid out on your floor plan and check current room temperature. Instantaneously adjust each room's setpoint when rooms are unoccupied and monitor humidity levels to prevent guest complaints.

USER MANAGEMENT

Easily add & remove staff access and adjust user permissions for each of your properties.

Source: https://www.verdant.co/wp-content/uploads/2021/09/Verdant-EI-Hospitality-brochure_Sep2021.pdf

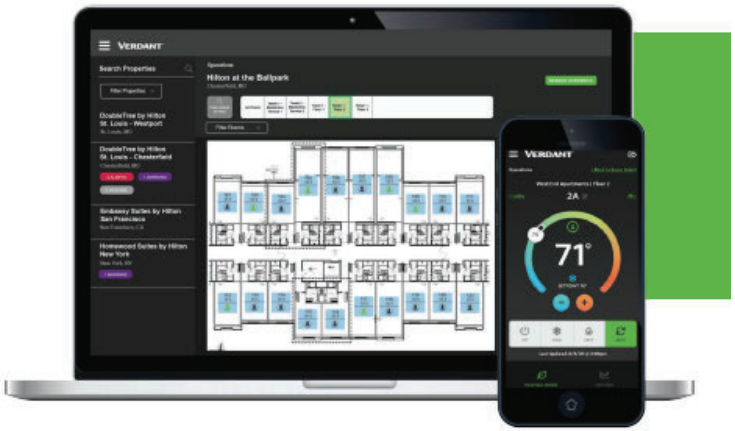
	 Source: https://www.verdant.co/ei/
[13d.2] communicate stored sensor data related to the sensor data in control at a second automation component; and	In each Accused Product, the computer readable instructions are programmed to communicate stored sensor data related to the sensor data in control at a second automation component. For example, each Accused Product (including the Verdant VX Thermostat) communicates stored sensor data to the Verdant EI app. *See, e.g.*:



Source: https://www.verdant.co/knowledge-base/900mhz-protocol/

https://www.verdant.co/knowledge-base/900mhz-protocol/

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OPERATIONS

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Source: https://www.verdant.co/wp-content/uploads/2021/09/Verdant-EI-Hospitality-brochure_Sep2021.pdf

	 Source: https://www.verdant.co/ei/
[13d.3] receive a power-down command from the second automation component.	In each Accused Product, the computer readable instructions are programmed to receive a power-down command from the second automation component. For example, each Accused Product (including the Verdant VX Thermostat) can be paired with each other and a Verdant Online Connection Kit in order to receive a power-down command, such as changing the temperature setpoint of an unoccupied room, from a second automation component running the Verdant EI app. *See, e.g.*:

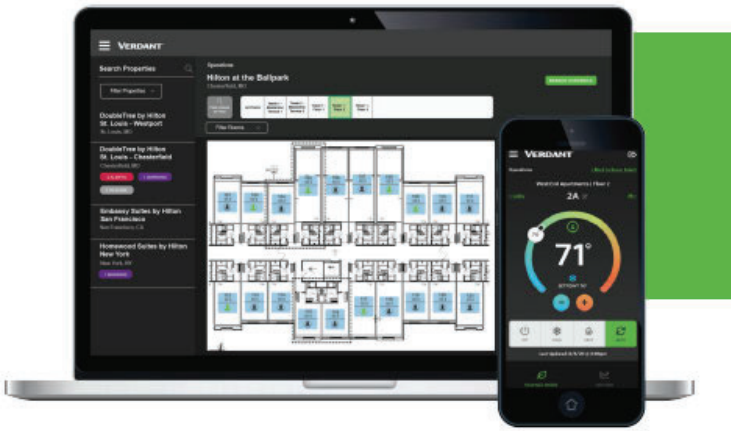
Verdant's Proprietary 900MHz Communication Protocol

All Verdant thermostats and accessories are networked and automatically form a deep mesh network, thereby enabling centralized control of all thermostats in a building from a cloud-based owner console.

All thermostats and accessories communicate via 900MHz (RF) to one another, and each thermostat acts as a node in the network, thereby boosting the signal throughout the building. The data from each thermostat is received by the Online Connection Kit (OL-KT), which is hard-wired via ethernet cable to an open internet port on property.

Source: https://www.verdant.co/knowledge-base/900mhz-protocol/

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Allow your maintenance staff to identify any room requiring special attention. It also gives your housekeeping staff real-time occupancy status eliminating guest disruptions while cleaning rooms.



OPERATIONS

See each thermostat laid out on your floor plan and check current room temperature. Instantaneously adjust each room's setpoint when rooms are unoccupied and monitor humidity levels to prevent guest complaints.

USER MANAGEMENT

Easily add & remove staff access and adjust user permissions for each of your properties.

Source: https://www.verdant.co/wp-content/uploads/2021/09/Verdant-EI-Hospitality-brochure_Sep2021.pdf



Source: https://www.verdant.co/ei/

Claim 14

Claim 14	Exemplary Infringement Evidence
[14] The automation component of claim 13, wherein the sensor package includes one or more sensors selected from the group consisting of: a temperature sensor; a humidity sensor; a carbon monoxide sensor; a carbon dioxide sensor and a	Each Accused Product comprises the automation component of claim 13, wherein the sensor package includes one or more sensors selected from the group consisting of: a temperature sensor; a humidity sensor; a carbon monoxide sensor; a carbon dioxide sensor and a volatile organic compound sensor. For example, each Accused Product (including the Verdant VX Thermostat) includes temperature and humidity sensors. *See, e.g.*:

volatile organic compound sensor.	The Verdant VX Series thermostat delivers unprecedented energy savings without compromising guest comfort. An Integrated occupancy sensor allows for energy saving when rooms are unoccupied. Occupancy Sensor Beam Width: ±47° (94°) Wireless Frequency: 902-928MHz Temperature Accuracy: ±1°F Source: https://www.verdant.co/wp-content/uploads/2021/09/VX-TW-KT-W.pdf ▫ Temperature Recovery allows for setting a maximum time permitted for establishing a comfortable room temperature. ▫ Setback Optimization monitors the temperature recovery rate and optimizes setback temperatures. ▫ Setback Limits control the maximum and minimum room temperature when a room is in setback mode. ▫ Set Point Limits prevent guests from setting the room temperature to extreme, energy-wasting levels. Source: https://www.verdant.co/wp-content/uploads/2021/09/VX-TW-KT-W.pdf

VERDANT THERMOSTAT COMPARISON

	Verdant ZX	Verdant VX
Wired	Yes	Yes
WIreless	Yes	Yes
Occupancy Detection	Yes	Yes
Night Occupancy Mode	Yes	Yes
Dynamic Intelligent Recovery	Yes	Yes
Display	e-paper	LCD
Online Management	Yes	Yes*
Humidity Control	Yes	Yes

Source: https://d1-auth.climate.emerson.com/en-us/products/thermostats/thermostats

Functionality	Sensor Functionality Code
Occupancy Sensor	100
Sensor with Magnetic door switch	010*
Temperature Sensor	001

Source: https://fccid.io/XEYWX-DB/User-Manual/Manual-5127106.pdf

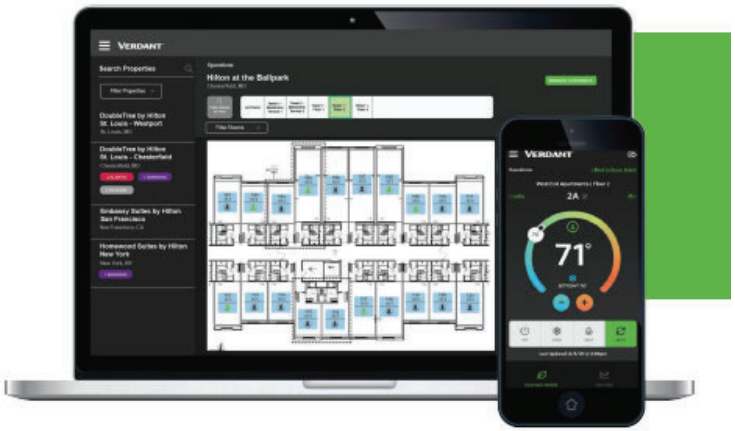
Claim 17

Claim 17	Exemplary Infringement Evidence

[17] The automation component of claim 13, wherein the computer readable instructions are further programmed to: communicate all of the stored sensor data corresponding to the received status information to the second automation component.	Each Accused Product comprises the automation component of claim 13, wherein the computer readable instructions are further programmed to communicate all of the stored sensor data corresponding to the received status information to the second automation component. For example, all stored sensor data corresponding to the received status information from the Accused Product is communicated to the Verdant EI app. *See, e.g.*: Verdant's Proprietary 900MHz Communication Protocol All Verdant thermostats and accessories are networked and automatically form a deep mesh network, thereby enabling centralized control of all thermostats in a building from a cloud-based owner console. All thermostats and accessories communicate via 900MHz (RF) to one another, and each thermostat acts as a node in the network, thereby boosting the signal throughout the building. The data from each thermostat is received by the Online Connection Kit (OL-KT), which is hard-wired via ethernet cable to an open internet port on property.

	Source: https://www.verdant.co/knowledge-base/900mhz-protocol/ https://www.verdant.co/knowledge-base/900mhz-protocol/

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OPERATIONS

See each thermostat laid out on your floor plan and check current room temperature. Instantaneously adjust each room's setpoint when rooms are unoccupied and monitor humidity levels to prevent guest complaints.

USER MANAGEMENT

Easily add & remove staff access and adjust user permissions for each of your properties.

Source: https://www.verdant.co/wp-content/uploads/2021/09/Verdant-EI-Hospitality-brochure_Sep2021.pdf

	VIEW ENERGY SAVINGS IN REAL TIME The energy management dashboard gives you access to energy savings data at the property, floor, or room level. **MONITOR EQUIPMENT EFFICIENCY** Diagnose and perform maintenance on inefficient HVAC equipment by monitoring runtimes in each unique room. **COMPLETE HOUSEKEEPING TASKS QUICKLY** With access to real-time occupancy information, housekeeping staff can identify empty rooms, performing daily tasks quickly without knocking on doors or disturbing guest comfort.  **MANAGE SETTINGS FROM ANYWHERE** The Verdant EI™ app allows you to remotely change temperature, set rooms to VIP mode, and allocate user permissions from any internet connected device. **ASSIGN USER PERMISSIONS** Ensure your employees have access to only the tools they need to do their jobs effectively. **RECEIVE DAILY NOTIFICATIONS** Customize your alert settings to get daily, weekly, or monthly updates about energy savings at your property. Source: https://www.verdant.co/ei/

EXHIBIT C

Emerson's Infringement of U.S. Patent No. 7,746,887 ("'887 Patent")

Accused Products

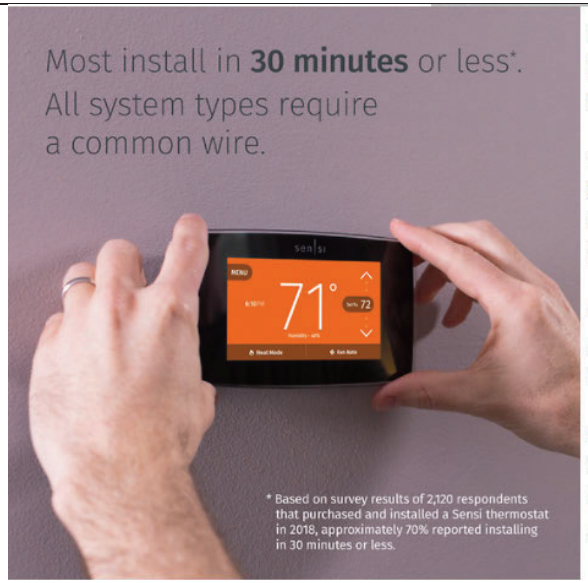
Emerson products, including without limitation the Emerson Touch Sensi Smart Thermostat ST55 and Sensi Touch Smart Thermostat ST75 ("Accused Products"), infringe at least Claims 1, 3, 4, 5, 6, 7, 8, 14, 15, and 18 of the '887 Patent.

Claim 1

Claim 1	Exemplary Infringement Evidence
[1pre] A wireless automation device, comprising:	To the extent the preamble is limiting, each Accused Product includes a wireless automation device. For example, each Accused Product (including the Emerson Sensi Touch Smart Thermostat (ST75)) is a wireless automation device. *See, e.g.*:  Source: Sensi Touch smart thermostat | Sensi US (emerson.com)

Display	4.3" full color LCD touch screen display 272 x 480 pixel display
Dimensions and weight	**Width:** 5.6 in **Height:** 3.4 in **Depth:** 1.1 in **Weight:** 8.6 oz
System compatibility	**Heating:** 1, and 2 stages (W/E, W2) **Cooling:** 1 and 2 stages (Y, Y2) **Heat pump:** with auxiliary and emergency heat (O/B, W/E, W2) **Fan:** (G) **Power:** (C, RH, RC)
Wire terminals	RC Y2 Rh W/E (AUX 1) G W2 (AUX 2) C O/B Y L Will Sensi work in my home?
Wi-Fi & security	Wi-Fi 802.11b/g/n @ 2.4 GHz WPA and WPA 2 encryption methods
Smart home integrations	Apple HomeKit Google Assistant Amazon Alexa Samsung SmartThings Wink
Energy Star certified	Yes
Mobile app	Free app for iOS 10 or later and Android Can control multiple thermostats from one account
Temperature range	**Setpoint range:** 45° to 99°F **Display:** 32° to 99°F **Operating:** 32° to 150°F
Humidity range	**Display:** 0% to 100% RH
Powering methods	**Wired:** 20 to 30 VAC through terminals C and Rc or Rh NEC class II, 50/60 Hz

Source: Sensi Touch smart thermostat | Sensi US (emerson.com)

	 **USAGE REPORTS:** Monitor current day and historical heating, cooling and fan runtimes right in the app. **CONTROL FROM ANYWHERE:** Remotely control your home comfort from your smartphone or tablet using the Sensi mobile app for Android and iOS devices. **SMART ALERTS:** Sensi features smart alerts to help detect extreme temperature and humidity levels in your home. **CIRCULATING FAN:** Air circulation may improve indoor air quality by helping to regulate temperature and prevent the buildup of particles and mold. **HVAC Compatibility** The Sensi Touch is compatible with most HVAC systems, but not all. If you didn't check compatibility prior to purchasing your new Sensi, don't tear into that box just yet. **Use the Sensi Compatibility Checker.** Does a Sensi Touch Require a C-Wire? For proper functionality, Emerson Sensi Touch Smart Thermostats *do* require a C-wire. This is because all of its cool features (Wi-Fi connectivity, geofencing, colorful touchscreen display…) use a *lot* of power! By using a negative charge to supply continuous power to your Sensi, a C-wire ensures its display, internal processor, and Wi-Fi connectivity remain up and running. Read More about Sensis and C-Wires Source: Emerson Sensi Touch Smart Thermostat (poweredbyefi.org)
[1a] a transceiver operable to wirelessly communicate packets of information over a wireless network;	Each Accused Product comprises a transceiver operable to wirelessly communicate packets of information over a wireless network.

	For example, the Accused Products (including the Emerson Sensi Touch Smart Thermostat (ST75)) comprise a transceiver operable to wirelessly communicate over Wi-Fi. *See, e.g.*: Wi-Fi & security Wi-Fi 802.11b/g/n @ 2.4 GHz WPA and WPA 2 encryption methods Source: Sensi Touch smart thermostat | Sensi US (emerson.com) Home Screen Content Toggle what you want to see on the display from this menu. You can display the current time, humidity or change from Fahrenheit to Celsius. Wi-Fi The Sensi app will instruct you how to connect Sensi to Wi-Fi. You can also turn Wi-Fi on or off at any time. Turn Wi-Fi Off If connecting to Wi-Fi is not an option, turn off Wi-Fi on the thermostat and manually set a time and a schedule from the unit. • Press Menu. • Press Wi-Fi. • Toggle Wi-Fi "Off." • Press the back arrow to return to the main screen.   Source: sensi-touch-smart-thermostat-manual-operation-guide-en-us-6356710.pdf (emerson.com)

[1b] a sensor operable to generate a indicator for a sensed condition;	Each Accused Product comprises a sensor operable to generate a indicator for a sensed condition. For example, the Accused Products (including the Emerson Sensi Touch Smart Thermostat (ST75)) comprise at least temperature and humidity sensors operable to generate an indicator for a sensed condition. *See, e.g.*: Technical specifications  1 Menu Advanced features & Scheduling 2 Set temperature 3 System mode Heat/Cool/Auto/Off 4 Humidity 5 Fan mode On/Auto Temperature range Setpoint range: 45° to 99°F Display: 32° to 99°F Operating: 32° to 150°F Humidity range Display: 0% to 100% RH



Monitor HVAC system

Get smart alerts to help detect extreme temperatures & humidity levels or loss of heating/cooling.

Source: Sensi Touch smart thermostat | Sensi US (emerson.com)

SENSI ALERT	TRIGGER
High temperature:	Above 99˚F
Low temperature:	Below 45˚F
High humidity:	Above 70%
Loss of heat/cool:	Temp goes up or down 5˚F during cycle

Source: spec-sheet-sensi-touch-smart-thermostat-en-6309540.pdf (emerson.com)

Alert Name	Triggered
High Home Temperature	Temperature greater than 99°F
Low Home Temperature	Temperature less than 45°F
High Humidity	Humidity greater than 70%
Loss of Heating	Room temperature goes down 5°F during a heating demand
Loss of Cooling	Room temperature goes up 5°F during a cooling demand

Source: Are there smart alerts available with Sensi thermostats? | Sensi US (emerson.com)

Smart Alerts

Smart Alert: Low Home Temperature

If you received this email alert, your Sensi thermostat has indicated that your room temperature is at or below 45°F/7°C. Take action to ensure that your home is being properly heated.

From Your Sensi App

Open your Sensi app and make sure the word "Heat" in a circle appears in the lower-left corner of the display.

If the word "Off" appears instead, touch the word "Off" and then select "Heat" to set your thermostat to heating mode. The main screen of the Sensi app should turn red, indicating that the heating mode has been activated and your system is heating your home.



Source: Smart Alert: Low Home Temperature | Sensi US (emerson.com)

Smart Alerts

Smart Alert: High Home Temperature

If you received this email alert, your Sensi thermostat has indicated that your temperature is at or above 99°F/37°C. Take action to ensure that your home is being properly cooled.

Source: Smart Alert: High Home Temperature | Sensi US (emerson.com)

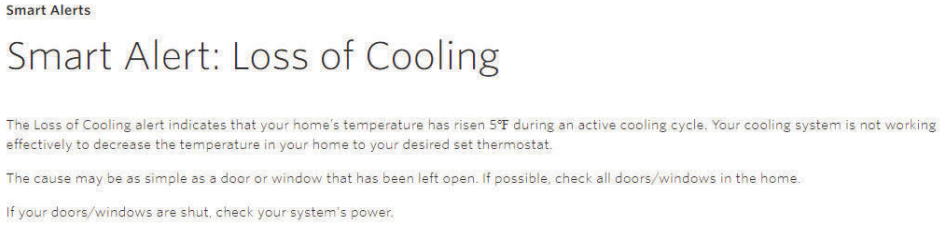
Smart Alerts

Smart Alert: Loss of Heating

The Loss of Heating alert indicates that your home's temperature has lowered 5°F during an active heating cycle. Your heating system is not working effectively to increase the temperature in your home to your desired set thermostat.

The cause may be as simple as a door or window that has been left open. If possible, check all doors/windows in the home.

If your doors/windows are shut, check your system's power.

	Source: Loss of heating alert | Sensi US (emerson.com)  Source: Loss of cooling alert | Sensi US (emerson.com)
[1c] a controller configured to poll the sensor at a polling interval to read the indicator during a current period of the polling interval and to selectively operate the transceiver to communicate information associated with the reading of the indicator; and	Each Accused Product comprises a controller configured to poll the sensor at a polling interval to read the indicator during a current period of the polling interval and to selectively operate the transceiver to communicate information associated with the reading of the indicator. For example, the Accused Products (including the Emerson Sensi Touch Smart Thermostat (ST75)) poll at least the temperature and humidity sensors, including in the context of a designated schedule. *See, e.g.*:

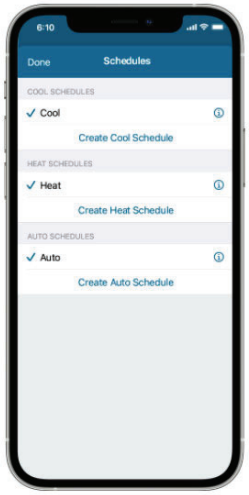
```
2019-06-27 12:26:41.645 [vent.ItemStateChangedEvent] - Patio_Temp changed from 80 to 81
==> /var/log/openhab2/openhab.log <==
2019-06-27 12:26:41.646 [DEBUG] [pdb.internal.MapDBPersistenceService] - store called for Patio_Temp
2019-06-27 12:26:41.647 [DEBUG] [pdb.internal.MapDBPersistenceService] - Stored 'Patio_Temp' with state '81' in mapdb database
2019-06-27 12:26:41.685 [DEBUG] [g.omnilink.handler.TempSensorHandler] - Aux Sensor Status AuxSensorStatus{super=Status{number=33), status=0, temp=124, heatSetpoint=0, coolSetpoint=0
==> /var/log/openhab2/events.log <==
2019-06-27 12:26:41.688 [vent.ItemStateChangedEvent] - B_Bedroom_Temp changed from 73 to 72
==> /var/log/openhab2/openhab.log <==
2019-06-27 12:26:41.688 [DEBUG] [pdb.internal.MapDBPersistenceService] - store called for B_Bedroom_Temp
2019-06-27 12:26:41.692 [DEBUG] [pdb.internal.MapDBPersistenceService] - Stored 'B_Bedroom_Temp' with state '72' in mapdb database
2019-06-27 12:26:41.775 [DEBUG] [g.omnilink.handler.ThermostatHandler] - Thermostat Status ExtendedThermostatStatus{super=Status{number=2), humidity=0, humiditySetpoint=72, dehumidi
                                Setpoint=106, outdoorTemp=144, extendedStatus=0, thermostatStatus=ThermostatStatus{super=Status{number=2), status=4, temperature=127,
                                eatSetpoint=117, coolSetpoint=127, mode=2, fan=0, hold=0)}
2019-06-27 12:26:45.126 [DEBUG] [g.omnilink.handler.ThermostatHandler] - Thermostat Status ExtendedThermostatStatus{super=Status{number=1), humidity=0, humiditySetpoint=72, dehumidi
                                Setpoint=106, outdoorTemp=144, extendedStatus=0, thermostatStatus=ThermostatStatus{super=Status{number=1), status=4, temperature=124,
                                eatSetpoint=116, coolSetpoint=124, mode=2, fan=0, hold=0)}
2019-06-27 12:26:46.903 [DEBUG] [core.karaf.internal.FeatureInstaller] - Running scheduled sync job
2019-06-27 12:26:47.307 [DEBUG] [est.sitemap.internal.SitemapResource] - Run clean SSE subscriptions job
2019-06-27 12:26:47.309 [DEBUG] [.sitemap.internal.SitemapEventOutput] - Sent alive event to subscription 18c33016-f65a-4f64-a3e9-2fc7467fac0d.
2019-06-27 12:26:50.403 [ERROR] [ng.wink.handler.WinkBaseThingHandler] - PubNub Error PNBadRequestCategory
2019-06-27 12:26:50.404 [WARN ] [nub.api.managers.ReconnectionManager] - reconnection policy is disabled, please handle reconnection manually.
2019-06-27 12:26:50.625 [ERROR] [ng.wink.handler.WinkBaseThingHandler] - PubNub timeout, reconnecting
2019-06-27 12:26:51.015 [DEBUG] [pdb.internal.MapDBPersistenceService] - store called for CurrentDate
2019-06-27 12:26:51.020 [DEBUG] [pdb.internal.MapDBPersistenceService] - Stored 'CurrentDate' with state '2019-06-27T12:26:51' in mapdb database
==> /var/log/openhab2/events.log <==
2019-06-27 12:26:51.022 [vent.ItemStateChangedEvent] - CurrentDate changed from 2019-06-27T12:25:51.013-0500 to 2019-06-27T12:26:51.014-0500
==> /var/log/openhab2/openhab.log <==
2019-06-27 12:26:51.023 [DEBUG] [pdb.internal.MapDBPersistenceService] - store called for CurrentTime
2019-06-27 12:26:51.024 [DEBUG] [pdb.internal.MapDBPersistenceService] - Stored 'CurrentTime' with state '2019-06-27T12:26:51' in mapdb database
==> /var/log/openhab2/events.log <==
2019-06-27 12:26:51.025 [vent.ItemStateChangedEvent] - CurrentTime changed from 2019-06-27T12:25:51.013-0500 to 2019-06-27T12:26:51.014-0500
==> /var/log/openhab2/openhab.log <==
2019-06-27 12:27:00.689 [ERROR] [ng.wink.handler.WinkBaseThingHandler] - PubNub Error PNBadRequestCategory
2019-06-27 12:27:00.690 [WARN ] [nub.api.managers.ReconnectionManager] - reconnection policy is disabled, please handle reconnection manually.
2019-06-27 12:27:00.920 [ERROR] [ng.wink.handler.WinkBaseThingHandler] - PubNub timeout, reconnecting
```

Source: [Emerson Sensi Thermostat - Hardware / Home Automation - openHAB Community]

Set up custom schedules

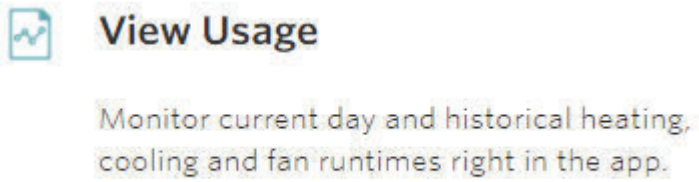
Sensi™ smart thermostats let you create custom temperature schedules for each day of the week (up to seven independent schedules). This makes it easy to create one or multiple schedules to match your family's routine. Using the Sensi mobile app, select the days you want to follow a specific schedule. Then choose the time and temperature set points for each.

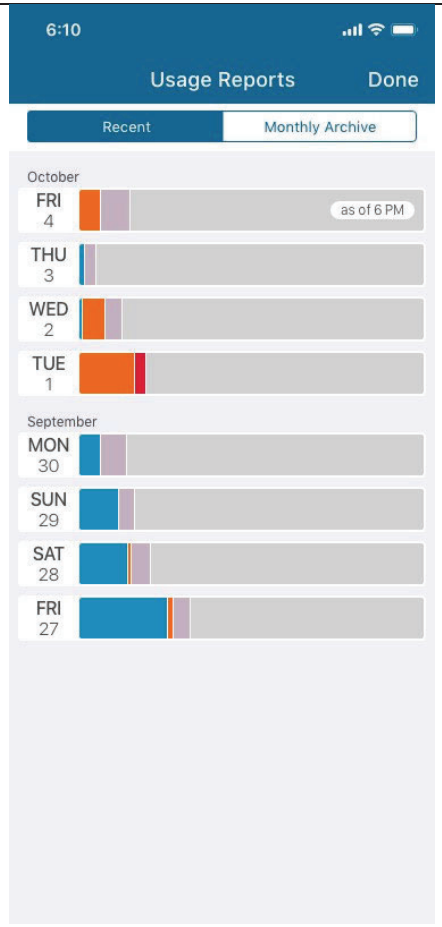
For example, you can use Sensi's flexible scheduling to add custom schedules for school holidays, practice days, game nights and other school-related events. We make it easy to manage your home comfort on the go so you can get back to what matters.

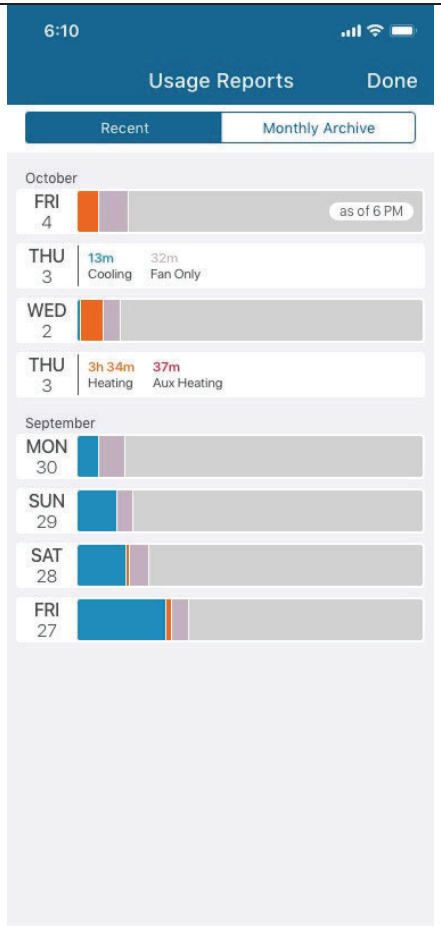


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	Source: Using Sensi thermostat settings and schedules | Sensi US (emerson.com) **Thermostat Detail View** After observing how users interact with our iOS and Android applications, we made usability enhancements to surface the most commonly-used features on the thermostat. We removed the side menu and replaced it with a tab bar on the bottom of the thermostat detail view. You can now access thermostat settings and scheduling quickly and easily.  Source: Learn about your Sensi thermostat app | Sensi US (emerson.com)
[1d] a memory, the controller storing a reading of the indicator during the current period in the memory, where the memory stores at least one prior reading of the indicator, the prior reading of the	Each Accused Product comprises a memory, the controller storing a reading of the indicator during the current period in the memory, where the memory stores at least one prior reading of the indicator, the prior reading of the indicator made during a prior period of the polling interval. For example, the Accused Products (including the Emerson Sensi Touch Smart Thermostat (ST75)) store readings of at least temperature and humidity. For example, the Accused Products monitor HVAC behavior, which is based on readings over time.

indicator made during a prior period of the polling interval,	*See, e.g.*:  Source: Sensi Touch smart thermostat | Sensi US (emerson.com)





Source: Usage Reports | Sensi US (emerson.com)

	Thermostat Detail View After observing how users interact with our iOS and Android applications, we made usability enhancements to surface the most commonly-used features on the thermostat. We removed the side menu and replaced it with a tab bar on the bottom of the thermostat detail view. You can now access thermostat settings and scheduling quickly and easily.  Source: Learn about your Sensi thermostat app | Sensi US (emerson.com)
[1e] wherein the transceiver is configured to transmit a most recent reading of the indicator stored in the memory during a period of a transmission interval in response to detecting a change in the sensed condition outside a predetermined range and wherein transmission of the most recent reading of the	In each Accused Product, the transceiver is configured to transmit a most recent reading of the indicator stored in the memory during a period of a transmission interval in response to detecting a change in the sensed condition outside a predetermined range and wherein transmission of the most recent reading of the indicator stored in the memory during the period of the transmission interval is suspended in response to detecting a change in the sensed condition within the predetermined range. For example, alerts and notifications are sent in response to detecting a change in the sensed condition outside a predetermined range. *See, e.g.*:

indicator stored in the memory during the period of the transmission interval is suspended in response to detecting a change in the sensed condition within the predetermined range.	 **Monitor HVAC system** Get smart alerts to help detect extreme temperatures & humidity levels or loss of heating/cooling. Source: Sensi Touch smart thermostat | Sensi US (emerson.com) SENSI ALERT / TRIGGER High temperature: Above 99˚F Low temperature: Below 45˚F High humidity: Above 70% Loss of heat/cool: Temp goes up or down 5˚F during cycle Source: spec-sheet-sensi-touch-smart-thermostat-en-6309540.pdf (emerson.com) Alert Name / Triggered High Home Temperature: Temperature greater than 99°F Low Home Temperature: Temperature less than 45°F High Humidity: Humidity greater than 70% Loss of Heating: Room temperature goes down 5°F during a heating demand Loss of Cooling: Room temperature goes up 5°F during a cooling demand Source: Are there smart alerts available with Sensi thermostats? | Sensi US (emerson.com)

	2. Temperature Limits You can set your Sensi smart thermostat with parameters around the highest and lowest temperatures at which it can be set. If someone tries to adjust the temperatures outside of the pre-set parameters, the thermostat will show a "Limit" message. This is extremely useful if you have kids at home that try to adjust the temperature without permission, or someone else who may be occupying a space where you pay the utility bill. Source: Top 3 ways your Sensi smart thermostat can help you save energy | Sensi US (emerson.com)

	www.sensicomfort.com sen|si  Sensi Thermostat Alert This message is to inform you that an alert has been generated from your Sensi Thermostat named **Sensi.** **Alert! High Temperature Detected** The temperature inside your home is greater than 99 degrees F/37 degrees C, which can be caused by the following: • Your Sensi™ smart thermostat may not be set to the cooling mode • Power to your cooling equipment may have been lost • Your cooling equipment may not be working properly Please take action immediately to make sure your thermostat is set to the cooling mode and your cooling equipment is powered on. Click here for more information, or contact your heating and cooling professional for an evaluation of your equipment. If you have questions about your Sensi thermostat, we're here to help at support@sensicomfort.com. Thank You! Screenshot of a high temperature alert email notification.

Claim 3

Claim 3	Exemplary Infringement Evidence

[3] The wireless automation device of claim 1 where an upper limit and a lower limit of the predetermined range may be varied.	Each Accused Product comprises the wireless automation device of claim 1 where an upper limit and a lower limit of the predetermined range may be varied. For example, the Accused Products (including the Emerson Sensi Touch Smart Thermostat (ST75)) send a loss of heating or loss of cooling alert when the temperature rises or falls 5°F during a heating or cooling demand. Since the starting temperature during a heating or cooling demand is arbitrary, this indicates that the upper and lower limit of the predetermined temperature range is varied. *See, e.g.*:  Source: Sensi Touch smart thermostat | Sensi US (emerson.com) SENSI ALERT / TRIGGER High temperature: Above 99°F Low temperature: Below 45°F High humidity: Above 70% Loss of heat/cool: Temp goes up or down 5°F during cycle Source: spec-sheet-sensi-touch-smart-thermostat-en-6309540.pdf (emerson.com)

	<table><tr><th>Alert Name</th><th>Triggered</th></tr><tr><td>High Home Temperature</td><td>Temperature greater than 99°F</td></tr><tr><td>Low Home Temperature</td><td>Temperature less than 45°F</td></tr><tr><td>High Humidity</td><td>Humidity greater than 70%</td></tr><tr><td>Loss of Heating</td><td>Room temperature goes down 5°F during a heating demand</td></tr><tr><td>Loss of Cooling</td><td>Room temperature goes up 5°F during a cooling demand</td></tr></table> Source: Are there smart alerts available with Sensi thermostats? | Sensi US (emerson.com)

Claim 4

Claim 4	Exemplary Infringement Evidence
[4] The wireless automation device of claim 3 where the upper limit and lower limit may be varied according to an analysis of the most current reading of the indicator and the at least one prior reading of the indicator.	Each Accused Product comprises the wireless automation device of claim 3 where the upper limit and lower limit may be varied according to an analysis of the most current reading of the indicator and the at least one prior reading of the indicator. For example, the Accused Products (including the Emerson Sensi Touch Smart Thermostat (ST75)) send a loss of heating or loss of cooling alert when the temperature rises or falls 5°F during a heating or cooling demand. Since the starting temperature during a heating or cooling demand is arbitrary, this indicates that the upper and lower limit of the predetermined temperature range is varied according to a prior reading of the temperature indicator. *See, e.g.*:  **Monitor HVAC system** Get smart alerts to help detect extreme temperatures & humidity levels or loss of heating/cooling.

Source: Sensi Touch smart thermostat | Sensi US (emerson.com)

SENSI ALERT	TRIGGER
High temperature:	Above 99°F
Low temperature:	Below 45°F
High humidity:	Above 70%
Loss of heat/cool:	Temp goes up or down 5°F during cycle

Source: spec-sheet-sensi-touch-smart-thermostat-en-6309540.pdf (emerson.com)

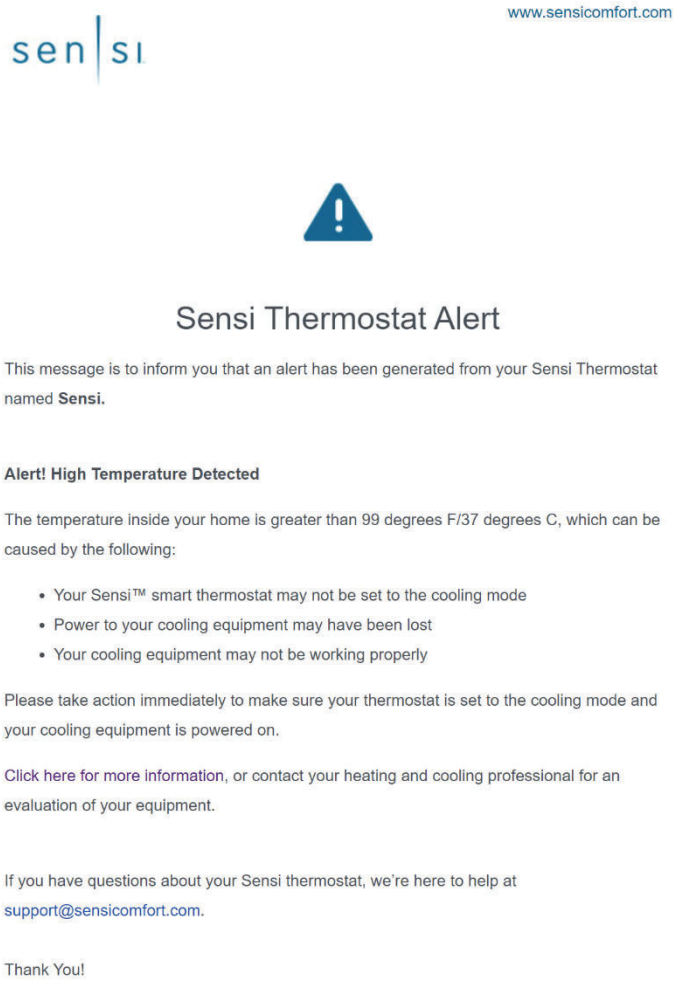
Alert Name	Triggered
High Home Temperature	Temperature greater than 99°F
Low Home Temperature	Temperature less than 45°F
High Humidity	Humidity greater than 70%
Loss of Heating	Room temperature goes down 5°F during a heating demand
Loss of Cooling	Room temperature goes up 5°F during a cooling demand

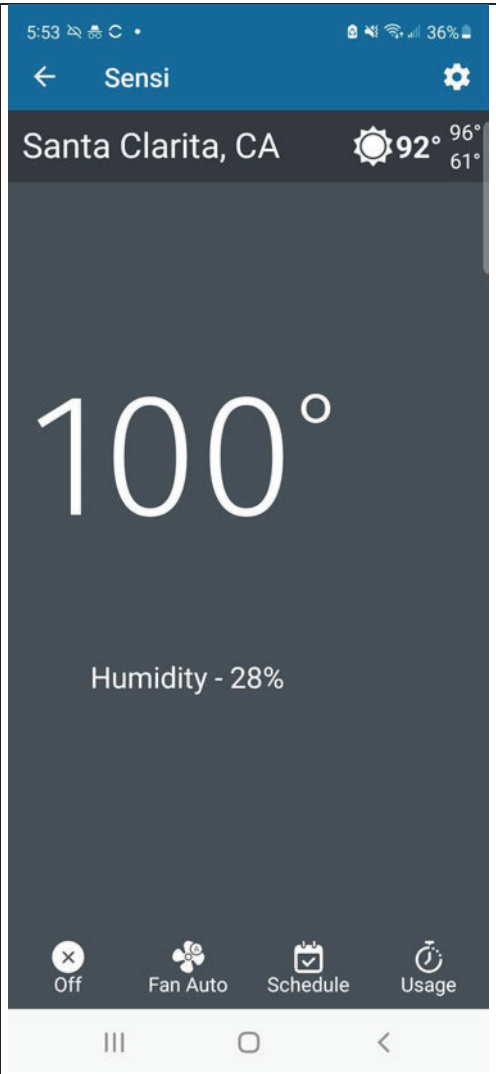
Source: Are there smart alerts available with Sensi thermostats? | Sensi US (emerson.com)

Claim 5

Claim 5	Exemplary Infringement Evidence
[5] The wireless automation device of claim 1 where the transceiver is configured to transmit the most recent reading of the indicator stored in the memory during a period	Each Accused Product comprises the wireless automation device of claim 1 where the transceiver is configured to transmit the most recent reading of the indicator stored in the memory during a period of the transmission interval in response to detecting a sensed condition beyond a band limit. For example, the Accused Products (including the Emerson Sensi Touch Smart Thermostat (ST75)) send alerts and notifications in response to temperature or humidity going beyond a band

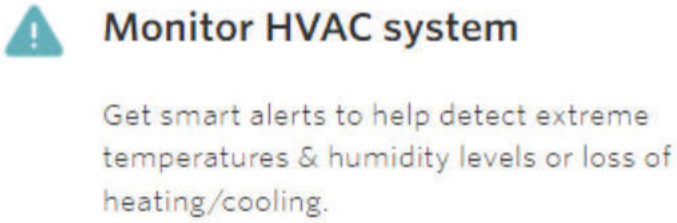
of the transmission interval in response to detecting a sensed condition beyond a band limit.	limit. The temperature or humidity indicator reading is transmitted to the Sensi app during the alert, such as during a high temperature alert when the temperature exceeds 99°F. *See, e.g.*:  Source: Sensi Touch smart thermostat | Sensi US (emerson.com) SENSI ALERT / TRIGGER High temperature: Above 99˚F Low temperature: Below 45˚F High humidity: Above 70% Loss of heat/cool: Temp goes up or down 5˚F during cycle Source: spec-sheet-sensi-touch-smart-thermostat-en-6309540.pdf (emerson.com) Alert Name / Triggered High Home Temperature: Temperature greater than 99°F Low Home Temperature: Temperature less than 45°F High Humidity: Humidity greater than 70% Loss of Heating: Room temperature goes down 5°F during a heating demand Loss of Cooling: Room temperature goes up 5°F during a cooling demand

	Source: Are there smart alerts available with Sensi thermostats? | Sensi US (emerson.com)  www.sensicomfort.com sensi Sensi Thermostat Alert This message is to inform you that an alert has been generated from your Sensi Thermostat named **Sensi.** **Alert! High Temperature Detected** The temperature inside your home is greater than 99 degrees F/37 degrees C, which can be caused by the following: • Your Sensi™ smart thermostat may not be set to the cooling mode • Power to your cooling equipment may have been lost • Your cooling equipment may not be working properly Please take action immediately to make sure your thermostat is set to the cooling mode and your cooling equipment is powered on. Click here for more information, or contact your heating and cooling professional for an evaluation of your equipment. If you have questions about your Sensi thermostat, we're here to help at support@sensicomfort.com. Thank You! Screenshot of a high temperature alert email notification.



Screenshot from the Sensi app during a temperature alert, showing the temperature reading transmitted during a high temperature alert.

Claim 6

Claim 6	Exemplary Infringement Evidence
[6] The wireless automation device of claim 5 where an upper band limit and a lower band limit may be varied.	Each Accused Product comprises the wireless automation device of claim 5 where an upper band limit and a lower band limit may be varied. For example, the Accused Products (including the Emerson Sensi Touch Smart Thermostat (ST75)) send a loss of heating or loss of cooling alert when the temperature rises or falls 5°F during a heating or cooling demand. Since the starting temperature during a heating or cooling demand is arbitrary, this indicates that the upper and lower limit of the temperature band limit is varied. *See, e.g.*:  Source: Sensi Touch smart thermostat | Sensi US (emerson.com) SENSI ALERT / TRIGGER High temperature: Above 99°F Low temperature: Below 45°F High humidity: Above 70% Loss of heat/cool: Temp goes up or down 5°F during cycle Source: spec-sheet-sensi-touch-smart-thermostat-en-6309540.pdf (emerson.com)

Alert Name	Triggered
High Home Temperature	Temperature greater than 99°F
Low Home Temperature	Temperature less than 45°F
High Humidity	Humidity greater than 70%
Loss of Heating	Room temperature goes down 5°F during a heating demand
Loss of Cooling	Room temperature goes up 5°F during a cooling demand

Source: Are there smart alerts available with Sensi thermostats? | Sensi US (emerson.com)

Claim 7

Claim 7	Exemplary Infringement Evidence
[7] The wireless automation device of claim 5 where the upper band limit and lower band limit may be varied according to an analysis of the most current reading of the indicator and the at least one prior reading of the indicator.	Each Accused Product comprises the wireless automation device of claim 5 where the upper band limit and lower band limit may be varied according to an analysis of the most current reading of the indicator and the at least one prior reading of the indicator. For example, the Accused Products (including the Emerson Sensi Touch Smart Thermostat (ST75)) send a loss of heating or loss of cooling alert when the temperature rises or falls 5°F during a heating or cooling demand. Since the starting temperature during a heating or cooling demand is arbitrary, this indicates that the upper and lower limit of the temperature band limit is varied according to a prior reading of the temperature indicator. *See, e.g.*: **Monitor HVAC system** Get smart alerts to help detect extreme temperatures & humidity levels or loss of heating/cooling.

	Source: Sensi Touch smart thermostat | Sensi US (emerson.com) **SENSI ALERT** / **TRIGGER** High temperature: Above 99°F Low temperature: Below 45°F High humidity: Above 70% Loss of heat/cool: Temp goes up or down 5°F during cycle Source: spec-sheet-sensi-touch-smart-thermostat-en-6309540.pdf (emerson.com) **Alert Name** / **Triggered** High Home Temperature: Temperature greater than 99°F Low Home Temperature: Temperature less than 45°F High Humidity: Humidity greater than 70% Loss of Heating: Room temperature goes down 5°F during a heating demand Loss of Cooling: Room temperature goes up 5°F during a cooling demand Source: Are there smart alerts available with Sensi thermostats? | Sensi US (emerson.com)

Claim 8

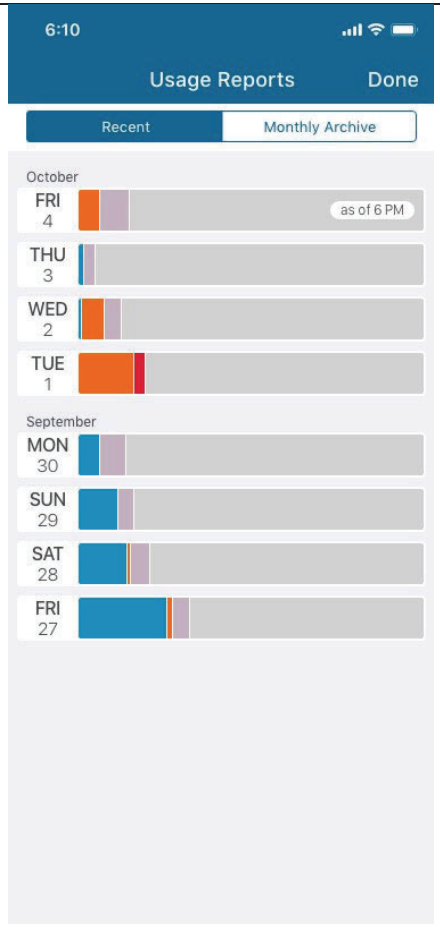
Claim 8	Exemplary Infringement Evidence
[8] The wireless automation device of claim 1 where the transceiver is configured to transmit the most recent reading of the indicator stored in the memory in response to	Each Accused Product comprises the wireless automation device of claim 1 where the transceiver is configured to transmit the most recent reading of the indicator stored in the memory in response to an externally-received transmission control signal received over the wireless network. For example, the Accused Products (including the Emerson Sensi Touch Smart Thermostat (ST75)) transmit the most recent indicator of temperature and humidity to the Sensi app when

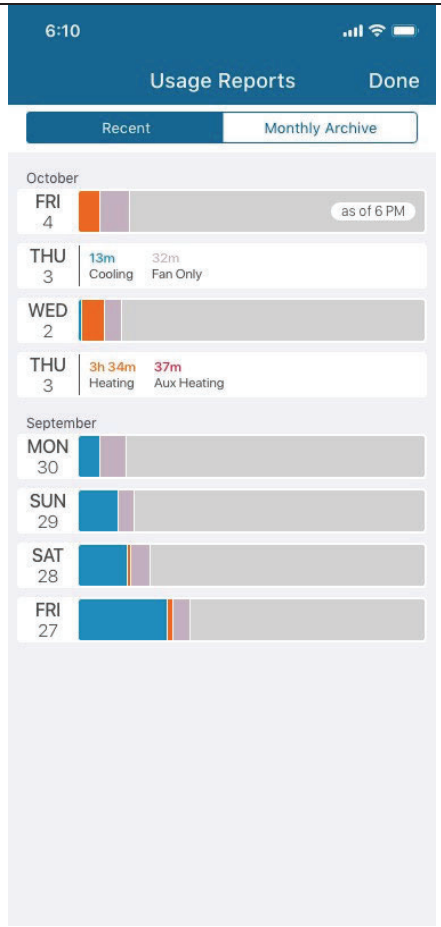
an externally-received transmission control signal received over the wireless network.	wireless network connection is established. This indicates an externally-received control signal was received over the wireless network that prompted the transmission of the temperature and humidity indicator readings. *See, e.g.*: **Thermostat Detail View** After observing how users interact with our iOS and Android applications, we made usability enhancements to surface the most commonly-used features on the thermostat. We removed the side menu and replaced it with a tab bar on the bottom of the thermostat detail view. You can now access thermostat settings and scheduling quickly and easily.  Source: Learn about your Sensi thermostat app | Sensi US (emerson.com)

Claim 14

Claim 14	Exemplary Infringement Evidence

[14] The wireless automation device of claim 1 where the memory stores timing data associated with the most recent reading and the at least one prior reading of the indicator.	Each Accused Product comprises the wireless automation device of claim 1 where the memory stores timing data associated with the most recent reading and the at least one prior reading of the indicator. For example, the Accused Products (including the Emerson Sensi Touch Smart Thermostat (ST75)) store readings of at least temperature and humidity. For example, the Accused Products monitor HVAC behavior and usage, which is based on readings with timing data. *See, e.g.*:  Source: Sensi Touch smart thermostat | Sensi US (emerson.com)



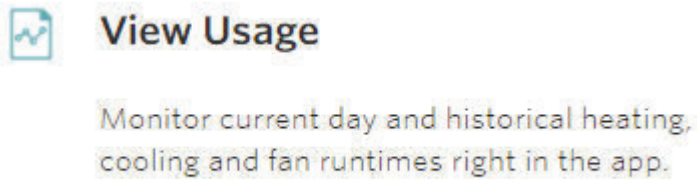


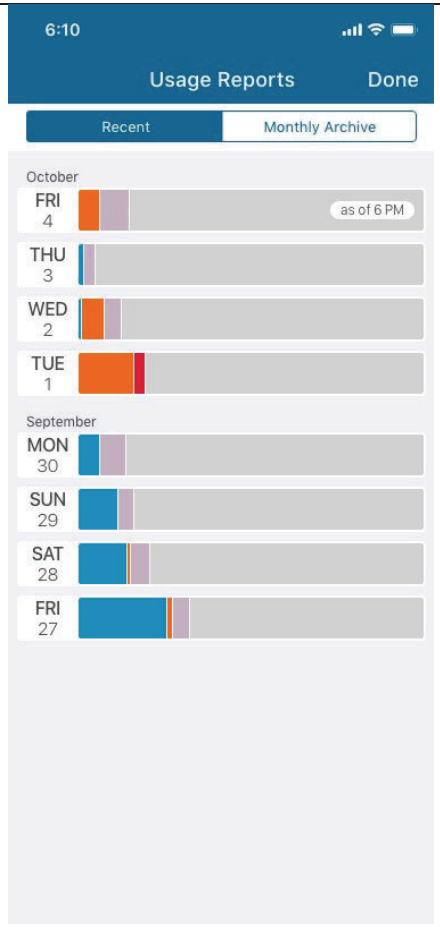
Source: Usage Reports | Sensi US (emerson.com)

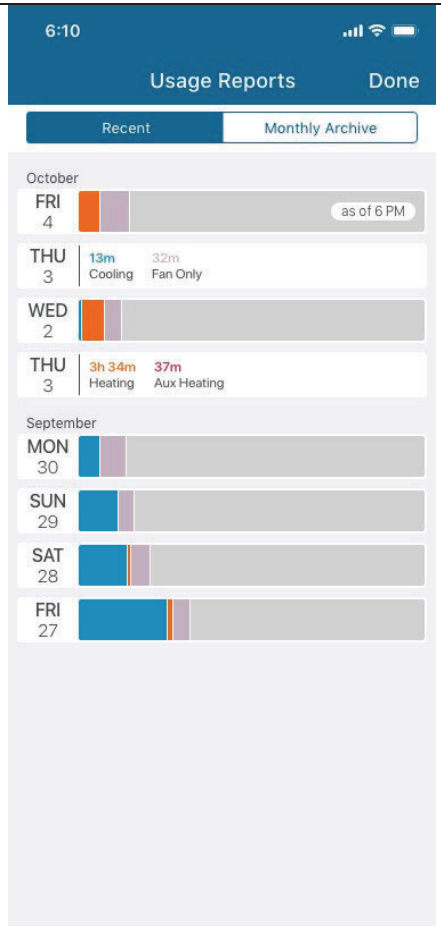
	Thermostat Detail View After observing how users interact with our iOS and Android applications, we made usability enhancements to surface the most commonly-used features on the thermostat. We removed the side menu and replaced it with a tab bar on the bottom of the thermostat detail view. You can now access thermostat settings and scheduling quickly and easily.  Source: Learn about your Sensi thermostat app | Sensi US (emerson.com)

Claim 15

Claim 15	Exemplary Infringement Evidence
[15] The wireless automation device of claim 1 where the transceiver is configured to transmit the timing data.	Each Accused Product comprises the wireless automation device of claim 1 where the transceiver is configured to transmit the timing data. For example, the Accused Products (including the Emerson Sensi Touch Smart Thermostat (ST75)) store readings of at least temperature and humidity. For example, the Accused Products monitor HVAC behavior and usage, which is based on readings with timing data. HVAC behavior and usage is visible on the Sensi app, which indicates the transceiver transmits the timing data.

	See, e.g.:  Source: Sensi Touch smart thermostat | Sensi US (emerson.com)





Source: Usage Reports | Sensi US (emerson.com)

	Thermostat Detail View After observing how users interact with our iOS and Android applications, we made usability enhancements to surface the most commonly-used features on the thermostat. We removed the side menu and replaced it with a tab bar on the bottom of the thermostat detail view. You can now access thermostat settings and scheduling quickly and easily.  Source: Learn about your Sensi thermostat app | Sensi US (emerson.com)

Claim 18

Claim 18	Exemplary Infringement Evidence
[18] The wireless automation device of claim 1, where the sensor is configured to sense an environmental condition.	Each Accused Product comprises the wireless automation device of claim 1, where the sensor is configured to sense an environmental condition. For example, the Accused Products (including the Emerson Sensi Touch Smart Thermostat (ST75)) sense the environmental conditions of at least temperature and humidity. *See, e.g.*:

Technical specifications





1. **Menu**
   Advanced features & Scheduling
2. **Set temperature**
3. **System mode**
   Heat/Cool/Auto/Off
4. **Humidity**
5. **Fan mode**
   On/Auto

Temperature range	**Setpoint range:** 45° to 99°F **Display:** 32° to 99°F **Operating:** 32° to 150°F
Humidity range	**Display:** 0% to 100% RH

Monitor HVAC system

Get smart alerts to help detect extreme temperatures & humidity levels or loss of heating/cooling.

Source: Sensi Touch smart thermostat | Sensi US (emerson.com)

SENSI ALERT	TRIGGER
High temperature:	Above 99˚F
Low temperature:	Below 45˚F
High humidity:	Above 70%
Loss of heat/cool:	Temp goes up or down 5˚F during cycle

Source: spec-sheet-sensi-touch-smart-thermostat-en-6309540.pdf (emerson.com)

Alert Name	Triggered
High Home Temperature	Temperature greater than 99°F
Low Home Temperature	Temperature less than 45°F
High Humidity	Humidity greater than 70%
Loss of Heating	Room temperature goes down 5°F during a heating demand
Loss of Cooling	Room temperature goes up 5°F during a cooling demand

Source: Are there smart alerts available with Sensi thermostats? | Sensi US (emerson.com)