



EMERSON Sensi Touch Smart Thermostat Installation Guide

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EMERSON Sensi Touch Smart Thermostat

Installation Guide

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Sensi™ Touch Smart Thermostat

1F95U-42WF Installation Training



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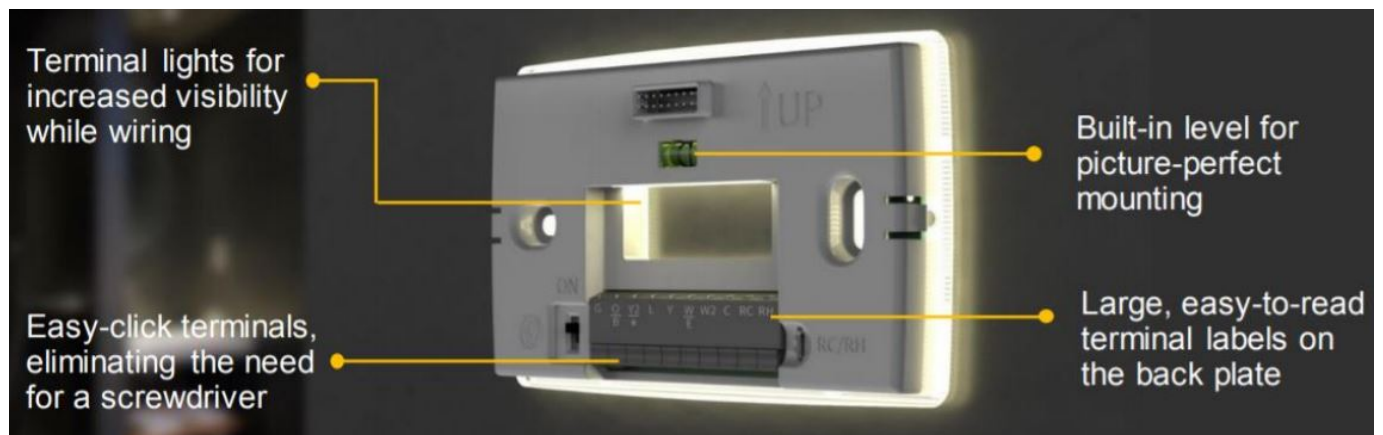
Overview

- Home comfort control – Anytime. Anywhere.
- Customizable HD color touchscreen
- Distinct, clean design with a bold lens to fit the modern home
- Intuitive app and hardware design – validated by research
- Flexibility to select options and programs that fit your lifestyle

Features

- Available in White or Black
- Color touch screen with unmatched clarity and usability
- Remote app control
- Geofencing smart feature and flexible scheduling options for energy savings
- High/Low temperature text alerts
- Extensive compatibility: heat, cool, heat pump, dual fuel
- Popular smart home platform integrations – Amazon Alexa, Google Assistant, Apple Home Kit, SmartThings and Wink
- Back glow with custom setting options
- Multi thermostat control capable for light commercial applications
- Auto changeover
- Humidity control







Easy install. Designed with you in mind.



Key Features

- Terminal lights for increased visibility while wiring
- Built-in level for picture-perfect mounting
- Easy-click terminals eliminating the need for a screwdriver
- Size that covers the existing footprint of most thermostats.
- Large, easy-to-read terminal labels on the back plate

Sensi Smart Thermostat Comparison

THERMOSTAT FEATURE		
MSRP	\$169	\$129
Aesthetics	Modern / Simple / Sleek	Traditional / Approachable
Interface	Capacitive Touchscreen	Buttons
System Type	Universal 4H/2C	Universal 4H/2C
Contractor branding	App only	Device & App
C-Wire Required	Yes	No
Humidity Control	✓	✓
Dual Fuel	✓	✓
Smart Feature - Geofencing	✓	✓
Keypad Lockout	✓	✓
 amazon alexa	✓	✓
 works with the Google Assistant	✓	✓
 Works with Apple HomeKit	✓	✓
 WORKS WITH SmartThings	✓	✓

Compatibility and common wire (c-wire) requirement

Common wire is required for

- Conventional heating and cooling systems
- Heat only or Cool only applications
- Heat pumps

Not compatible with

- Millivolt systems
 - *External 24 VAC transformer is an option.
- Communicating systems
- Line voltage systems

SYSTEM TYPE	COMPATIBILITY	MODIFICATIONS
Conventional heating and cooling • Gas furnace • Air conditioner • Electric furnace • Boiler	Yes	Requires a common wire (c-wire)
Heat only • Gas furnace • Electric furnace • Boiler	Yes	Requires a common wire (c-wire)
Cool only • Air conditioner	Yes	Requires a common wire (c-wire)
Heat pump	Yes	Requires a common wire (c-wire)
Communicating proprietary systems	No	Needs standard HVAC wiring
Line voltage	No	Requires low voltage (20-30VAC)
Millivolt systems	No	Requires 20-30VAC

Terminal outputs and common wire (c-wire) requirement

OLD THERMOSTAT	SENSI THERMOSTAT	CONVENTIONAL SYSTEM	HEAT PUMP SYSTEM
RH	RH [†]	Power for heating, 24V	
RC, R	RC [†]	Power for cooling, 24V	
C, X, B ^{**}	C	Common wire, 24V	
Y, Y1	Y	1st stage cool	1st outdoor stage heat
Y2	Y2/*	2nd stage cool or humidifier	2nd outdoor stage heat and cool or humidifier
W, W1, W/E, Aux/E, E	W/E	1st indoor stage heat	1st stage auxiliary/emergency heat
W2 ^{†††}	W2/*	2nd indoor stage heat or dehumidifier	2nd stage auxiliary/emergency heat or dehumidifier
G	G	Indoor blower (fan)	
O,B, ^{††} O/B	O/B	Changeover (reversing valve) connection for heat pump or zone panel systems	
L	L	no function	"L" terminal connection

The common wire could be labeled "C", "B" or "X" on the old thermostat. Please refer to the owner's manual of the old thermostat.

What if I don't have a common wire (c-wire)?

There are a few options if the application does not have or will not allow the pulling of a common wire (c-wire) through the wall.

1. Look for an unused wire in the thermostat cable bundle

[Video: Using an extra, unused wire as a common wire](#)

2. Use the "G" (Fan wire)

[Video: Using a g-wire \(fan wire\) as a common wire](#)

3. Install an Emerson Thermostat Common Wire Kit

[Video: Using an Emerson Thermostat Common Wire Kit](#)

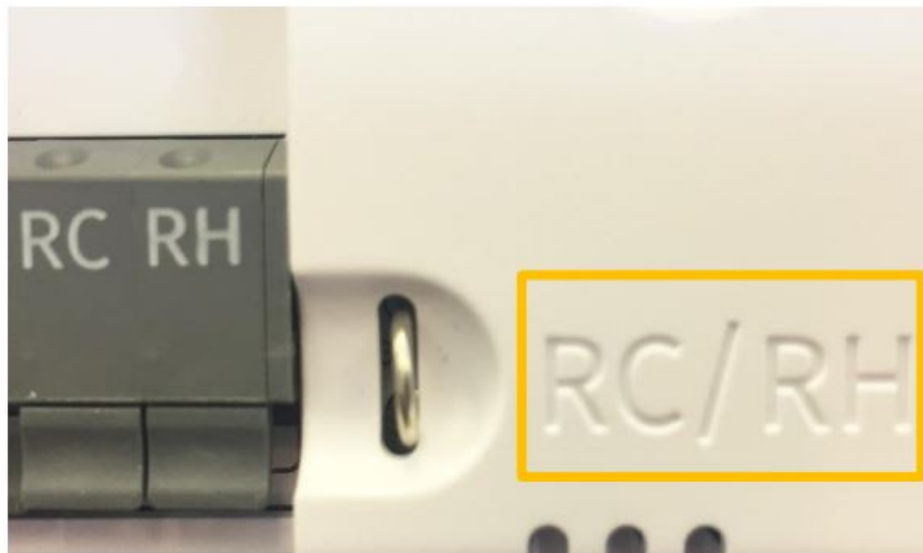
Do I need a RC/RH jumper?

No jumpers required

- Sensi Touch Smart Thermostat has a built in RC/RH jumper, no need to field install a jumper
- If you have separate wires to RC and RH terminals (two transformer systems)
 - Label the wires RC and RH separately and then clip the jumper wire on the Sensi back plate.

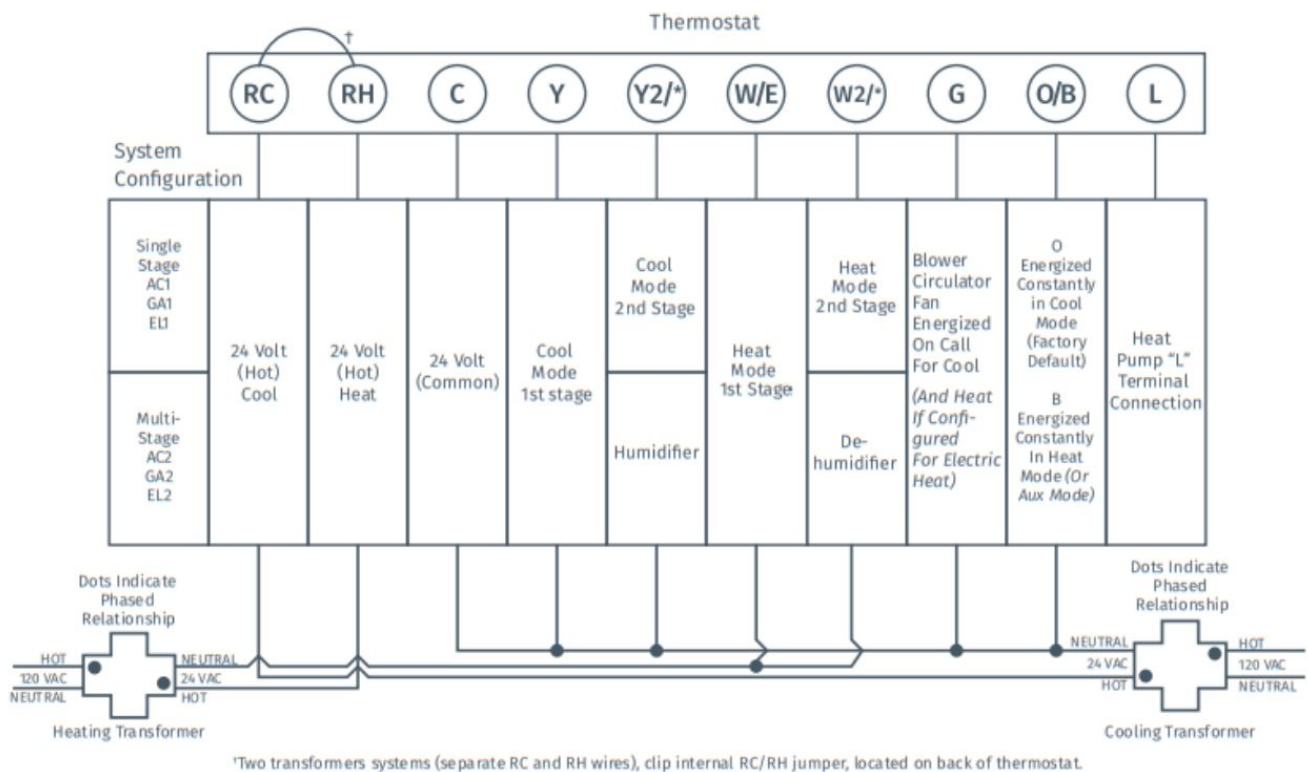
RC/RH jumper location

- RC/RH jumper built-in on the back of the thermostat



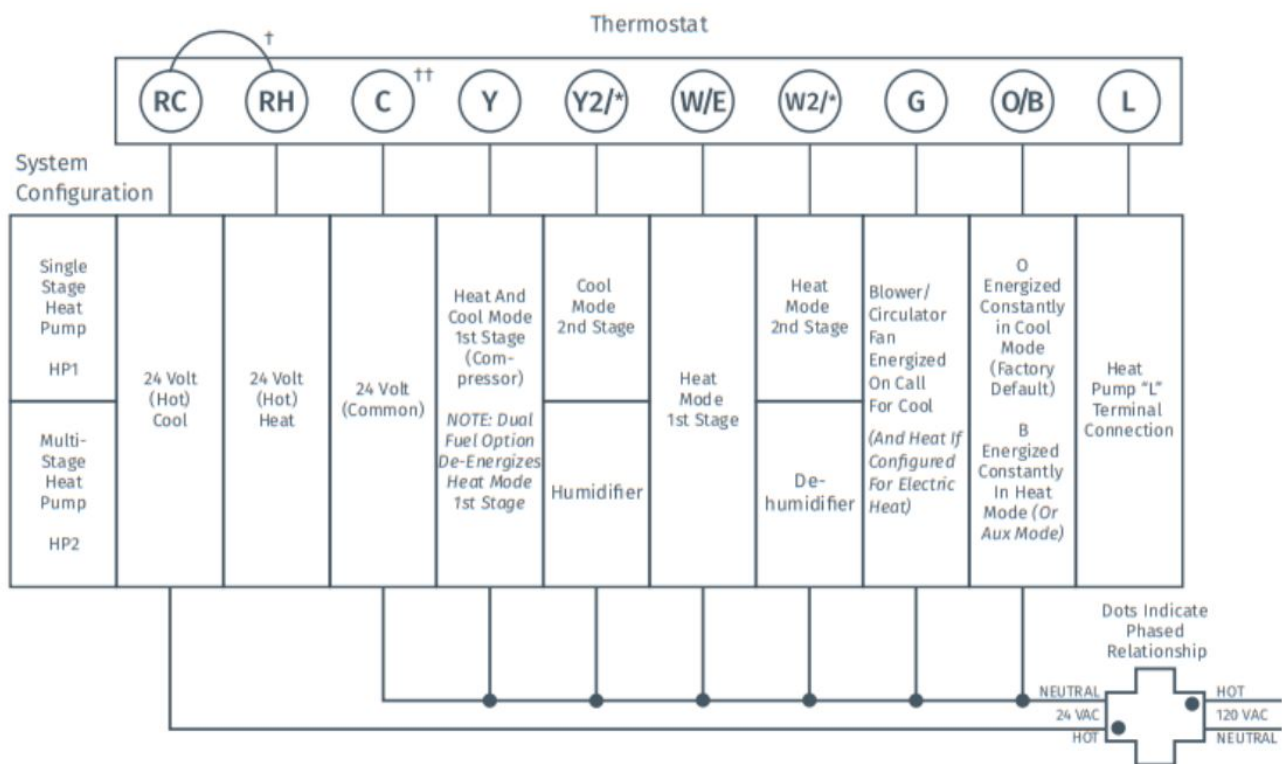
No jumpers are required when installing the Sensi Touch Smart Thermostat

Wiring – two transformer – conventional single stage or two stage systems



Quick tip: Thermostat wiring does not follow a standardized color code. Take a picture with your smart phone and label thermostat wires before removing old thermostat from the wall.

Wiring – heat pumps single stage or multi-stage systems



*Internal jumper between RC and RH, located on back of thermostat.
 **Common connection required on Heat-only, Cool-only or Heat Pump systems.

Quick tip: Thermostat wiring does not follow a standardized color code. Take a picture with your smart phone and label thermostat wires before removing old thermostat from the wall.

Heat pump wiring exceptions

Separate W2 and E Wires

- Both wires will be labeled W/E and attached to the same terminal.

HEAT PUMPS WITH SEPARATE WIRES ON W2 AND E			
Old thermostat		Label wire from wall	
W2	Separate wire	W/E	Both wires will be attached to the W/E terminal
E	Separate wire	W/E	

B Terminal Wires

- “B” terminal can be used for more than one. Here is the solution to cross.
 - If there is a wire on the “O” terminal, label the B wire C
 - If there is no wire on the “O” terminal, label the B wire O/B

B TERMINAL LABELING	
Old thermostat	Label wire from wall
B Wire on “O” terminal	C
B No wire on “O” terminal	O/B

System configuration and system type setup

1. Sleep Mode
2. Back glow
3. Home Screen Content
4. Schedule
5. Wi-Fi
6. About Thermostat
7. Advanced Setup
8. Setup HVAC
9. Fan Mode Options
10. Humidify
11. Dehumidify

Once configured, Sensi Touch Wi-Fi Thermostat operates like traditional thermostat until it is connected to Wi-Fi via a smartphone

CONFIGURATION MENU ITEMS REFERENCE

Menu item	Default	Options
Sleep Mode	Off	Turn sleep display mode on/off
Backglow	Off	Off / On
Home Screen Content	On	Indoor Humidity
	On	Time of Day
	°F	°F / °C
Schedule	-	5 / 2 Day Schedule
Wi-Fi	-	Connect to Wi-Fi
About Thermostat	-	Model Number/Reset
Advanced Setup		HVAC Equipment Fan Mode Options
Set Up HVAC Equipment	AC2 / EL2	
	AC2	Outdoor Setup AC1/AC2/HP1/HP2/None
	EL2	Indoor Setup GA1/GA2/EL1/EL2/Fan
	O	Reversing Valve Position O/B/6/None
	None	Additional Accessories None/Add
	No	Humidifier (wired to thermostat) Yes/No
	No	Dehumidifier (wired to thermostat) Yes/No
Fan Mode Options	Off	Circulating Fan Off/On 10% - 100% (5% increments)
Humidify	Off	Humidification Off/On
	40%	5%- 50% (5% increments)
Dehumidify	Off	Dehumidification Off/On
	50%	40% - 95% (5% increments)

System Compatibility List Humidity Control

- Heat **only**: Humidifier only
- Cool **only**: Dehumidifier only
- 1 stage heat, 1 stage cool: Humidifier and Dehumidifier
- 1 stage heat, 2 stage cool: Dehumidifier only*
- 2 stage heat, 1 stage cool: Humidifier only*
- 2 stage heat, 2 stage cool: None*

* Note: if the staging on a 2 stage heat or 2 stage cool system can be handled by the furnace/air handler board, that will open up the Y2 or W2 terminal for hum/dehum use.

How to Set Up Humidity Control on the Sensi Thermostat

Installation


- Install humidifier/dehumidifier equipment
 - Wire the whole-house humidifier to the Y2/* terminal
 - Wire the whole-house or standalone dehumidifier to the W2/* terminal
- On Sensi Touch, go to Advanced Setup in the menu and select Additional Accessories
- Depending on installed equipment, select appropriate configuration




Connecting to Wi-Fi in simple

1

Identify Sensi Model



Display only shows "Set up new network"




Display shows two setup options

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2

HomeKit Setup



Sensi can connect with Apple HomeKit so you can control and monitor your home through the Home app, Control Center, Siri, and Apple Watch.

[Find out more about HomeKit?](#)

If you have difficulty connecting using HomeKit, select "Skip for now"


Use HomeKit

Skip for Now

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Connect to Sensi Cloud




Tap "Manual Setup" to start the installation process.

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4

Connect to Sensi

1 Tap your Home Button and open your Settings. Select Wi-Fi.



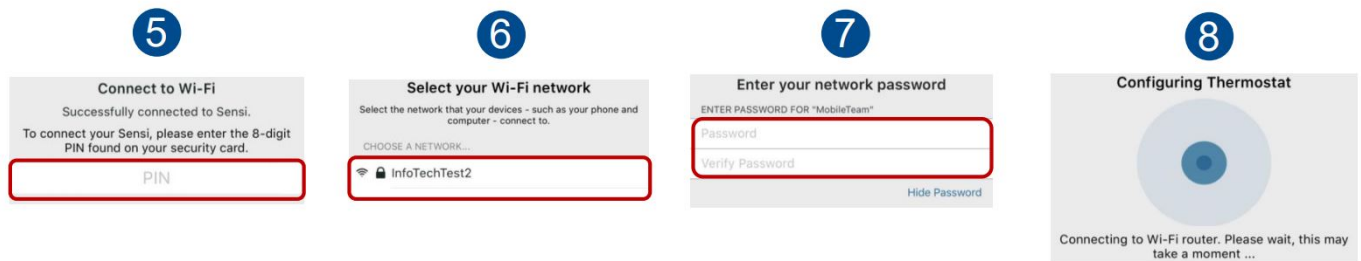
2 Connect to the Wi-Fi network that matches your Sensi thermostat. It will look like the example below.

CHOOSE A NETWORK...

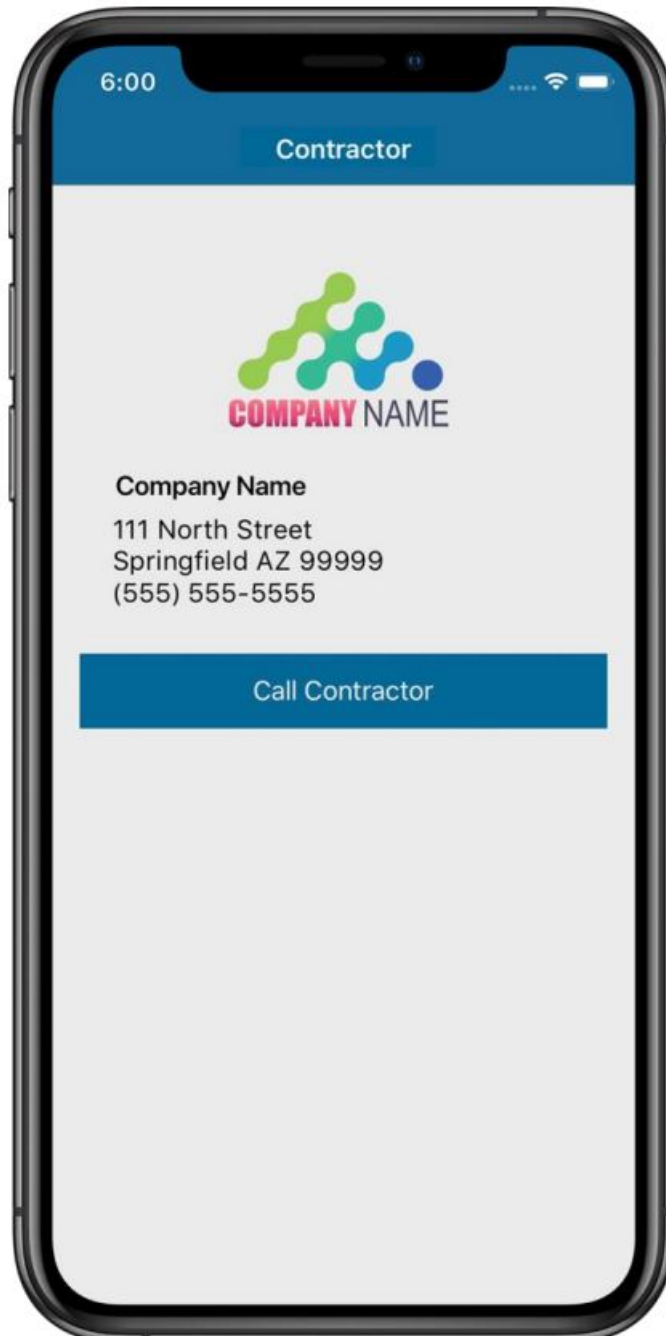
Sensi_XXXXXX

3 Return to the app and press the Next button below when finished.

Previous Next



Connect with your customers Anytime. Anywhere.



- Register your company at www.SensiRegistration.com
 - Upload your logo which will be displayed in your customer's phone
- During installation, enter your registered phone number in the Sensi app
 - The Sensi app stores your contact information in your customer's phone.

- When your customer needs service, you're just a tap away.
— Also, if your customer receives a smart alert due to a system issue, your contact information will be included

Grow your business with a light commercial solution from Sensi

Sensi Multiple Thermostat Manager offers a simple, affordable solution for property-wide comfort control, connected in one place.

Learn more and take a FREE test drive at sensi.emerson.com/mtm



Total Comfort Control

Monitor multiple commercial thermostats from anywhere through the intuitive portal featuring drag-and-drop functionality.



Keypad Lockout & Temperature Limits

Maintain total control of your thermostat settings by setting temperature limits or disabling changes made outside of the online control portal.



Group Scheduling Monitor

Easily consolidate and customize settings across multiple thermostats by grouping and sorting.



Energy Saving Features

Remote control and flexible batch scheduling can minimize energy waste and help you save money.



Extensive Compatibility*

Works with HVAC systems in most facilities. All you need are our highly-rated Sensi Smart Thermostats.



Smart Alerts

Enable optional notifications that let you know when and where extreme temperature or humidity changes are detected in your building(s).

Learn more at emerson.com/sensipro

Sensi™ Touch

Smart Thermostat

1F95U-42WF Installation Training



Documents / Resources



[EMERSON Sensi Touch Smart Thermostat](#) [pdf] Installation Guide

Sensi Touch Smart Thermostat

References

- [Sensi for Professionals | Emerson US](#)
- [S Sensi Multiple Thermostat Manager | Unlimited Thermostat Control | Sensi US](#)
- [Join the Sensi™ partner program](#)
- [Join the Sensi™ partner program](#)
- [S Sensi Multiple Thermostat Manager | Unlimited Thermostat Control | Sensi US](#)
- [Sensi installation: Using a g-wire \(fan wire\) as a common wire - YouTube](#)
- [Sensi installation: Using an extra, unused wire as a common wire - YouTube](#)
- [Sensi installation: Emerson Thermostat Common Wire kit - YouTube](#)