



WiFi Touchscreen Thermostat

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RTH8580WF1007/W1

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Why won't my RTH8500WF WiFi Series WiFi Touchscreen Programmable Thermostat screen power up?

The thermostat operates between 20-30 VAC, ""supplied"" to the R/RC terminals and ""returning"" through the C terminal. A C wire, connected to C on the equipment, is required for the thermostat to power itself.

Verify the furnace / air handler door is closed, the power switch is on, and the breakers are on.

Confirm you have a C wire in the C terminal. If your previous thermostat did not use a C wire, it's unlikely that it is connected at the equipment. Verify the C wire is connected to the C terminal in your furnace or air handler.

Check your jumper wire. If you have a wire in the R terminal and no wire in the RC terminal, verify the jumper wire is inserted between the R and Rc terminals. If you have a wire in the R terminal and a wire in the Rc terminal, the jumper wire will be removed.

Advanced steps:

Using a multimeter, measure the AC voltage between your R/ RC wire and your C wire. Your thermostat operates between 20-30VAC, any reading outside this range should be addressed by a Professional Contractor.

Why is my RTH8500WF WiFi Series WiFi Touchscreen Programmable Thermostat set to Heating, but I feel Cool or Mild Air and not heat? (Or Why is my thermostat set to Cooling but I feel Heat or Mild air and not cooling?)

Check your wires. If you have a wire in the RC terminal and no wire in the R terminal, insert the jumper wire. If you have a wire in the R terminal and a wire in the Rc terminal, remove the jumper wire.

Check your wiring. If you have a heat pump, you may or may not have a backup heat source. (W controls your first stage of heating for Gas/Oil/Electric systems. O/B and Y control your first stage heating for heat pump systems. Backup heat sources must be connected to the W2, Aux, or E terminal for proper functionality.) If necessary, follow the wires back to your furnace or air handler and confirm the wires match the terminals on the control board.

Check your configuration. Most commonly, O/B is energized in Cooling (O on cool). For Rheem or Ruud brand heat pumps, the O/B must energize on heating (B on Heat).

Why is my RTH8500WF WiFi Series WiFi Touchscreen Programmable Thermostat not connecting to WiFi, or losing WiFi connection frequently?

Trouble connecting?

If you are unable to complete the connection process, attempt the following before proceeding:

Turn off mobile data. This allows the thermostat and mobile device to communicate via the same communication method and can help with the registration process.

Attempt to connect and register the thermostat to a mobile hotspot. This allows the registration data to bypass any network security that may be causing the connection failure. Once successfully registered, a Wi-Fi Reset can be performed to move the thermostat to the home Wi-Fi network.

Attempt to use an alternate mobile device – some mobile devices use security features that can disrupt the registration process.

Wi-Fi Network Recommendations:

If you experience inability to connect, failure to register, or frequent Wi-Fi signal loss, verify the following:

You may need assistance from your Internet Service Provider to verify/ change some settings

2.4GHz bandwidth Network (Simultaneous 2.4/5GHz networks that experience connectivity failure may require a separate dedicated 2.4GHz network to be calibrated)

Connect directly to the router signal – Not recommended for use with signal booster, satellites, or extenders.

Business Networks (Enterprise networks, guest networks, or networks that require logging in via a web page/portal) are not supported.

Gateways or Network switches can block communication and are not supported.

Recommended WPA2-AES Network Security Protocol

DHCP Enabled – Static networks not supported

UPnP / P2P Enabled

Band-Steering Disabled

Why is my RTH8500WF WiFi Series WiFi Touchscreen Programmable Thermostat not following my schedule?

Your thermostat is equipped with the Adaptive Recovery feature, which allows the thermostat to “learn” how long it takes to reach a desired setpoint and begin heating or cooling earlier than your scheduled start time. To disable this feature, go to use the User Guide to access the Installer Setup.

Other causes can include incorrect time setting on the thermostat, or if connected to WiFi and registered, incorrect zip code being listed under the location settings. *Only available to modify from the My Total Connect Comfort web portal – not currently supported in the mobile app*

Why is my Heating not Working on my RTH8500WF WiFi Series WiFi Touchscreen Programmable Thermostat?

Your primary heating (1st stage) is controlled by the W terminal on your thermostat. (Or the Y and O/B terminal if you have a heat pump system)

Confirm the thermostat is set to Heat mode and the setpoint is set to a temperature higher than the display temperature.

Confirm the message “Heat On” is solid (not flashing) on the thermostat display.

Confirm your wiring is correct, and the wires have good contact in the terminals (tug gently on the wires)

Check your jumper wire. To operate heating, the thermostat requires power to the R terminal. (If you have a wire in the RC terminal and no wire in the R terminal, insert the jumper wire between the R and Rc terminals)

Advanced steps:

Using a multimeter, measure the AC voltage between your R wire and your W wire (between Rc and Y for heatpump systems). Your thermostat operates between 20-30VAC, any reading outside this range should be addressed by a Professional Contractor.

Why is my Cooling not Working on my RTH8500WF WiFi Series WiFi Touchscreen Programmable Thermostat?

Your primary cooling (1st stage) is controlled by the Y terminal on your thermostat. (Or the Y and O/B terminal if you have a heat pump system) In addition, the G terminal is activated to turn on the fan in your home to circulate

the cooler air.

Confirm the furnace / air handler door is closed and turned on. Check the circuit breaker to your equipment.

Confirm the thermostat is set to Cool mode and the setpoint (the smaller number at the top of the thermostat display), is set to a temperature lower than the display temp (the larger number in the center of the display).

Confirm the message “Cool On” is solid (not flashing) on the thermostat display.

Confirm your wiring is correct, and the wires have good contact in the terminals (tug gently on the wires)

Advanced steps:

Using a multimeter, measure the AC voltage between your Rc wire and your Y wire. Your thermostat operates between 20-30VAC, any reading outside this range should be addressed by a Professional Contractor.

What are the features on my RTH8500WF WiFi Series WiFi Touchscreen Programmable Thermostat?

The user guide for each thermostat has the full list of features / functions.

TH8320WF

[TH8320WF VisionPRO Wi-Fi 8000 User Manual](#)

RTH8580WF

[RTH8580WF VisionPRO Wi-Fi 8000 User Guide](#)

TH8321WF

[TH8321WF VisionPRO Wi-Fi 8000 User Guide](#)

What extra features do I get by connecting to WiFi and registering my RTH8500WF WiFi Series WiFi Touchscreen Programmable Thermostat?

When connected to the My Total Connect Comfort web portal and mobile app, the 8000 WiFi gains access to a variety of features and functionality. In addition to the thermostat controls, internal settings are available, as well as settings unique to the thermostat “location” and mobile app itself.

To use your thermostat remotely, registration must first be completed at www.mytotalconnectcomfort.com. Once registered, the My Total Connect Comfort mobile app can be used to control the thermostat, as well as the web portal. (Registration can only be completed at the web portal currently)

*Integrations with 3rd party applications / devices (such as Google Home, Samsung Smart Things, etc.) can only be completed once the thermostat is registered at My Total Connect Comfort.

Smart features include:

- Remote control of your thermostat from your mobile device
- Managing users and schedules on the go
- Voice control through Amazon Alexa, Google Assistant, and more

- Rewards from your utility

Account Settings:

Edit My Profile – Modify your name, address, and email or delete your account

Change my password – enter a new permanent password

+Grant Customer Support Access – allows Customer Care to access your account for troubleshooting / maintenance

+Add Location – create a new location to register devices

+Grant User Access – add / remove other account holders access to your locations / devices

Location Settings:

Modify / delete the location name, type, and address. Add / remove notification contacts. Add/remove devices.

Thermostat Settings:

High temperature Notification – 32°-104° : Immediately, 15 min, 30 min, 45 min, 1-6 hrs

Low temperature notification – 32°-104° : Immediately, 15 min, 30 min, 45 min, 1-6 hrs

High humidity notification – 5%-95% : Immediately, 15 min, 30 min, 45 min, 1-6 hrs

Low humidity notification – 5%-95% : Immediately, 15 min, 30 min, 45 min, 1-6 hrs

Wi-Fi connection lost notification – 1-6 hrs offline

Failed to make changes notification – Immediately, 15 min, 30 min, 45 min, 1-6 hrs

Repeat Notification reminder – 1-6 hrs

All Clear notification – Immediately

Heat/Cool system notifications – Once

Thermostat Functions:

Setpoint: Adjust the desired temperature of your home

Mode: Change the system mode (Settings include: Heat, Cool, Off, Auto, and Em Heat [Emergency Heat] depending on the configuration of your thermostat. Auto mode is only available if your thermostat is configured to use Auto-Changeover. Emergency Heat is only available if your thermostat is configured for a heatpump with emergency heat.

Fan: Change the Fan setting. (Settings include On, Circulate and Auto). On turns the fan on permanently, Auto

only turns on the fan when Heating or Cooling is being provided. Circulate runs the fan 33% of every hour.

Schedule: View / Modify the current schedule

Outdoor Weather / Forecast: Display current outdoor weather (based on zip code related to accuweather) and display 5-day forecast

How do I wire my RTH8500WF WiFi Series WiFi Touchscreen Programmable Thermostat?

Wiring Details:

The thermostat uses 1 wire to control each of your HVAC system's primary functions, such as heating, cooling, fan, etc. See the diagram below for what each wire controls on your system:

Y – Compressor Stage 1 (Cooling)

Y2 – Compressor Stage 2 (Cooling)

G – Fan

C – Common

L/A – A – Input for heat pump fault

W -O/B – Heat Stage 1 (Heating) / Reversing valve for Heat Pump systems

W2 -Aux/E – Heat Stage 2 (Heating) / Backup Heat

R – 24vac (Heating transformer)

Rc – 24vac (Cooling transformer)

At its most basic, your thermostat connects terminals via internal relays to send power to these different wires to control your HVAC system. For instance, for a gas furnace to turn on the heat, the thermostat internally connects the R terminal (power) to the W terminal (heat stage 1) to turn on the furnace.

How do I configure my RTH8500WF WiFi Series WiFi Touchscreen Programmable Thermostat?

Configuring during initial setup:

When powered, after setting the time and date, the thermostat will display 2 sets of numbers, one set on the left of the display and one set on the right. Use the User or Installation Guide to configure your thermostat for your system.

After finishing the setup, the thermostat will control your heating and cooling system normally.

Wi-Fi – After installing your thermostat, Wi-Fi Setup will display on your thermostat screen (TH8320WF / RTH8580WF) This indicator means your thermostat is broadcasting it's own Wi-Fi network and is ready to be paired.

Or, your thermostat will prompt you to connect to Wi-Fi at the end of the setup (TH8321WF).

Connect to the mobile app / web portal – After Connecting to Wi-Fi you can register your thermostat at www.mytotalconnectcomfort.com/portal. Create an account, login and add your thermostat by inputting the MAC ID / CRC (located on your thermostat information card, or on the back of the thermostat])

Reconfiguring your thermostat:

At any time, the configuration of your thermostat can be modified from the Installer Setup of your thermostat. Access the Installer Setup by pressing the System button and holding the center blank box at the bottom of the thermostat for 5-10 seconds until the screen changes (TH8320WF / RTH8580WF). On the TH8321WF, select the Menu > Installer Options, then enter the Date Code (located on the back of the thermostat or from the Menu > Equipment Status screen). Use the User or Installer Guide to navigate / modify the settings.

Modifying your system configuration can cause improper operation. Verify you fully understand your system type before reconfiguring any settings.

How do I connect my RTH8500WF WiFi Series WiFi Touchscreen Programmable Thermostat to WiFi and register it?

Connecting your thermostat to Wi-Fi can be performed during the initial setup and configuration, or later at a time you choose.

Connecting to Wi-Fi – Initial Setup:

After the Configuration step during the initial install, you will be prompted to connect your VisionPRO Wi-Fi 8000 to your Home Wi-Fi.

The VisionPRO Wi-Fi 8000 (TH8321WF) can be connected to Wi-Fi on the thermostat itself after initial setup / configuration, or from the Menu > Wi-Fi Setup screen. After successful connection, register your product on the mytotalconnectcomfort.com/portal website to complete the process and control the thermostat remotely.

The VisionPRO Wi-Fi 8000 (RTH8580WF / TH8320WF) uses a 3-step connection and registration process

Step 1 – Connect your mobile device to the thermostat's Wi-Fi network (NewThermostatxxxxxx)

Step 2 – Connect the thermostat to your home Wi-Fi (via an internet browser on your mobile device)

Step 3 – Register in the My Total Connect Comfort web portal

Registration cannot be performed with the mobile app, currently only supported via the web portal

Step 1 – Connecting your mobile device to the thermostat's Wi-Fi network (NewThermostatxxxxxx)

Once installed and configured, the (TH8320WF / RTH8580WF) thermostat will display "Wi-Fi Setup". Open the Settings – Wi-Fi on your mobile device and connect to the Wi-Fi network named "NewThermostatxxxxxx".

If your thermostat does not display Wi-Fi Setup remove the thermostat faceplate from the wall plate for 30 seconds and then reattach it. If Wi-Fi setup does not display, enter the Installer Setup (press the System button, then hold the center blank box at the bottom of the thermostat display for 5-10 seconds until the screen changes) and use the User / Installation Guide to navigate the settings to function 0890 . Make sure function 0890 is set to 1, then proceed to function 0900. Use the up or down arrow to change function 0900 function to 0 then press done. WiFi setup will then be displayed on the screen. Return to step 1.

TH8321WF – After initial configuration, you will be prompted to connect to WiFi. Select your Home Wi-Fi network, then enter the password on your thermostat screen

Step 2 – Connect the thermostat to your home Wi-Fi (via an internet browser on your mobile device)

Skip this step for the TH8321WF.

TH8320WF / RTH8580WF – After connecting to the thermostat Wi-Fi, open a web browser (Safari, Chrome, etc.) You should be automatically guided to a page labeled “Thermostat Wi-Fi Setup. If you are not automatically guided there, enter the IP address: 192.168.1.1 into the address bar on your browser to navigate there manually.

You should see your Home Wi-Fi network listed. Select it and enter your Wi-Fi password. After a brief connection period, your thermostat will display a “Connection Success” message. Reconnect your phone to your home wi-Fi network if your device does not reconnect automatically

If you do not see your home Wi-Fi network, refresh the list. If your Wi-Fi network is still not displayed, check the Trouble Connecting? / Wi-Fi network recommendations below.

Step 3 – Register at mytotalconnectcomfort.com/portal

Registration is completed at mytotalconnectcomfort.com/portal. Navigate to the page and create an account / login.

Select the “Add Device” icon and Input the MAC ID / CRC for your device. (MAC ID / CRC are located on your thermostat information card, on the back of the thermostat, or from the Menu > Equipment Status screen])

Complete the security check (if prompted) and follow the directions within the web portal to complete the registration.

How do I change or reset the WiFi connection on my RTH8500WF WiFi Series WiFi Touchscreen Programmable Thermostat?

Wi-Fi Reset:

A basic Wi-Fi reset can be completed by removing the thermostat face plate from the wall plate for 30 seconds and then reattaching it. The thermostat will then attempt to reconnect to the previously configured Wi-Fi network. To connect to a new Wi-Fi network:

TH8320WF / RTH8580WF – Proceed to step 1 to “forget” the current Wi-Fi configuration and connect to a new network. If your thermostat is already registered to your account, step 2 and step 3 are not required.

TH8321WF – On the thermostat screen, select Menu – WiFi setup. Press the down arrow until “Disconnect Wi-Fi network?” is displayed and select Yes.

Connecting your thermostat to Wi-Fi can be performed during the initial setup and configuration, or later at a time you choose.

Connecting to Wi-Fi – Initial Setup:

After the Configuration step during the initial install, you will be prompted to connect your VisionPRO Wi-Fi 8000 to your Home Wi-Fi.

The VisionPRO Wi-Fi 8000 (TH8321WF) can be connected to Wi-Fi on the thermostat itself after initial setup / configuration, or from the Menu > Wi-Fi Setup screen. After successful connection, register your product on the mytotalconnectcomfort.com/portal website to complete the process and control the thermostat remotely.

The VisionPRO Wi-Fi 8000 (RTH8580WF / TH8320WF) uses a 3-step connection and registration process

Step 1 – Connect your mobile device to the thermostat's Wi-Fi network (NewThermostatxxxxxx)

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Step 3 – Register with Honeywell / resideo. (Performed in the My Total Connect Comfort web portal)

Registration cannot be performed with the mobile app, currently only supported via the web portal

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TH8321WF – After initial configuration, you will be prompted to connect to WiFi. Select your Home Wi-Fi network, then enter the password on your thermostat screen

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Skip this step for the TH8321WF.

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How do I configure my RTH8500WF WiFi Series WiFi Touchscreen Programmable Thermostat?

Configuring during initial setup:

When powered, after setting the time and date, the thermostat will display 2 sets of numbers, one set on the left of the display and one set on the right. Use the User or Installation Guide to configure your thermostat for your system.

After finishing the setup, the thermostat will control your heating and cooling system normally.

Wi-Fi – After installing your thermostat, Wi-Fi Setup will display on your thermostat screen (TH8320WF / RTH8580WF) This indicator means your thermostat is broadcasting it's own Wi-Fi network and is ready to be paired.

Or, your thermostat will prompt you to connect to Wi-Fi at the end of the setup (TH8321WF).

Connect to the mobile app / web portal – After Connecting to Wi-Fi you can register your thermostat at www.mytotalconnectcomfort.com/portal. Create an account, login and add your thermostat by inputting the MAC ID / CRC (located on your thermostat information card, or on the back of the thermostat)]

Reconfiguring your thermostat:

At any time, the configuration of your thermostat can be modified from the Installer Setup of your thermostat. Access the Installer Setup by pressing the System button and holding the center blank box at the bottom of the thermostat for 5-10 seconds until the screen changes (TH8320WF / RTH8580WF). On the TH8321WF, select the Menu > Installer Options, then enter the Date Code (located on the back of the thermostat or from the Menu > Equipment Status screen). Use the User or Installer Guide to navigate / modify the settings.

Modifying your system configuration can cause improper operation. Verify you fully understand your system type before reconfiguring any settings.

How do I change or reset the WiFi connection on my RTH8500WF WiFi Series WiFi Touchscreen Programmable Thermostat?

Wi-Fi Reset:

A basic Wi-Fi reset can be completed by removing the thermostat face plate from the wall plate for 30 seconds and then reattaching it. The thermostat will then attempt to reconnect to the previously configured Wi-Fi network. To connect to a new Wi-Fi network:

TH8320WF / RTH8580WF – Proceed to step 1 to “forget” the current Wi-Fi configuration and connect to a new network. If your thermostat is already registered to your account, step 2 and step 3 are not required.

TH8321WF – On the thermostat screen, select Menu – WiFi setup. Press the down arrow until “Disconnect Wi-Fi network?” is displayed and select Yes.

Connecting your thermostat to Wi-Fi can be performed during the initial setup and configuration, or later at a time you choose.

Connecting to Wi-Fi – Initial Setup:

After the Configuration step during the initial install, you will be prompted to connect your VisionPRO Wi-Fi 8000 to your Home Wi-Fi.

The VisionPRO Wi-Fi 8000 (TH8321WF) can be connected to Wi-Fi on the thermostat itself after initial setup / configuration, or from the Menu > Wi-Fi Setup screen. After successful connection, register your product on the mytotalconnectcomfort.com/portal website to complete the process and control the thermostat remotely.

The VisionPRO Wi-Fi 8000 (RTH8580WF / TH8320WF) uses a 3-step connection and registration process

Step 1 – Connect your mobile device to the thermostat’s Wi-Fi network (NewThermostatxxxxxx)

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Registration cannot be performed with the mobile app, currently only supported via the web portal

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Once installed and configured, the (TH8320WF / RTH8580WF) thermostat will display “Wi-Fi Setup”. Open the Settings – Wi-Fi on your mobile device and connect to the Wi-Fi network named “NewThermostatxxxxxx”.

If your thermostat does not display Wi-Fi Setup remove the thermostat faceplate from the wall plate for 30 seconds and then reattach it. If Wi-Fi setup does not display, enter the Installer Setup (press the System button, then hold the center blank box at the bottom of the thermostat display for 5-10 seconds until the screen changes) and use the User / Installation Guide to navigate the settings to function 0890 . Make sure function 0890 is set to 1, then proceed to function 0900. Use the up or down arrow to change function 0900 function to 0 then press done. WiFi setup will then be displayed on the screen. Return to step 1.

TH8321WF – After initial configuration, you will be prompted to connect to WiFi. Select your Home Wi-Fi network, then enter the password on your thermostat screen

Step 2 – Connect the thermostat to your home Wi-Fi (via an internet browser on your mobile device)

Skip this step for the TH8321WF.

TH8320WF / RTH8580WF – After connecting to the thermostat Wi-Fi, open a web browser (Safari, Chrome, etc.) You should be automatically guided to a page labeled “Thermostat Wi-Fi Setup. If you are not automatically guided there, enter the IP address: 192.168.1.1 into the address bar on your browser to navigate there manually.

You should see your Home Wi-Fi network listed. Select it and enter your Wi-Fi password. After a brief connection period, your thermostat will display a “Connection Success” message. Reconnect your phone to your home wi-Fi network if your device does not reconnect automatically

If you do not see your home Wi-Fi network, refresh the list. If your Wi-Fi network is still not displayed, check the Trouble Connecting? / Wi-Fi network recommendations below.

Step 3 – Register at mytotalconnectcomfort.com/portal

Registration is completed at mytotalconnectcomfort.com/portal. Navigate to the page and create an account / login.

Select the “Add Device” icon and Input the MAC ID / CRC for your device. (MAC ID / CRC are located on your thermostat information card, on the back of the thermostat, or from the Menu > Equipment Status screen])

Complete the security check (if prompted) and follow the directions within the web portal to complete the registration.

What are the features on my RTH8500WF WiFi Series WiFi Touchscreen Programmable Thermostat?

The user guide for each thermostat has the full list of features / functions.

TH8320WF

[TH8320WF VisionPRO Wi-Fi 8000 User Manual](#)

RTH8580WF

TH8321WF

[TH8321WF VisionPRO Wi-Fi 8000 User Guide](#)

What extra features do I get by connecting to WiFi and registering my RTH8500WF WiFi Series WiFi Touchscreen Programmable Thermostat?

When connected to the My Total Connect Comfort web portal and mobile app, the 8000 WiFi gains access to a variety of features and functionality. In addition to the thermostat controls, internal settings are available, as well as settings unique to the thermostat "location" and mobile app itself.

To use your thermostat remotely, registration must first be completed at www.mytotalconnectcomfort.com. Once registered, the My Total Connect Comfort mobile app can be used to control the thermostat, as well as the web portal. (Registration can only be completed at the web portal currently)

*Integrations with 3rd party applications / devices (such as Google Home, Samsung Smart Things, etc.) can only be completed once the thermostat is registered at My Total Connect Comfort.

Smart features include:

- Remote control of your thermostat from your mobile device
- Managing users and schedules on the go
- Voice control through Amazon Alexa, Google Assistant, and more
- Rewards from your utility

Account Settings:

Edit My Profile – Modify your name, address, and email or delete your account

Change my password – enter a new permanent password

+Grant Customer Support Access – allows Customer Care to access your account for troubleshooting / maintenance

+Add Location – create a new location to register devices

+Grant User Access – add / remove other account holders access to your locations / devices

Location Settings:

Modify / delete the location name, type, and address. Add / remove notification contacts. Add/remove devices.

Thermostat Settings:

High temperature Notification – 32°-104° : Immediately, 15 min, 30 min, 45 min, 1-6 hrs

Low temperature notification – 32°-104° : Immediately, 15 min, 30 min, 45 min, 1-6 hrs

High humidity notification – 5%-95% : Immediately, 15 min, 30 min, 45 min, 1-6 hrs

Low humidity notification – 5%-95% : Immediately, 15 min, 30 min, 45 min, 1-6 hrs

Wi-Fi connection lost notification – 1-6 hrs offline

Failed to make changes notification – Immediately, 15 min, 30 min, 45 min, 1-6 hrs

Repeat Notification reminder – 1-6 hrs

All Clear notification – Immediately

Heat/Cool system notifications – Once

Thermostat Functions:

Setpoint: Adjust the desired temperature of your home

Mode: Change the system mode (Settings include: Heat, Cool, Off, Auto, and Em Heat [Emergency Heat] depending on the configuration of your thermostat. Auto mode is only available if your thermostat is configured to use Auto-Changeover. Emergency Heat is only available if your thermostat is configured for a heatpump with emergency heat.

Fan: Change the Fan setting. (Settings include On, Circulate and Auto). On turns the fan on permanently, Auto only turns on the fan when Heating or Cooling is being provided. Circulate runs the fan 33% of every hour.

Schedule: View / Modify the current schedule

Outdoor Weather / Forecast: Display current outdoor weather (based on zip code related to accuweather) and display 5-day forecast

Why won't my RTH8500WF WiFi Series WiFi Touchscreen Programmable Thermostat screen power up?

The thermostat operates between 20-30 VAC, ""supplied"" to the R/RC terminals and ""returning"" through the C terminal. A C wire, connected to C on the equipment, is required for the thermostat to power itself.

Verify the furnace / air handler door is closed, the power switch is on, and the breakers are on.

Confirm you have a C wire in the C terminal. If your previous thermostat did not use a C wire, it's unlikely that it is connected at the equipment. Verify the C wire is connected to the C terminal in your furnace or air handler.

Check your jumper wire. If you have a wire in the R terminal and no wire in the RC terminal, verify the jumper wire is inserted between the R and Rc terminals. If you have a wire in the R terminal and a wire in the Rc terminal, the jumper wire will be removed.

Advanced steps:

Using a multimeter, measure the AC voltage between your R/ RC wire and your C wire. Your thermostat operates between 20-30VAC, any reading outside this range should be addressed by a Professional Contractor.

Why is my RTH8500WF WiFi Series WiFi Touchscreen Programmable Thermostat set to Heating, but I feel Cool or Mild Air and not heat? (Or Why is my thermostat set to Cooling but I feel Heat or Mild air and not cooling?)

Check your wires. If you have a wire in the RC terminal and no wire in the R terminal, insert the jumper wire. If you have a wire in the R terminal and a wire in the Rc terminal, remove the jumper wire.

Check your wiring. If you have a heat pump, you may or may not have a backup heat source. (W controls your first stage of heating for Gas/Oil/Electric systems. O/B and Y control your first stage heating for heat pump systems. Backup heat sources must be connected to the W2, Aux, or E terminal for proper functionality.) If necessary, follow the wires back to your furnace or air handler and confirm the wires match the terminals on the control board.

Check your configuration. Most commonly, O/B is energized in Cooling (O on cool). For Rheem or Ruud brand heat pumps, the O/B must energize on heating (B on Heat).

Why is my RTH8500WF WiFi Series WiFi Touchscreen Programmable Thermostat not connecting to WiFi, or losing WiFi connection frequently?

Trouble connecting?

If you are unable to complete the connection process, attempt the following before proceeding:

Turn off mobile data. This allows the thermostat and mobile device to communicate via the same communication method and can help with the registration process.

Attempt to connect and register the thermostat to a mobile hotspot. This allows the registration data to bypass any network security that may be causing the connection failure. Once successfully registered, a Wi-Fi Reset can be performed to move the thermostat to the home Wi-Fi network.

Attempt to use an alternate mobile device – some mobile devices use security features that can disrupt the registration process.

Wi-Fi Network Recommendations:

If you experience inability to connect, failure to register, or frequent Wi-Fi signal loss, verify the following:

You may need assistance from your Internet Service Provider to verify/ change some settings

2.4GHz bandwidth Network (Simultaneous 2.4/5GHz networks that experience connectivity failure may require a separate dedicated 2.4GHz network to be calibrated)

Connect directly to the router signal – Not recommended for use with signal booster, satellites, or extenders.

Business Networks (Enterprise networks, guest networks, or networks that require logging in via a web page/portal) are not supported.

Gateways or Network switches can block communication and are not supported.

Recommended WPA2-AES Network Security Protocol

DHCP Enabled – Static networks not supported

UPnP / P2P Enabled

Band-Steering Disabled

Why is my RTH8500WF WiFi Series WiFi Touchscreen Programmable Thermostat not following my schedule?

Your thermostat is equipped with the Adaptive Recovery feature, which allows the thermostat to “learn” how long it takes to reach a desired setpoint and begin heating or cooling earlier than your scheduled start time. To disable this feature, go to use the User Guide to access the Installer Setup.

Other causes can include incorrect time setting on the thermostat, or if connected to WiFi and registered, incorrect zip code being listed under the location settings. *Only available to modify from the My Total Connect Comfort web portal – not currently supported in the mobile app*

Why is my Heating not Working on my RTH8500WF WiFi Series WiFi Touchscreen Programmable Thermostat?

Your primary heating (1st stage) is controlled by the W terminal on your thermostat. (Or the Y and O/B terminal if you have a heat pump system)

Confirm the thermostat is set to Heat mode and the setpoint is set to a temperature higher than the display temperature.

Confirm the message “Heat On” is solid (not flashing) on the thermostat display.

Confirm your wiring is correct, and the wires have good contact in the terminals (tug gently on the wires)

Check your jumper wire. To operate heating, the thermostat requires power to the R terminal. (If you have a wire in the RC terminal and no wire in the R terminal, insert the jumper wire between the R and Rc terminals)

Advanced steps:

Using a multimeter, measure the AC voltage between your R wire and your W wire (between Rc and Y for heatpump systems). Your thermostat operates between 20-30VAC, any reading outside this range should be addressed by a Professional Contractor.

Why is my Cooling not Working on my RTH8500WF WiFi Series WiFi Touchscreen Programmable Thermostat?

Your primary cooling (1st stage) is controlled by the Y terminal on your thermostat. (Or the Y and O/B terminal if you have a heat pump system) In addition, the G terminal is activated to turn on the fan in your home to circulate the cooler air.

Confirm the furnace / air handler door is closed and turned on. Check the circuit breaker to your equipment.

Confirm the thermostat is set to Cool mode and the setpoint (the smaller number at the top of the thermostat display), is set to a temperature lower than the display temp (the larger number in the center of the display).

Confirm the message “Cool On” is solid (not flashing) on the thermostat display.

Confirm your wiring is correct, and the wires have good contact in the terminals (tug gently on the wires)

Advanced steps:

Using a multimeter, measure the AC voltage between your Rc wire and your Y wire. Your thermostat operates between 20-30VAC, any reading outside this range should be addressed by a Professional Contractor.

SPECIFICATIONS

Wi-Fi 7-Day Programmable Touchscreen Thermostat

Thermostat Type	Smart
WiFi Specifications	802.11b, 802.11g, 802.11n, 2.4GHz range
Color	White
Program Modes	7-Day Programmable
Utility Rewards	Yes
Display Type	Touch Screen
Power Supply	Battery-powered
Product Height	4.94 in
Product Length	6.38 in
Product Width	1.38 in
Product Weight	1.5 lb
Warranty	1 Year
Control Functions	Heating, Cooling
Alerts and Reminders	Filter Change 1, WiFi No Internet
Energy Star Certified	Yes

Downloads

TH8320WF

[TH8320WF VisionPRO Wi-Fi 8000 User Manual](#)

RTH8580WF

[RTH8580WF VisionPRO Wi-Fi 8000 User Guide](#)

TH8321WF

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