# ClimateMaster®

## HIGH RESOLUTION TOUCH SCREEN
### Digital Thermostat with Humidity Control
## Up to 3-heat & 2-cool



with
**Wi-Fi**

# Owner's Manual & Installation Instructions

# ⚠ CAUTION

Follow the <u>Installation Instructions</u> before proceeding. Set the thermostat mode to "OFF" prior to changing settings in setup or restoring Factory Defaults.

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**FCC Compliance Statement**

This equipment has been tested and found to comply with the limits for an intentional radiator, pursuant to Part 15, subpart C of the FCC rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference in radio communications. However, there is no guarantee that the interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that of the receiver.
- Consult the dealer or an experienced radio or TV technician for help.

Notice: Only peripherals complying with FCC limits may be attached to this equipment. Operation with noncompliant peripherals or peripherals not recommended by ClimateMaster, is likely to result in interference to radio and TV reception. Changes or modifications to the product, not expressly approved by ClimateMaster could void the user's authority to operate the equipment.

FCC - INDOOR Mobile Radio Information:
To comply with FCC/IC RF exposure limits for general population / uncontrolled exposure, the antenna(s) used for this transmitter must be installed to provide a separation distance of at least 20 cm from all persons and must not be co-located or operating in conjunction with any other antenna or transmitter.

This Device complies with Industry Canada License-exempt RSS standard(s). Operation is subject to the following two conditions: 1) this device may not cause interference, and 2) this device must accept any interference, including interference that may cause undesired operation of the device.

This color touchscreen has the ability to receive updates to its firmware. Periodically firmware updates are released by the manufacturer to add features and/or performance enhancements. This manual was produced reflecting the most current firmware/feature set at the time of publication, firmware rev. 5.10. Firmware releases after rev. 5.10 may not be adequately depicted in this manual. Please refer to the appropriate website or contact your place of purchase to learn about changes to the thermostat after firmware release 5.10.

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LISTED
4Z95

Thermostat MUH-SKYPORT2
FC
Tested to Comply
with FCC Standards
FOR HOME OR OFFICE USE

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## Glossary of Terms

**Auto-Changeover:** A mode in which the thermostat will turn on the heating or cooling based on room temperature demand.

**Cool Setpoint:** The warmest temperature that the space should rise to before cooling is turned on (without regard to deadband).

**Deadband:** The number of degrees the thermostat will wait, once a setpoint has been reached, before energizing heating or cooling.

**Differential:** The forced temperature difference between the *heat setpoint* and the *cool setpoint* in *Auto Mode*.

**Heat Setpoint:** The coolest temperature that the space should drop to before heating is turned on (without regard to deadband).

**Icon:** The word or symbol that appears on the thermostat display.

**Mode:** The current operating condition of the thermostat (i.e. Off, Heat, Cool, Auto).

**Non-Programmable Thermostat:** A thermostat that does not have the capability of running *Time Period Programming*.

**Programmable Thermostat:** A thermostat that has the capability of running *Time Period Programming*.

**Temperature Swing:** *Same as Deadband*.

**Time Period Programming:** A program that allows the thermostat to automatically adjust the *heat setpoint* and/or the *cool setpoint* based on the time of the day. *Same as Schedule.*

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# Get To Know Your Thermostat

## Home Screen

**Backlit ColorTouch Display**

Indoor Humidity Reading

Outdoor Temperature
(If optional accessory is used or connected to Skyport)

Connectivity Symbol

Drop Down Menu Button

Warmer Button

**SD Card Slot**

Cooler Button

Menu Button

Mode Buttons

Home/Away Button

Fan Button

Date & Time

### Connectivity Symbol Table

| | |
|---|---|
| 🛜 | Not connected to Wi-Fi |
| 🛜 | Connected to local access point w/IP address without Skyport enabled |
| ❌ | Connected to local access point w/IP address, but not yet connected to Skyport |
| 🛜 | Connected to Skyport |

**CLIMATEMASTER**

## Main Menu Screen

MAIN MENU — Page 1 of 2

Schedule  Fan Settings  Screensaver

Alerts  Display  Preferences

◀ BACK

Back Button

Menu Buttons

Scrolling Buttons

## Sub Menu Screen

Sub Menu Buttons

Scrolling Buttons

Indicates Options Available

• Thermostat Name ▶
• Available Modes (all) ▶
• SD Card ▶
• General Setup ▶

◀ BACK — Settings

Home Button

# Dropdown Dashboard *(The contents of your Dashboard may vary)*

The Dropdown Dashboard displays temperature, humidity, and other readings. It will also show the high and low readings of the day.
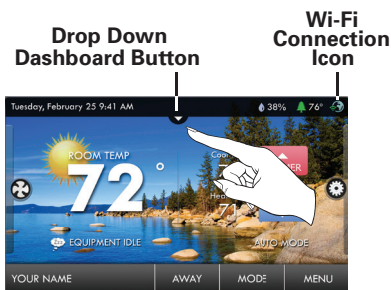
**Drop Down Dashboard Button**

**Wi-Fi Connection Icon**

| Connectivity Symbol Table |
| --- |
| Not connected to Wi-Fi |
| Connected to local access point w/IP address without Skyport enabled |
| Connected to local access point w/IP address, but not yet connected to Skyport |
| Connected to Skyport |

The dropdown dashboard will bring you into one of five screens. Icons at the bottom of each screen allow you to move between other screens to view (but not alter) various items within the thermostat.

These five screens are:

EQUIPMENT RUNTIMES

WEATHER

SENSORS

ALERTS

THERMOSTAT INFORMATION
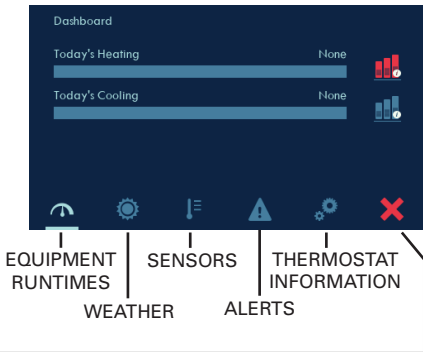
There is also a button to exit the dashboard and return to the home screen.

## Equipment Runtimes

This screen allows you to view daily heating and cooling runtimes and can show details about which stages were active. To view one week of runtime data, press menu > information > view runtime graphs
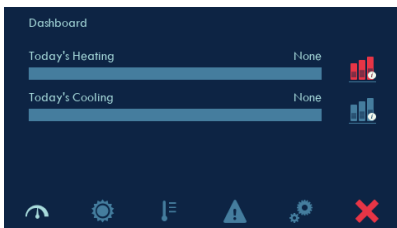
## Weather

This screen only appears when the thermostat is communicating with Skyport. Current temperature/humidity and a 3 day forecast is shown based on the address details entered for the Skyport location that contains this thermostat.

## Sensors

This screen shows values from the sensors inside of the thermostat, optional wired outdoor temperature sensor and paired wireless sensors. Daily min/max are also shown (resets at midnight).
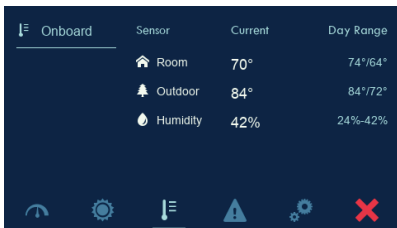
**Alerts**

This screen shows some information about any active alerts. More information about alerts as well as resetting active alerts can be founds at menu > alerts.
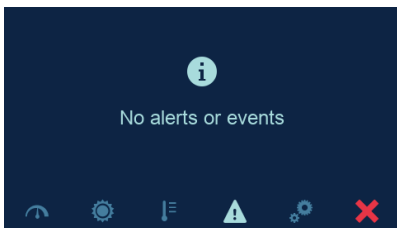


**Thermostat Information**

This section contains four different screens that allow easy viewing of the thermostat model number, firmware revision, wifi and Skyport status as well as DIP switch settings, active outputs and other items. Press on left side of screen to change between About, Equipment, Outputs and Service.
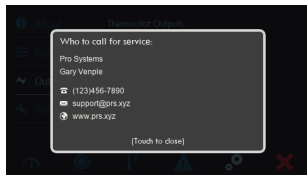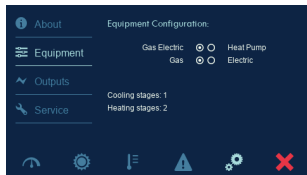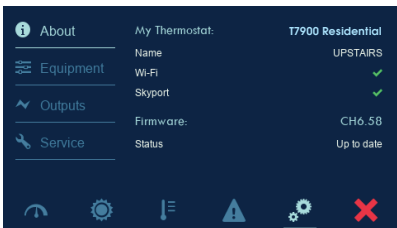
# Care and Use of Your Thermostat

Pencils, pens and other sharp objects should never be used on your thermostat; these may damage your touchscreen. Only use your finger tip to press the touchscreen buttons.



Use a soft, damp cloth to clean the screen.

DO NOT USE ABRASIVE CLEANERS OR CLEANERS THAT CONTAIN SOLVENTS. DO NOT SPRAY ANYTHING DIRECTLY ONTO THE THERMOSTAT.

# Selecting Your Desired Temperature and Mode

Press or to adjust temperature

The  Heat or Cool Setpoint is the temperature the room has to reach before heating or cooling will turn on.

(Without regard to deadband)

**Cool Setpoint**

**Warmer Button**

**Fan**

**Cooler Button**

**Heat Setpoint**

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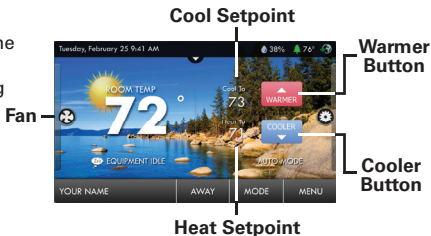
Press **MODE** or the MODE Icon

**HEAT** will allow only heat operation.

**COOL** will allow only cool operation.

**AUTO** will allow both Heat and Cool operation.

**OFF** - heating and cooling systems are turned off.

**AUTO-CHANGEOVER MODE** - Pressing the WARMER or COOLER buttons in Auto mode will adjust both the heat and cool setpoints simultaneously. To adjust heat and cool setpoints individually, choose HEAT mode to adjust the heat setpoint and COOL mode to adjust the cool setpoint, then return to AUTO mode.

**HEAT OR COOL MODE** - Pressing the WARMER or COOLER buttons in Heat or Cool mode will adjust only the heat or cool setpoints.

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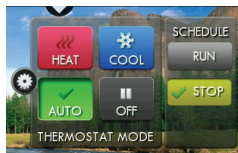
# *Using the Fan Button*

**Press the FAN Icon**

**FAN ON** fan runs constantly even in OFF Mode.

**FAN AUTO** fan only runs with a heating or cooling demand.

**6**
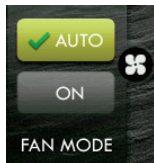
Set Time & Date

**NOTE:** When the thermostat is connected to a Skyport account, the Time & Date are automatically synchronized to the Skyport Cloud, including automatic Daylight Savings adjustments. Your time zone is selected in the Skyport web application.

- Set Current Time ▶
- Use AM/PM - ON
- Set Current Date ▶
- Daylight Savings Setup ▶
    - Daylight Savings Time - OFF
    - Start Schedule ▶
        - Starts On (2nd) ▶
        - Day (Sun) ▶
        - Month (March) ▶
    - Stop Schedule ▶
        - Ends On (1st) ▶
        - Day (Sun) ▶
        - Month (November) ▶
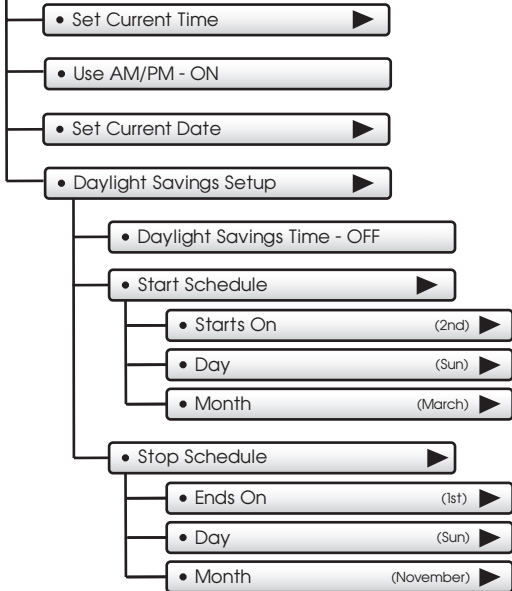
## Setting the Time

**Press** MENU **then** ▼ **to scroll down.**

**Press** Set Time & Date

**Press**

• Set Current Time    (12:00 AM) ▶

**Press** hr + / hr - **and** min + / min - **to set the current time.**

**Press** ◀ BACK **when finished.**

**Choose**

• Use AM/PM - ON    ✔

**For 12 hour AM/PM clock**

• Use AM/PM - OFF

**For 24 hour clock**

**Press** ◀ BACK **when finished.**

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## Setting the Date

**Press**

• Set Current Date                    6/1/2013 ▶

**Press** ◀ **or** ▶ **to set the current month and year.**

**Press the day on the calendar**

| Su | Mo | Tu | We | Th | Fr | Sa |
|----|----|----|----|----|----|----|
| 27 | 28 | 29 | 30 | 1  | 2  | 3  |
| 4  | 5  | 6  | 7  | 8  | 9  | 10 |
| 11 | 12 | 13 | 14 | 15 | 16 | 17 |
| 18 | 19 | 20 | 21 | 22 | 23 | 24 |
| 25 | 26 | 27 | 28 | 29 | 30 | 31 |
| 1  | 2  | 3  | 4  | 5  | 6  | 7  |

◀                                    ▶

**Press ◀BACK**

**when finished.**

• Daylight Savings Setup                    ▶

**Turn Daylight Savings Time on or off.**

• Daylight Savings Time - OFF

• Daylight Savings Time - ON    ✔

**Adjust when Daylight Savings Time begins.**

• Start Schedule

• Starts On                    (2nd) ▶

**Adjust when Daylight Savings Time ends.**

• Day                    (Sun) ▶

• Month                    (March) ▶

**Press ◀BACK**

**after making a change to a selection.**

• Stop Schedule                    ▶

• Ends On                    (1st) ▶

**Press ◀BACK**

**or the Home button when finished.**

• Day                    (Sun) ▶

• Month                    (November) ▶

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## **Connect to Wi-Fi** (from initial start up)

When power is connected to the thermostat and it has not been configured to connect to a Wi-Fi Access point, the following message appears:

> **Wi-Fi Set Up**
>
> **No Wi-Fi access points are configured for your thermostat. Would you like to set up one now?**
>
> YES      NO
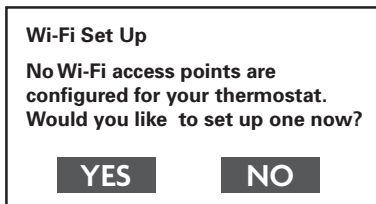
YES ☞      **Press YES**

Select the access point you wish to connect to from the list.

Enter the password for the Wi-Fi Access Point and press **NEXT**.

Select automatic setup and press **NEXT**.

When finished, a dialog box will appear confirming the successful connection to the local Wi-Fi Access Point.

Select **OK**, then the Wi-Fi status page will appear. Upon closing of the Wi-Fi status page, you will be asked to join the thermostat to a Skyport account.

Select **YES** and follow the onscreen instructions to create a new Skyport account or to add the thermostat to an existing account.

## Quick Start - Connect to Wi-Fi (from menus)



**72**

MENU

**Press MENU**

**72**

**Press DOWN**

Wi-Fi

**Press Wi-Fi**

• Wi Fi Setup ▶ **Press Wi-Fi Setup**
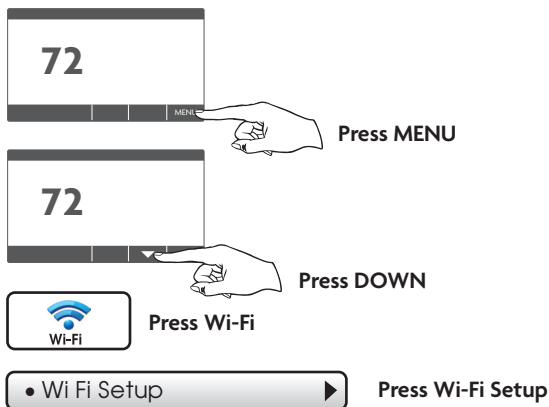
Select the access point from the list that you want to connect to.

Enter the password for the Wi-Fi Access Point and press **NEXT**.

Select automatic setup and press **NEXT**.

When finished, a dialog box will appear confirming the successful connection to the local Wi-Fi Access Point.

Select **OK**, then the Wi-Fi status page will appear. Upon closing of the Wi-Fi status page, you will be asked to join the thermostat to a Skyport account.

Select **YES** and follow the onscreen instructions to create a new Skyport account or to add the thermostat to an existing account.

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Although there is more than one way to create a Skyport account, the steps below illustrate creation from a browser.

If the thermostat is connected to the local Wi-Fi Access Point, but not yet joined to a Skyport account, you may join the thermostat to an account by doing the following:

Select **MENU** from the thermostat's home screen.

Scroll down

Select Skyport

Select Skyport Account and follow the onscreen instructions.

• Skyport Account ▶

1. Open your browser to: https://venstar.skyportcloud.com

2. Select "Create account now"

Create Account Now

3. Follow on screen instructions to create an account and add a thermostat to the Skyport account.

**Schedule**

- View My Schedule ▶
- Edit My Schedule ▶

## Main Menu Buttons - Schedule



**Schedule**

This thermostat features up to four programmable time periods per 24 hour day: Morning, Day, Evening, and Night. The start time for each time period is adjustable. The stop time for each time period is the start time for the next period.

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### • View My Schedule ▶

Press a day of the week to view its settings. This may be repeated for each day.



| Mon | Tues | Wed | Thur | Fri | Sat | Sun |

| Morning | Day | Evening | Night |
|---|---|---|---|
| Start: 6:00 am | Start: 8:00 am | Start: 6:00 pm | Start: 8:30 pm |
| Mode: Auto | Mode: Auto | Mode: Auto | Mode: Auto |
| Cool: 78 F | Cool: 85 F | Cool: 78 F | Cool: 82 F |
| Heat: 70 F | Heat: 62 F | Heat: 70 F | Heat: 62 F |

◀BACK   My Schedule   🏠

---
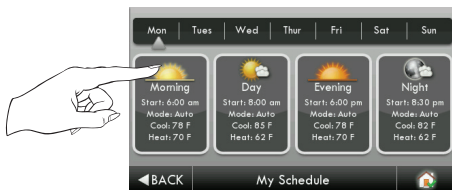
### • Edit My Schedule ▶

Press and select days to program

Select individual days

or

Select groups of days

Then press **NEXT**



Select day(s) to program

| Monday | Tuesday | Wednesday | Thursday | Friday |
| Saturday | Sunday |

Select All   Weekdays   Weekends

◀BACK   My Schedule   NEXT ▶

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• Edit My Schedule ▶     (Continued)

Press and select a Time Period (Morning, Day, Evening, or Night) to edit.

This program will apply to: Weekdays

| Morning | Day | Evening | Night |
|---------|-----|---------|-------|
| Start: 6:00 am | Start: 8:00 am | Start: 6:00 pm | Start: 8:30 pm |
| Mode: Auto | Mode: Auto | Mode: Auto | Mode: Auto |
| Heat: 76 F | Heat: 62 F | Heat: 70 F | Heat: 62 F |
| Cool: 78 F | Cool: 85 F | Cool: 78 F | Cool: 82 F |
| Touch to edit | Touch to edit | Touch to edit | Touch to edit |

◀ BACK    Select Time Period To Edit    NEXT ▶ **— Next**

Adjust Mode, Start Time, and Heat and Cool Setpoints to desired settings. The Time Period may also be Enabled or Disabled. Un-check the Enabled box for Time Periods you don't want to use. Press **DONE** when finished.

**Mode**

**Heat and Cool Setpoints**

☀ Morning     ☑ Enabled **— Enable/Disable Time Period**

Mode: Auto

Heat 76 F    ❄ Cool 78 F

**Start Time —** Starts at: 6:00 am

◀ BACK    Edit Time Period: Morning    ✓ DONE **— Done**
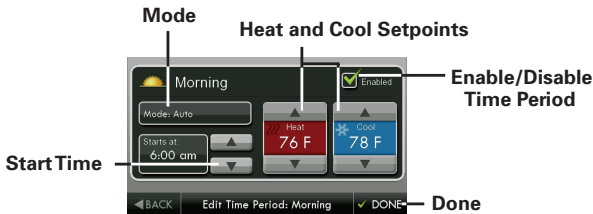
When you are finished editing the four time periods press NEXT ▶

Review your program.
Press **SAVE** to keep your program.
Press **EDIT** to make further changes.

📄 **Review Your Program**
For Weekdays
• From 6:00 am until 8:00 am the thermostat mode will be set to AUTO. The heat setpoint will be set to 76 F and the cool setpoint to 78 F.
• From 8:00 am until 6:00 pm the thermostat mode will be set to AUTO. The heat setpoint will be set to 62 F and the cool setpoint to 85 F.
• From 6:00 pm until 8:30 pm the thermostat mode will be set to AUTO. The heat setpoint will be set to 70 F and the cool setpoint to 78 F.
• From 8:30 pm until 6:00 am the thermostat mode will be set to AUTO. The heat setpoint will be set to 62 F and the cool setpoint to 82 F.

◀ EDIT        ✓ SAVE

**Edit**       **Save**

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Smart Fan

- Smart Fan - OFF
- Smart Fan Min Runtime
- Start/Stop Times
- Days To Run Fan

**Smart Fan**

The fan may be programmed to turn on automatically for a specified period during the day.

Press to turn fan schedule on or off

• Smart Fan - OFF

• Smart Fan - ON  ✔

• Smart Fan Min Runtime        (10m) ▶

Set the minimum number of minutes the fan will run from the top of each hour. Set runtime to 60 minutes to be on continuously from Start Time to Stop time. (5 - 60 mins.)

• Start/Stop Times     (7:00AM - 9:00PM) ▶

Set when the Smart Fan schedule will start and stop.  For example, you may not want Smart Fan to run during sleeping hours.

• Days To Run Fan                      ▶

Choose which days of the week Smart Fan will run.

**Screensaver**

- Screensaver - OFF

- Screensaver Setup ▶
  - Screensaver Turn On Delay ▶
  - Screensaver Type ▶
    - Slideshow ▶
    - Digital Clock ▶
    - Analog Clock ▶
  - Change Image After... ▶
  - Use Theme Images - OFF
  - Randomize Slideshow - OFF
  - Show Clock - OFF
  - Home Screen Info - OFF

- Screensaver Preview ▶
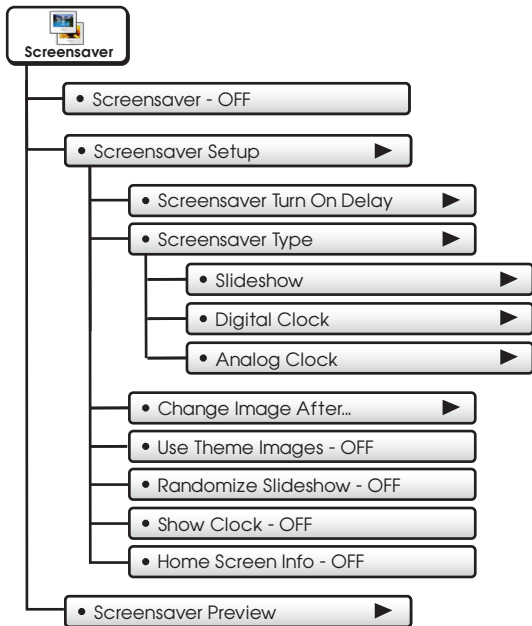
**Screensaver**

The Screensaver allows you to create custom slideshows.

• Screensaver - OFF

• Screensaver - ON ✓

• Screensaver Setup ▶

　• Screensaver Turn On Delay (5m) ▶

　How long after a button press for the Screensaver to appear. 1, 3, 5, or 30 minutes

　• Screensaver Type (Slideshow) ▶

　Slideshow, Digital Clock, Analog Clock

　• Change Image After... ▶

　15, 30 seconds - 1, 5, or 10 minutes

　• Use Theme Images - OFF ▶

　Slideshow uses included Theme Images. Off or On

　• Randomize Slideshow - OFF ▶

　Shuffles slideshow photos in random order

　• Show Clock - OFF ▶

　Shows the time and date every 5 photos. Off or On

　• Home Screen Info - OFF ▶

　Shows the mode, setpoints, and temperature after every 10 photos. Off or On.

• Screensaver Preview ▶

Press this button to preview your screensaver operation before returning to the Home Screen.

After the preview, press anywhere on the screen to return to the sub menu.

**Alerts**

- View Current Alerts ▶
- Reset Alerts ▶
  - Reset Air Filter Alert ▶
  - Reset UV Lamp Alert ▶
  - Reset Humidity Pad Alert ▶
- Set/Edit Reminders ▶
  - Service Call Reminder - OFF ▶
  - Days Until Service Call (0 days) ▶
  - Air Filter Reminder - OFF ▶
  - Set Max Filter Runtime (300 hrs) ▶
  - Set Max Filter Days (0 days) ▶
  - UV Lamp Reminder - OFF ▶
  - Max UV Lamp Runtime (360 days) ▶
  - Humidity Pad Reminder - OFF ▶
  - Set Max Hum Runtime (360 days) ▶
- Service Information... ▶
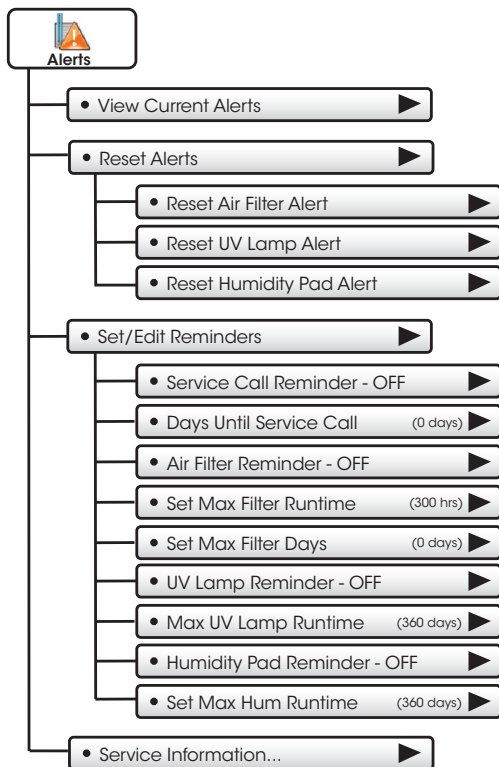
**Alerts**

The alerts let you know when your system needs service.

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• View Current Alerts ▶

View and reset current service alerts here.
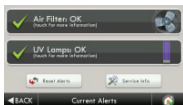


Alerts will appear on the bottom bar of the Home Screen.

Press to view and reset current alerts.



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• Reset Alerts ▶

Clear and reset current service alerts.

• Set/Edit Reminders ▶

Set service alert runtimes and turn reminders on or off.

| • Service Call Reminder - OFF |
| • Days Until Service Call (0 days) ▶ |
| • Air Filter Reminder - OFF |
| • Set Max Filter Runtime (500 hrs) ▶ |
| • Set Max Filter Days (300 days) ▶ |
| • UV Lamp Reminder - OFF |
| • Set Max UV Lamp Runtime (300 days) · |
| • Humidity Pad Reminder - OFF |
| • Set Max Hum Runtime (300 days) · |



• Service Information... ▶

View your service company's contact information.

**Display**

- Active Brightness ▶
- Idle Brightness ▶
- Night Dimmer ▶
  - Auto Night Dimmer - OFF
  - Set Idle Brightness ▶
  - Set Dimmer Schedule ▶
- Maintenance ▶
  - Screen Cleaning ▶
  - Touch Calibration ▶
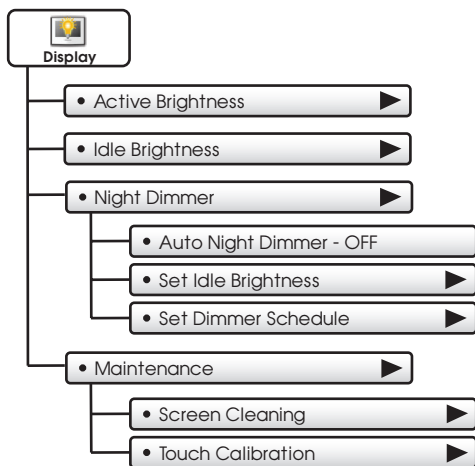
**Display**

The display brightness options may be adjusted in this menu.

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• Active Brightness     (80%) ▶

You may select how bright the backlight is while the thermostat is active. The display is active for 3 minutes after last touch, it then goes Idle.

• Idle Brightness     (30%) ▶

You may select how bright the backlight is while the thermostat is idle.

• Night Dimmer     ▶

You may dim the brightness of the screen at night.

• Auto Night Dimmer - OFF

The screen can be set to dim automatically at night. Dimming the display can prolong the life of the backlight.

• Set Idle Brightness     (20%) ▶

Set the screen brightness for the Night Dimmer. When Night Dimmer is On, the display will go idle 8 seconds after last touch.

• Set Dimmer Schedule     ▶

Set the schedule for the Night Dimmer.

• Maintenance ▶

Maintenance allows you to clean and calibrate the touch screen.

• Screen Cleaning ▶

Screen Cleaning Mode disables the touch feature for 15 seconds so the screen may be cleaned without altering any settings.

⚠ **Screen Cleaning Mode**
Exiting in 15 seconds

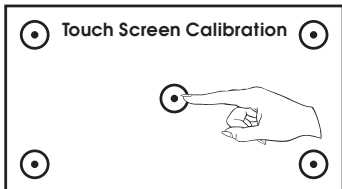Use a soft cloth without solvents or abrasive cleaners

• Touch Calibration ▶

Under normal circumstances, the touchscreen should not need to be calibrated.

Touch and hold the center of the targets as they appear on the screen for 3 seconds.

**Touch Screen Calibration**

Press FINISH when done.

When calibration is complete, the thermostat will automatically restart and return to the Home Screen.

**Preferences**

- User Interface Themes ▶
- Custom Wallpaper ▶
- Heat/Cool Indicator ▶
  - Heat/Cool Indicator OFF
  - Taskbar red/white OFF
  - Room Temp red/blue OFF
  - Mode Status red/blue OFF
- Sound Options ▶
  - Beep - OFF
  - Beep Sound ▶
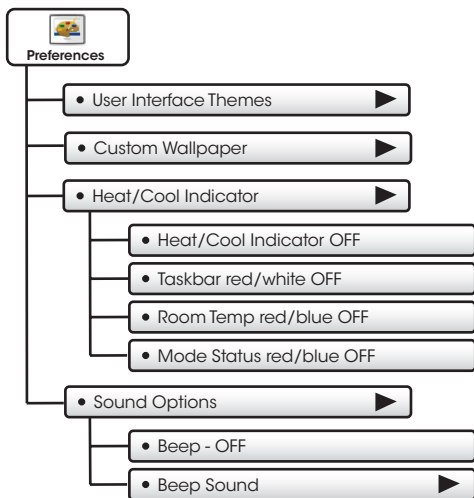
**Preferences**

You may set the type of background that appears on the thermostat Home Screen.

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• User Interface Themes    (ocean) ▶

This thermostat has several high quality background themes to choose from.
**NOTE:** At 7pm, the background will change to an evening scene.
At 7am it will return to a daytime scene.

• Custom Wallpaper    ▶

You may choose your own background image by selecting a photo that you have uploaded from an SD memory card.

• Heat/Cool Indicator    ▶

You may choose an enhanced indicator of the current status of the HVAC equipment.
• Heat/Cool Indicator - ON/OFF
• Taskbar Red/White - ON/OFF
• Room Temp Red/Blue - ON/OFF
• Mode Status Red/Blue - ON/OFF

• Sound Options    ▶

• Beep - ON ✔

• Beep - OFF

Turn the beep sound on or off.

• Beep Sound    (Beep 1) ▶

Choose from different beep sounds.

**Humidity**

- Humidification Settings ►
    - Humidify setpoint (0%) ►
    - Humidify with heat - OFF ►
    - Run fan w/humidity demand - OFF ►
- Dehumidification Settings ►
    - Dehumidity setpoint (99%) ►
    - Run A/C to dehumidify - OFF ►
    - Maximum Overcool (0°) ►
    - Reheat - OFF ►
    - Dehumidify only when cooling - ON ►
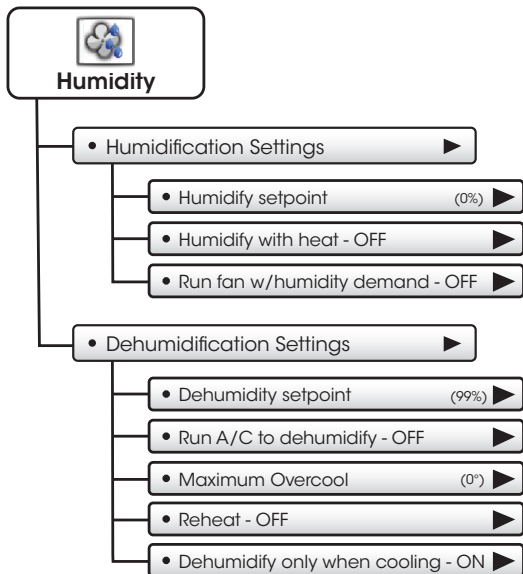
The Humidity feature allows the thermostat to control a humidifier or use your air conditioner to dehumidify the space.

**Humidity**

---

**IMPORTANT: D/H Output Usage must be set for Hum or Dehum for these settings to take effect.**
*See: D/H Output Settings on page 38.*

## • Humidification Settings

• Humidify setpoint          (0%) ▶

Adjust Humidify setpoint. (0% - 60%)

• Humidify with heat - OFF          ▶

When this step is ON, Humidify will only run with a demand for heat.

• Run fan when humidifying - OFF ▶

When this step is ON, the fan will run with a call for Humidification.

## • Dehumidification Settings

• Dehumidify setpoint          (99%) ▶

Adjust Dehumidify setpoint. (25% - 99%)

• Run A/C to dehumidify - OFF          ▶

When this step is ON, the A/C system will be used for Dehumidification.

• Maximum Overcool          (0°) ▶

This specifies how many degrees the A/C system will run past the cool setpoint to satisfy a demand for Dehumidification. (0 - 20 degrees F)
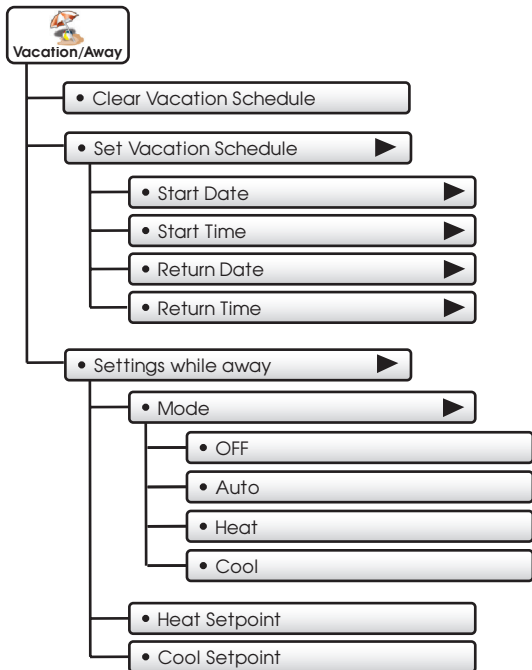
• Reheat - OFF          ▶

This turns on electric strip heat during a A/C to dehumidify demand to help maintain desired room temperatures. (Run A/C to dehumidify must be set to ON and the GAS ELEC Dip Switch must be set to ELEC - to access this feature).

• Dehumidify only when cooling - ON ▶

Run dehumidification only when HVAC calls for A/C.

Vacation/Away

- Clear Vacation Schedule
- Set Vacation Schedule ▶
  - Start Date ▶
  - Start Time ▶
  - Return Date ▶
  - Return Time ▶
- Settings while away ▶
  - Mode ▶
    - OFF
    - Auto
    - Heat
    - Cool
  - Heat Setpoint
  - Cool Setpoint

Vacation or pressing the AWAY button, will use temporary, energy saving settings without changing the regular schedule. Pressing the HOME button will return the thermostat to normal comfort settings.

## • Clear Vacation Schedule

Removes the stored vacation schedule.

## • Set Vacation Schedule ▶

Set your Vacation Schedule.

### • Start Date     Tue Sep 07 2010 ▶

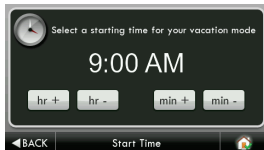Select the day Vacation Mode will start.

Then press ◀ BACK



BACK ──

### • Start Time     (9:00 AM) ▶

Select the time Vacation Mode will start.

Then press ◀ BACK



**Continued** ▶

• Set Vacation Schedule ▶    (Continued)

• Return Date    Tue Sep 21 2010 ▶

Select the day Vacation Mode
will end.

Then press ◀ BACK



• Return Time    (3:00 PM) ▶

Select the time Vacation Mode
will end.

Then press ◀ BACK



• Settings while away ▶

Select the desired Mode and setpoints to be used in Vacation/Away Mode.
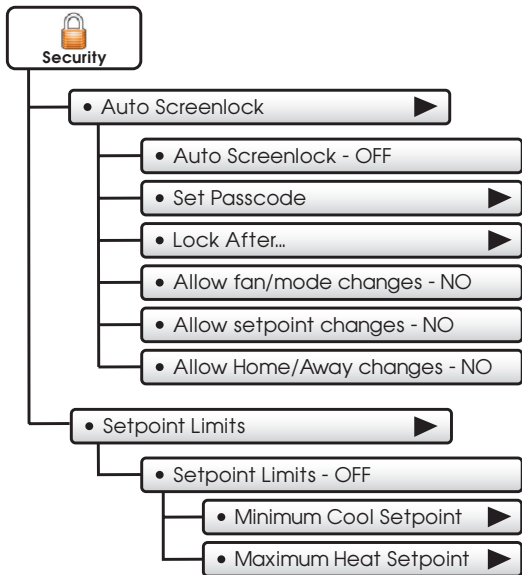
• Mode    (Auto) ▶

• Heat Setpoint    (50°) ▶

• Cool Setpoint    (85°) ▶

**Security**

- Auto Screenlock ▶
  - Auto Screenlock - OFF
  - Set Passcode ▶
  - Lock After... ▶
  - Allow fan/mode changes - NO
  - Allow setpoint changes - NO
  - Allow Home/Away changes - NO
- Setpoint Limits ▶
  - Setpoint Limits - OFF
    - Minimum Cool Setpoint ▶
    - Maximum Heat Setpoint ▶

**Security**

Security settings may be set to limit or prevent changes to your thermostat.

• Auto Screenlock

**NOTE:** Code must be set before Auto Screenlock can be turned on.

• Auto Screenlock - OFF

• Auto Screenlock - ON ✔

• Set Passcode          (code not set )

Use keypad to enter and confirm passcode.

When the thermostat is locked, the bottom bar of the display will show: 🔓 UNLOCK

Press UNLOCK then enter passcode to access thermostat settings.

• Lock After…          (5 m)

Set the time the screen will automatically lock after the last button press.

• Allow fan/mode changes - NO

Choose to allow fan/mode changes when Auto Screenlock is on.

• Allow setpoint changes - NO

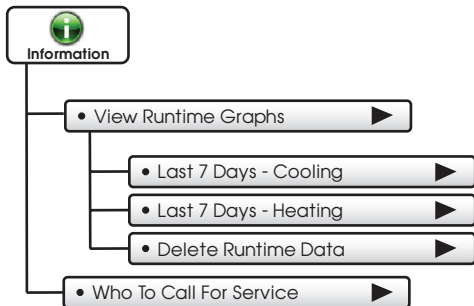Choose to allow setpoint changes when Auto Screenlock is on.

• Allow home/away changes - NO

Choose to allow use of the Home and Away button when Auto Screenlock is on.

• Setpoint Limits

Limits how high or low heating and cooling may be adjusted.

**Information**

- View Runtime Graphs ►
  - Last 7 Days - Cooling ►
  - Last 7 Days - Heating ►
  - Delete Runtime Data ►
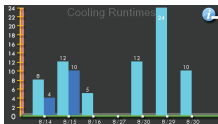- Who To Call For Service ►

**Information**

This button contains valuable service and system runtime information.

---

## • View Runtime Graphs ▶

Track your system's runtime/energy usage.

### • Last 7 Days - Cooling ▶



Press the information icon to learn more about each graph

*NOTE: The runtime graphs are updated at 12:00 AM each day.

### • Last 7 Days - Heating ▶



Press anywhere on the screen to return to the submenu.

### • Delete Runtime Data ▶

Press to delete your current equipment runtime information.

## • Who To Call For Service ▶

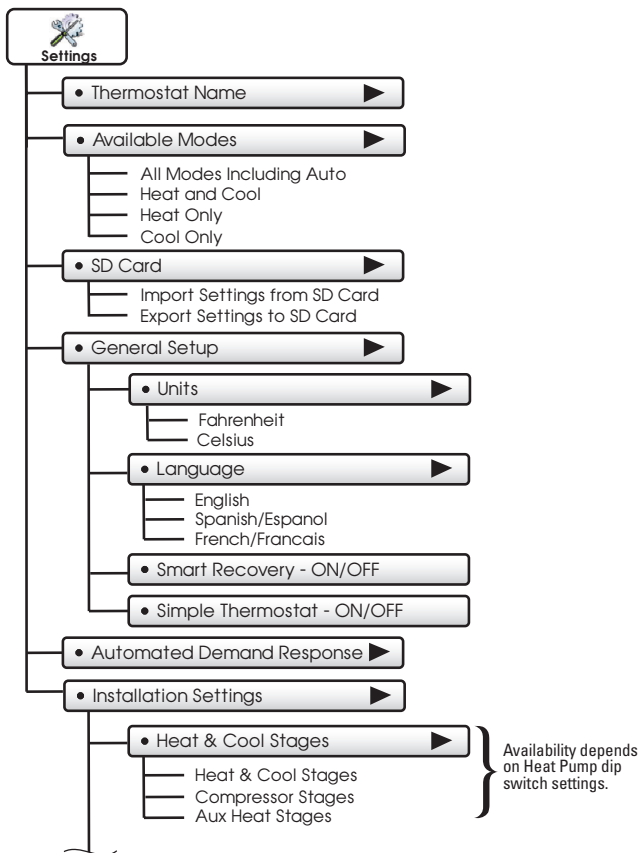Your service company's contact information may be displayed here.

**Settings**

- Thermostat Name ▶

- Available Modes ▶
  - All Modes Including Auto
  - Heat and Cool
  - Heat Only
  - Cool Only

- SD Card ▶
  - Import Settings from SD Card
  - Export Settings to SD Card

- General Setup ▶
  - Units ▶
    - Fahrenheit
    - Celsius
  - Language ▶
    - English
    - Spanish/Espanol
    - French/Francais
  - Smart Recovery - ON/OFF
  - Simple Thermostat - ON/OFF

- Automated Demand Response ▶

- Installation Settings ▶
  - Heat & Cool Stages ▶
    - Heat & Cool Stages
    - Compressor Stages
    - Aux Heat Stages

    Availability depends on Heat Pump dip switch settings.

- Installation Settings (cont.) ▶
  - Timers & Deadbands ▶
    - Min Heat/Cool Difference
    - 1st Stage Deadband
    - 2nd Stage Deadband
      - 2nd Stage Deadband
      - 2nd Stage Timer
      - 2nd Stage Turnoff Point
        - Deadband
        - Setpoint
    - 3rd Stage Deadband
      - 3rd Stage Deadband
      - 3rd Stage Timer
      - 3rd Stage Turnoff Point
        - Deadband
        - Setpoint

```
┌──────────┐
│ Settings │
└──────────┘
     │
     └─── • Installation Settings ▶

              • D/H Output Settings
                  ── D/H Output Usage
                  ── D/H Output Polarity

              • Fan Off Delay ▶

              • Sensor Settings ▶
                  ── Control Source
                          ── Thermostat Sensor Only
                          ── Wired Sensor Only
                          ── Average All Wireless Sensors
                          ── Average Wired/Thermostat
                          ── Average Wireless/Thermostat
                          ── Average all available Sensors
                  ── Wireless Sensors
                          ── Add New Sensor
                          ── Remote Sensor
                  ── Wireless Sensor Use
                          ── Use as outdoor sensor
                          ── Use as remote sensor
                          ── Use as supply sensor
                          ── Use as return sensor
                  ── Calibrate Sensors
                          ── Thermostat
                          ── Wired Sensor
                          ── Humidity
```

**Settings**

- Installation Settings ▶ (Continued)

- Test Outputs ▶

- Dealer Information ▶
  - Dealer Name
  - Contact Name
  - Dealer Phone
  - Dealer Email
  - Dealer Website

- Upgrade Firmware ▶

- Delete Custom Images ▶

- Factory Defaults ▶

- Restart Thermostat ▶

**Settings**

Thermostat heating and cooling options are found in this menu

---

• Thermostat Name ▶

Use keypad to name your thermostat. The name is displayed on the Home Screen.

(Up to 14 characters)

**Name appears here** ——

• Available Modes (all) ▶

Choose the desired modes the thermostat will use: Heat, Cool, Heat & Cool, or Auto (All). For example, if you only have a heater, choose Heat, and only Heat & Off modes will be available. This will simplify the operation for the user.

• SD Card ▶

Import and export files to and from the thermostat. See the **Touch Screen Desktop App** instructions for further details. Venstar.com/thermostats/colortouch/desktop/

• Import Settings from SD Card ▶

Upload files from Touch Screen Desktop App or another thermostat.

**\*NOTE:** A 2GB SD card is recommended. To import and export files, the SD card must contain the same version of the firmware as the thermostat. Touch Screen Assistant will keep the firmware current.

• Export Settings to SD Card ▶

Export files from one thermostat and import them into others.

• General Setup ▶

• Units (F) ▶

• Fahrenheit (F)
• Celsius (C)

**40**

• General Setup ▶    (Continued)

• Language   (en) ▶

- English
- Spanish/Español
- French/Français

• Smart Recovery - OFF

• Smart Recovery - ON ✔

Smart Recovery turns on the heat or cool before the Morning start time to bring the room temperature to the Morning setpoint at the start of the Morning time period. Please allow 4-8 days for Smart Recovery time to adjust. When used with a heat pump, electric strip heat will be disabled while Smart Recovery is active.

• Simple Thermostat - OFF

• Simple Thermostat - ON ✔

**Turn on Simple Thermostat for the most basic user interface.**

When Simple Thermostat is on, alerts will appear in the top bar of the main screen. Press on the top yellow alert bar to view alerts.



**Top Bar** — Monday, March 25 2:27 PM ▲ 79°

**Room Temperature** — Room Temp

**79**

❄ COOLING

Desired Room Temp

**WARMER** — **Warmer Button**

**76** — **Single Setpoint**

**COOLER** — **Cooler Button**

HEAT | OFF | COOL | FAN ON | MENU

**Press for Heat** | **Press to turn Off** | **Press for Cooling** | **Press to turn Fan On or Auto** | **Menu Button**

**Note:** When using the Simple Thermostat Home Screen; the program schedule along with the **HOME** and **AWAY** features are unavailable.

**41**

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• Automated Demand Response ▶ | Overview

ColorTouch thermostats support the handling of specific signals from the utility provider. The utility generated signals carry pricing information and/or setback actions that alter the comfort settings of the thermostat in order to reduce energy usage on demand. This is known as **Automated Demand Response** or ADR for short. You must register to participate in a utility sponsored program, if offered by your local utility, to take advantage of this feature.

**SKYPORT CLOUD SERVICES**
From the web application the user will select **Thermostat Settings** from the left column. Then the **Demand Response** button is selected.
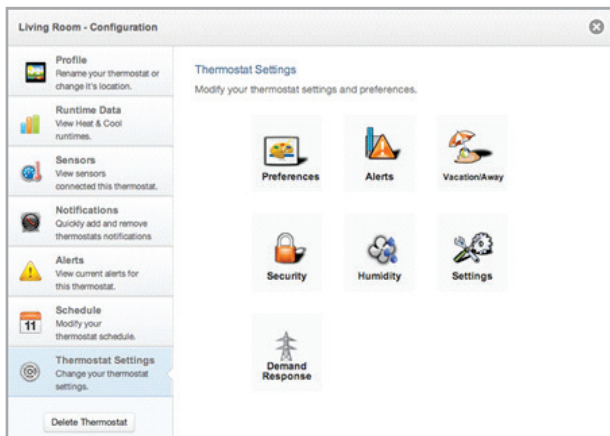
The Demand Response configuration page, shown below, is where the thermostat is configured to respond to the energy provider's signals. It also sets operational parameters for the thermostat.

The left column of the ADR configuration page allows or prevents access by the utility. Here communication with the utility and your thermostat may be turned On or Off.

The right column of the ADR configuration page is where the occupant adjusts the operational parameters for ADR. The utility may send up to 3 types of ADR signals to Skyport. These are: **1)** Pricing for the cost of energy, **2)** An Offset to the occupants' comfort setpoints, and **3)** a signal to enforce discrete or Static setpoints.

The Maximum Cooling Setpoint and Minimum Heating Setpoints for ADR events are adjusted here.

The Static Settings are applied when the utility sends a signal to allow the occupant to enforce their own discrete temperature settings during an ADR event.

The Offset Settings allow the utility to modify the Cool or Heat setpoints by the value set here during an ADR event.

A Price Trigger setting allows the occupant to set the maximum cost of energy threshold. When this threshold is exceeded the Price dependent action is enforced. This Price Trigger and Dependent action is enforced independent of an ADR event, as long as the utility sends 'real-time' pricing.

Selecting the Overview tab of the ADR page will cause a summary of ADR events to be displayed.

• Automated Demand Response ▶

Utility and Program setup must be done at the Skyport Cloud Services account. From the thermostat Home Screen, press the 'Menu' button, then select 'Settings'.

| | |
|---|---|
| • SD Card ▶ | ▲ |
| • General Setup ▶ | |
| → • Automated Demand Response ▶ | |
| • Installation Settings ▶ | ▼ |
| ◀BACK          Settings | 🏠 |

From the above screen the 'Automated Demand Response' button is pressed.

| | |
|---|---|
| • ADR - On ✔ | ▲ |
| • Price Dependent Action (Offset)▶ | |
| • Event Max Cool Setpoint (85 °)▶ | |
| • Event Min Heat Setpoint (65 °)▶ | ▼ |
| ◀BACK          ADR Options | 🏠 |
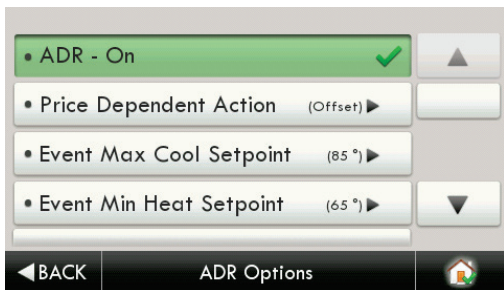
By selecting ADR – On, the user can participate in ADR events triggered by their utility, or price dependent events.

**46**
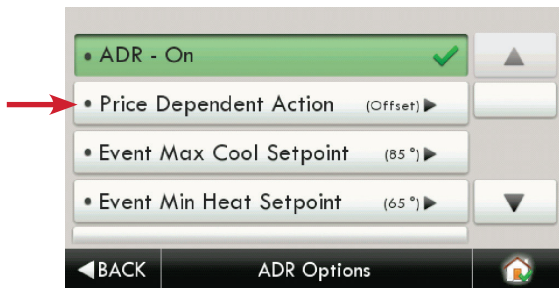
Selecting the 'Price Dependent Action' button allows the user to determine what action is taken when the price rises above the set threshold.
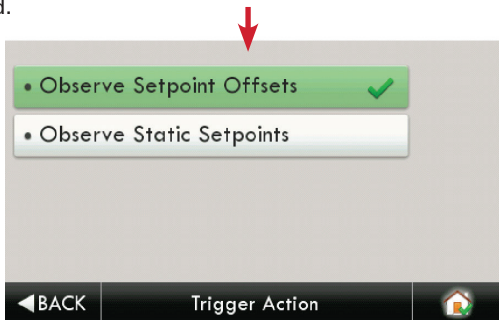


In the above example; if the price threshold is exceeded, the thermostat will invoke the 'Offset Setpoints' configured for an ADR event until the event is over.

**Please note that the Threshold price may only be set in the Skyport Cloud Services account.**

Selecting 'Skip Event' will take no action when the set price threshold is exceeded.

- ADR - On ✔
- Price Dependent Action (Offset) ▶
- Event Max Cool Setpoint (85 °) ▶
- Event Min Heat Setpoint (65 °) ▶

◀ BACK          ADR Options          🏠
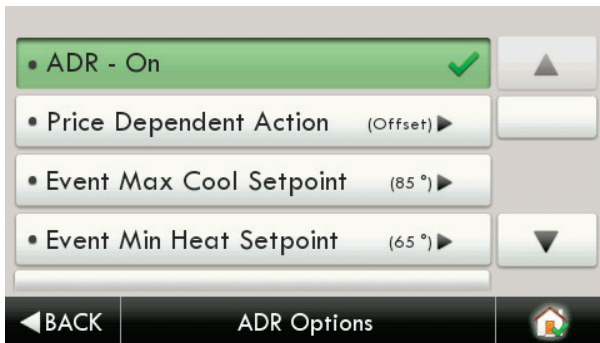
The user may limit the maximum Cooling Setpoint.



ⓘ The thermostat will not allow cool setpoints above this value for any automated DR event.

85 °

◀ BACK      Event Max Cool Setpoint      🏠

- ADR - On ✔
- Price Dependent Action        (Offset) ▶
- Event Max Cool Setpoint        (85 °) ▶
- Event Min Heat Setpoint        (65 °) ▶

◀ BACK        ADR Options        🏠
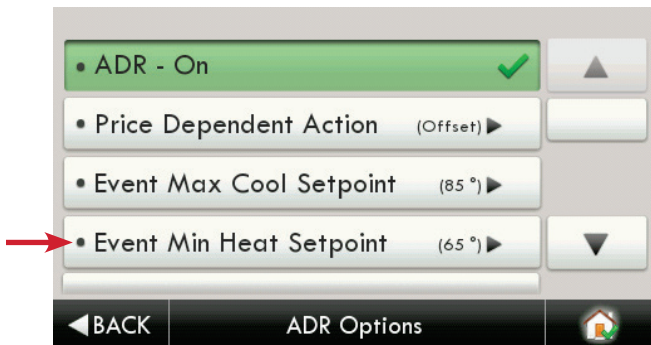
The user may limit the minimum Heating Setpoint.



ⓘ The thermostat will not allow heat setpoints below this value for any automated DR event.

65 °

◀ BACK        Event Min Heat Setpoint        🏠

**49**

- Static Cool Setpoint          (78 °) ▶
- Static Heat Setpoint          (65 °) ▶
- Cool Setpoint Offset          (2 °) ▶
- Heat Setpoint Offset          (-2 °) ▶

◀ BACK          ADR Options          🏠
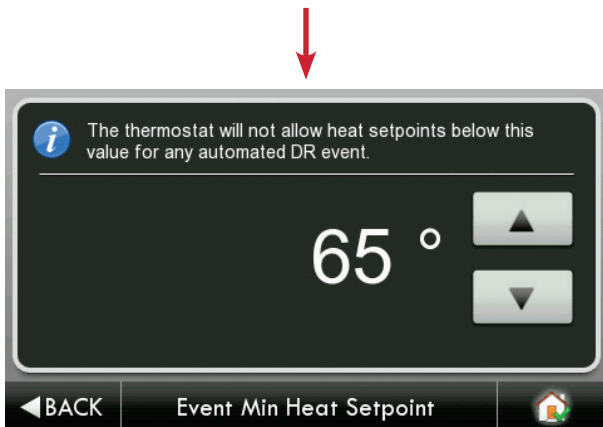
The user may adjust the ADR Cooling 'static' Setpoint.



ⓘ Static cool setpoint value for automated DR events.

78 °

◀ BACK          Static Cool Setpoint          🏠

**50**

- Static Cool Setpoint (78 °) ▶
- Static Heat Setpoint (65 °) ▶
- Cool Setpoint Offset (2 °) ▶
- Heat Setpoint Offset (-2 °) ▶

◀ BACK  ADR Options
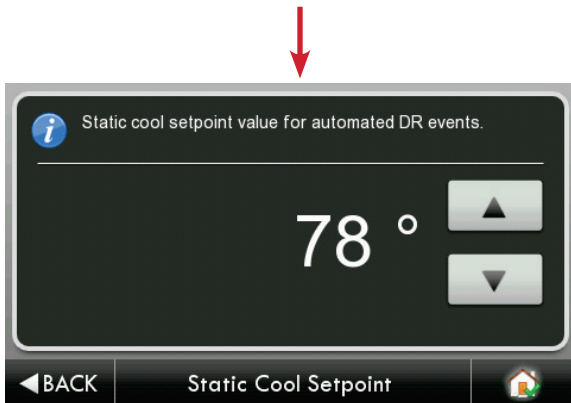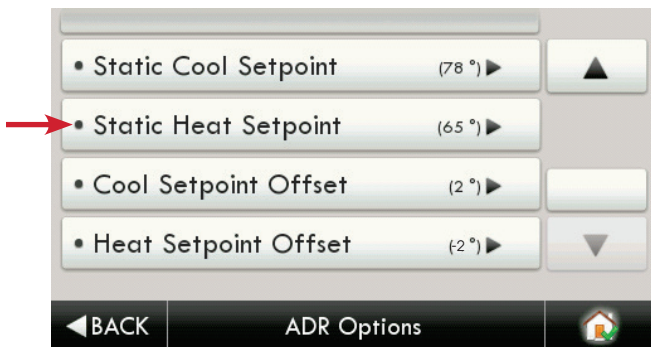
The user may adjust the ADR Heating 'static' Setpoint.



ⓘ Static heat setpoint value for automated DR events.

65 °

◀ BACK  Static Heat Setpoint

- Static Cool Setpoint         (78 °) ▶
- Static Heat Setpoint         (65 °) ▶
- Cool Setpoint Offset          (2 °) ▶
- Heat Setpoint Offset         (-2 °) ▶

◀ BACK        ADR Options
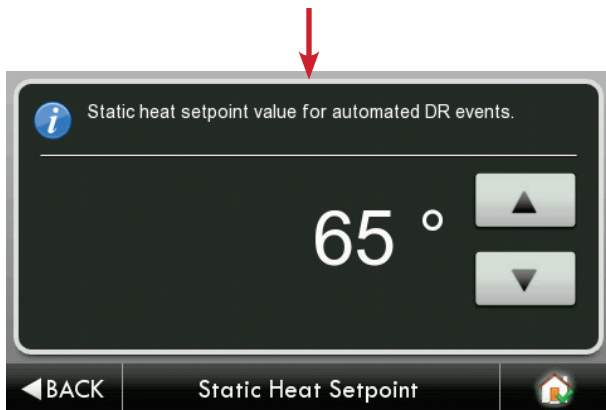
The user may adjust the ADR Cool offset. During an ADR event the cooling setpoint will be adjusted by the amount of degrees configured in this step.



ⓘ Cool setpoint offset applied for automated DR events.

2 °

◀ BACK        Cool Setpoint Offset
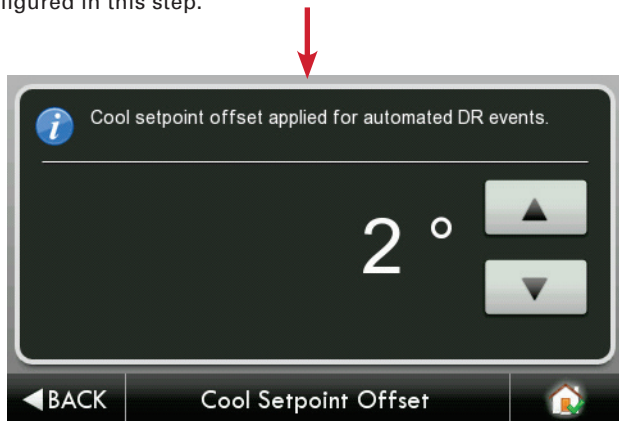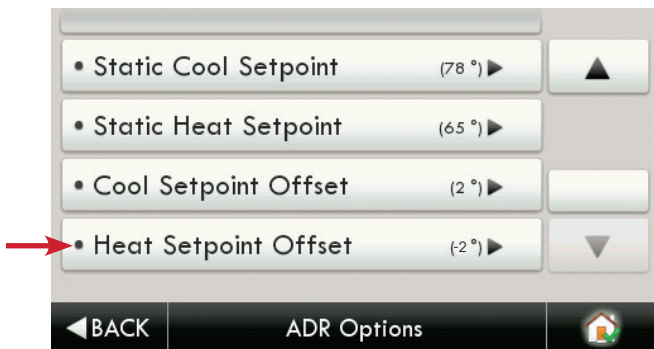
The user may adjust the ADR Heat offset. During an ADR event the heating setpoint will be adjusted by the amount of degrees configured in this step.

When an ADR event is pending, and hasn't started yet, there will be a yellow leaf on the top bar. This will be accompanied by associated text as shown below.



During an ADR event there will be a green leaf on the top bar. This will be accompanied by associated text as shown below.

If a Warmer or Cooler button is pressed during an active ADR event, then the user is presented with this opt-out screen.
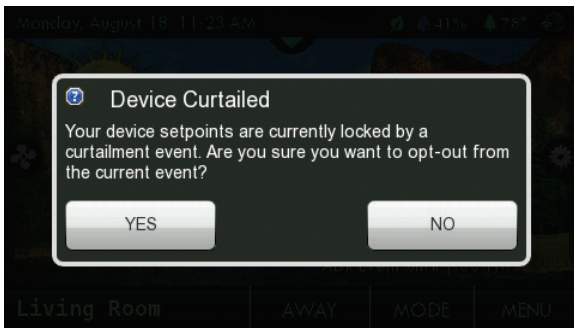


If a pricing triggered ADR event is enabled, there will be a green leaf on the top bar along with the actual cost of energy. This will be accompanied by associated text as shown below

• Installation Settings ▶

• Heat & Cool Stages (1h1c) ▶

• Heat & Cool Stages (1h1c) ▶

Up to 2 Stages Cooling and 4 stages Heating.

• Compressor Stages (1h1c) ▶

Up to 2 compressors.

• Aux Heat Stages (1h1c) ▶

0 or 1 stage of Aux Heating.

Only available when dip switch is set for Heat Pump operation.

• Timers & Deadbands ▶

• Min Heat/Cool Difference (2°) ▶

The minimum gap between Heat and Cool setpoints. (0 - 6 deg. F)

• Installation Settings ▶ (Continued)

• Timers & Deadbands ▶ (Continued)

**The Deadband is the number of degrees or minutes that the thermostat waits before it initiates the stages of heating or cooling.**

**1st Stage Deadband** Specifies the minimum temperature difference between the room temperature and the desired setpoint before the first stage of heating or cooling is allowed to turn on. For example, if the heat setpoint is 68° and the 1st Stage deadband is set to 2 degrees, the room temperature will need to drop to **66 degrees** before the heat turns on.

• 1st Stage Deadband (2°) ▶

(1 - 6 deg. F)

• 2nd Stage Deadband ▶

    • 2nd Stage Deadband (2°) ▶

    Number of degrees past 1st stage before 2nd stage turns on. (0 - 10 deg. F)

    • 2nd Stage Timer (2mins ) ▶

    Number of minutes past 1st stage before 2nd stage turns on. (0 - 60 mins.)
    (The 2nd stage deadband must also be met)

    • 2nd Stage Turnoff Point (Deadband) ▶

    Deadband or Setpoint.

• 3rd Stage Deadband ▶ | The 3rd stage deadband settings have the same adjustable steps as 2nd stage deadband.

• Installation Settings ▶ (Continued)

• D/H Output Settings ▶

Allows the D/H output to be used for
Humidification or Dehumidification.

• D/H output usage (dehum) ▶

**IMPORTANT: D/H Output Usage must be set
for Hum or Dehum before any settings will
take effect in the Humidity Main Menu.**
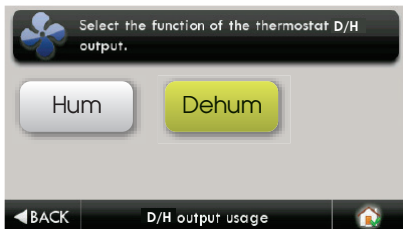


• D/H output polarity (n.o.) ▶

The D/H Output polarity may be set for Normally Open
or Normally Closed to accommodate different types of
humidification and dehumidification equipment.

• Installation Settings ▶ (Continued)

• Fan Off Delay (0s) ▶

Runs the fan for a short time after Cooling or electric strip heat turns off to increase system efficiency. (0 - 120 Secs.)

• Sensor Settings ▶

• Control Source (thermostat ) ▶

When a remote sensor is connected to the thermostat, the user may choose which sensor source is used to measure room temperature.

- Thermostat sensor only
- Wired sensor only
- Average all wireless sensors
- Average wired/thermostat
- Average wireless/thermostat
- Average all available sensors

• Wireless Sensors ▶

You may pair multiple Wi-Fi remote sensors to the thermostat to be used for temperature monitor or control. The sensors MUST be on the same Wi-Fi network as the thermostat. Skyport connectivity is not required. Start the pairing process by pressing the LINK button on the Wi-Fi sensor. This will cause it to send a message to the Wi-Fi router that will in turn broadcast that message. Any thermostat on the network should hear that broadcast and store information about the sensor. Use this section to Add New Sensor for use by the thermostat (pair) or Remove sensor to quit listening to a sensor (unpair). Multiple thermostats can pair to the same sensor (handy for outdoor sensor use) or pair to a group of sensors (average multiple sensors in a large space served by multiple units).

• Add New Sensor ▶

• Remove Sensor ▶

---

• Installation Settings ▶ (Continued)

• Aux In Use (remote) ▶

The wired sensor may be used as follows:

- Use as outdoor sensor
- Use as remote sensor
- Use as supply sensor
- Use as return sensor
- Condensate overflow
- Fault Detect

The first four options allow you to connect a 10K thermistor to the SENSOR terminals to be used to monitor a temperature (outdoor, supply, return) or control to a temperature (remote). The last two options allow you to connect a dry contact signal that will simply short the two SENSOR terminals to detect a Condensate overflow switch or a fault/alarm signal. Note that on ClimateMaster equipment, the condensate overflow sensor is connected to the control board such that an actual condensate overflow event causes the control board to lock out and generate a fault condition that can be detected by the thermostat. In this case, set AUX IN use to the Fault Detect setting.

• Calibrate Sensors (0°) ▶

The thermostat and wired sensor may be calibrated -7 to +7 degrees F. The integral humidity sensor may be calibrated -20% to +20% RH

- Thermostat
- Wired Sensor
- Humidity

• Test Outputs ▶

The installer or service technician can use this feature to test the functions without any time delays of the thermostat.
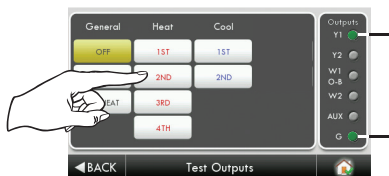


With a 1st stage cooling call, Y1 and G are active
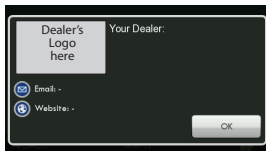
## • Dealer Information ▶

A Dealer may enter their company contact information for the customer to use when they need service. This will appear when the "Who To Call For Service" button is pressed in the Information Menu.

Use the keyboard to enter your information.

- Dealer Name
- Contact Name
- Dealer Phone
- Dealer Email
- Dealer Website



## • Upgrade Firmware ▶

Press to upgrade the thermostat firmware. The SD Card must be in the thermostat SD Card reader and contain the valid firmware. If an error message appears, confirm with the ColorTouch Desktop APP that firmware is up to date or simply try reinserting the SD card.

If you are connected to Skyport Wi-Fi, any firmware upgrades should be sent to your thermostat and installed automatically. This will keep your thermostat up to date with all feature enhancements and fixes.

## • Delete Custom Images ▶

Press to delete the custom photos you uploaded to the thermostat.

## • Factory Defaults ▶

Press to reset the thermostat back to the factory settings.

## • Restart Thermostat ▶

If needed, press here to restart the thermostat.
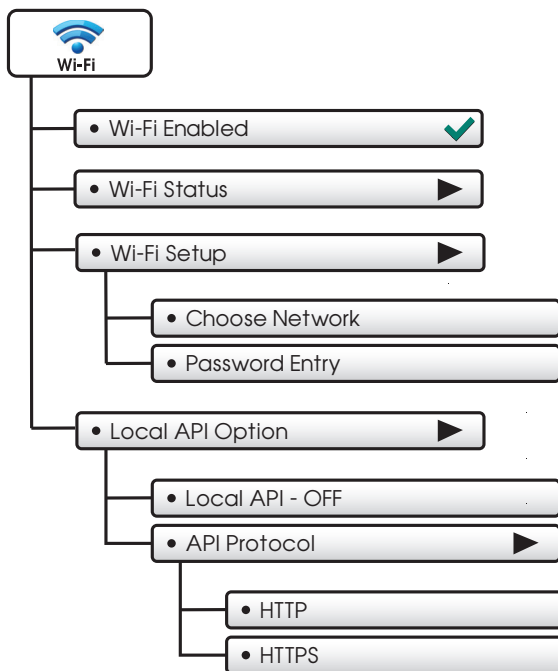
```
┌─────────────┐
│  📶 Wi-Fi   │
└─────────────┘
   │
   ├── • Wi-Fi Enabled                    ✔
   │
   ├── • Wi-Fi Status                     ▶
   │
   ├── • Wi-Fi Setup                      ▶
   │        │
   │        ├── • Choose Network
   │        └── • Password Entry
   │
   └── • Local API Option                 ▶
            │
            ├── • Local API - OFF
            └── • API Protocol             ▶
                     │
                     ├── • HTTP
                     └── • HTTPS
```

**Wi-Fi**

---

• Wi-Fi Enabled ▶

This option allows the Wi-Fi radio to be turned off or on.

• Wi-Fi Status ▶

It is here that you will find helpful information regarding the connectivity status of your thermostat, including the thermostat's ID.


ⓘ Wi-Fi Status

Network: myhome
Signal: 100%
MAC: F0.27.65.C6.75.BE
IP: 192.168.0.198
Wi-Fi: Connected 00:00.08

(Touch to close)
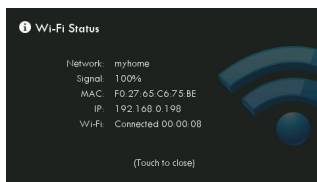
• Wi-Fi Setup ▶

Choose your network from the list and enter the network password.


• Network Name 1
• Network Name 2
• Network Name 3
• Network Name 4
◀BACK

↻ If your network does not appear in the list, hit the refresh button.
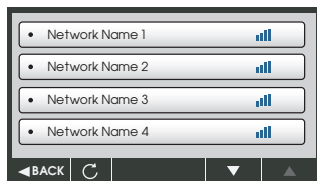
• Local API Option ▶

Turning on the local API allows 3rd party software to interface with your thermostat, such as a home automation system.

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This is the default with the local API OFF.

- Local API  -  OFF

- API Protocol                    (http)  ▶

To turn on the HTTP Local API select **Local API**

- Local API  -  ON                    ✓

- API Protocol                    (http)

Press **BACK** to return to previous screen.

---

If a Secure API is preferred, then select **API Protocol**

- Local API  -  OFF

- API Protocol                    (http)  ▶

Upon pressing **API Protocol**, the following screen will appear.

- HTTP                    ✓

- HTTPS

Then select **HTTPS** and press **BACK**

- HTTP

- HTTPS                    ✓

Upon pressing **BACK**, the screen will look like this.

- Local API - OFF

- API Protocol                    (https)  ▶

- Basic Auth User                          ▶

- Basic Auth Password                      ▶

**PRESS**
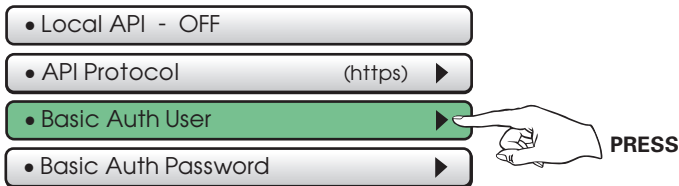
- Basic Auth User                          ▶

Select **Basic Auth User**, and enter the appropriate information on the screen below and press **DONE** to save.

| | | | | | | | | | **(64 remaining)** | ✗ |
| Q | W | E | R | T | Y | U | I | O | P |
| A | S | D | F | G | H | J | K | L |
| Shift | Z | X | C | V | B | N | M | ◂Del |
| 123!? | | SPACE | |
| ◂ BACK | Basic Auth User | ✓ DONE |
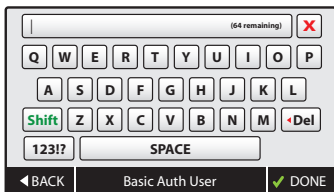
Select **Basic Auth Password** as the next step.

- Local API - OFF                          ▶

- API Protocol                    (https)  ▶
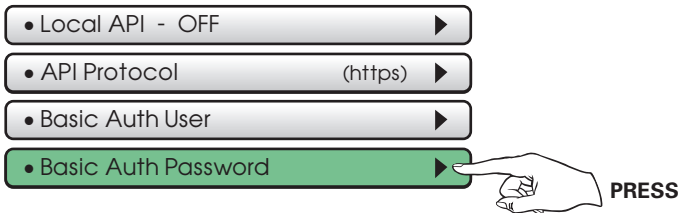
- Basic Auth User                          ▶

- Basic Auth Password                      ▶

**PRESS**

• Basic Auth Password ▶

Select **Basic Auth Password** and enter the appropriate information on the screen below and press **DONE** to save.

| | (64 remaining) | ✕ |
| Q W E R T Y U I O P |
| A S D F G H J K L |
| Shift Z X C V B N M ◂Del |
| 123!? SPACE |
| ◂BACK | Basic Auth Password | ✓ DONE |

The last step is to turn the **Local API** as shown below.

• Local API - ON ✔

• API Protocol (https)

• Basic Auth User ▶

• Basic Auth Password ▶
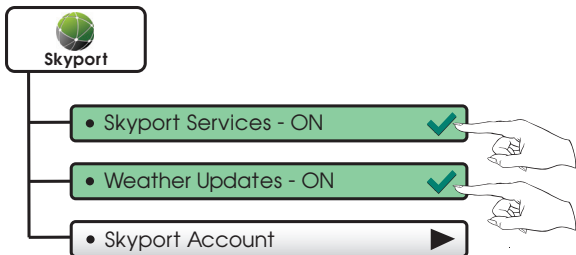
• Skyport Account ▶

Pressing this button will let you know if you are paired
with a Skyport account. If not, then you may follow prompt
and instructions to create an account and add the
thermostat to the account.

The Emergency Heat function is only available if your thermostat is set to control a Heat Pump.

To initiate the Emergency Heat feature, Press the Emergency Heat button. During Emergency Heat operation the thermostat will turn on the fan and auxiliary stages of heat when there is a demand for heat. The 1st stage of heating and all stages of cooling will be unavailable. To exit Emergency Heat, press the Emergency Heat button.
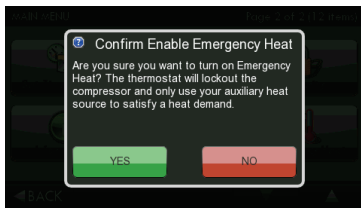
# Remove and Replace the old thermostat

To install the thermostat properly, please follow these step by step instructions. If you are unsure about any of these steps, call a qualified technician for assistance.

- Assemble tools: Flat blade screwdriver, wire cutters and wire strippers.
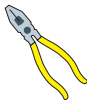
- Make sure your Heater/Air Conditioner is working properly before beginning installation of the thermostat.

- Carefully unpack the thermostat. Save the screws, any brackets, and instructions.

- Turn off the power to the Heating/Air Conditioning system at the main fuse panel. Most residential systems have a separate breaker for disconnecting power to the furnace.

- Remove the cover of the old thermostat. If it does not come off easily, check for screws.

- Loosen the screws holding the thermostat base or subbase to the wall and lift away.

- Disconnect the wires from the old thermostat. Tape the ends of the wires as you disconnect them, and mark them with the letter of the terminal for easy reconnection to the new thermostat. Additionally, we recommend taking a photo with your phone of the connections for future reference.

- Keep the old thermostat for reference purposes, until your new thermostat is functioning properly.

# Wire Connections

If the terminal designations on your old thermostat do not match those on the new thermostat, **refer to the chart below or the wiring diagrams that follow.**

| Wire from the old thermostat terminal possibly marked | Function (Heatpump) | Function (Gas/Electric) | Install on the new thermostat connector marked |
|---|---|---|---|
| G,F | Fan | Fan | G |
| Y,Y1 | 1st stage heating/cooling | 1st stage cooling | Y1 |
| Y2 | 2nd stage heating/cooling | 2nd stage cooling | Y2 |
| W,W1 | | 1st stage heating | O |
| W2 | | 2nd stage heating | W |
| W (on CLM products) | 3rd stage heating emergency heat | | W |
| O | reversing valve | | O |
| | humidifier | humidifier | D/H (note 1) |
| H (on CLM products) | ClimaDry | | D/H (note 2) |
| | dehumidifier | dehumidifier | D/H (note 2) |
| AL1, AL2 | fault | condensate | sensor (note 3) |
| R,Rh,M,Vr,A | power | power | R |
| C | common | common | C |

**Note 1 :** set the D/H USE to humidifier.  Also, set the HUM WITH HEAT ONLY as required

**Note 2 :** set the D/H USE to dehumidifier.  Also, set the DEHUM WITH COOL ONLY as required

**Note 3 :** for equipment lockout caused by internal issue or condensate overflow, bring signals AL1 and AL2 to the two SENSOR terminals on the backplate and remove jumper JW1

# The TouchScreen thermostat backplate
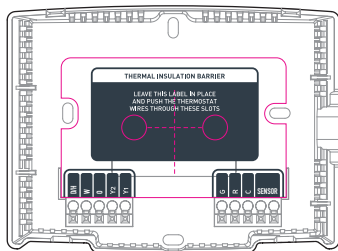


**NOTE:**
The backplate does not fully cover a full size vertical junction box. The ACC-WPLWH ClimateMaster Wallplate or a single-gang, horizontally mounted junction box would be needed for that type of installation

**To remove the thermostat backplate:**
Using the Finger Pull Areas, pull the front housing away from the backplate.
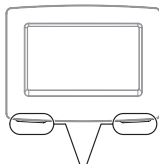


Look for these tabs to locate the pull areas

Backplate    Front Housing
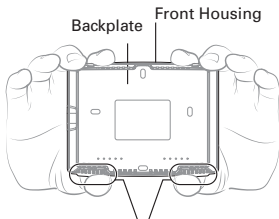


Pull out with thumbs in these areas

**WIRE TERMINAL FUNCTIONS**

The table on page 70 shows how to wire to either a heatpump or conventional system and explains the function of each terminal. Note that the use of the O and W terminals vary depending on equipment type. The O terminal drives the reversing valve for a heatpump but since that function isn't applicable for a conventional system, O becomes the first stage of gas or electric heat. Similarly, W drives a single stage of strip heat in a heatpump system but is used as second stage of gas or electric heat in a conventional system.

# Explanation of Thermostat Dip Switches

**Dip switches are located on the back of the thermostat**
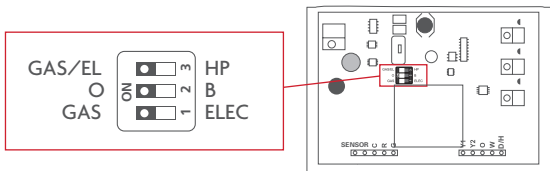


This dip switch configures the thermostat to control a conventional gas/electric system or a heat pump. If your system is anything other than a heat pump, leave this switch set for GAS/EL.*

*For some commercial heat pumps, this switch may need to be set for GAS/EL. Consult the commercial heat pump literature.
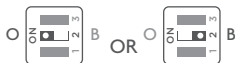
This switch (O or B) is not used in this thermostat. The thermostat only controls a type O reversing valve (power to cool).

1. When **GAS/EL or HP** is set for **GAS/EL**:
This switch (GAS or ELEC) controls how the thermostat will control the Fan (G) terminal in heating mode. When **GAS** is chosen, the thermostat **will not** energize the Fan (G) terminal in heating. When **ELEC** is chosen the thermostat will energize the fan in heating.

2. When **GAS/EL or HP** is set for **HP**:
This switch (GAS or ELEC) defines the Aux Heat type. When GAS is chosen, the auxiliary heat will not be allowed to run during heat pump operation. When using a Dual Fuel system, set this switch for GAS. When ELEC is chosen, up to two stages of auxiliary strip heat will be allowed to run.

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## Single Stage Heat Pump with AUX Heat

Dip Switch
Settings

GAS/EL ⟶ HP
O ⟶ B
GAS ON ⟶ ELEC

THERMAL INSULATION BARRIER

LEAVE THIS LABEL IN PLACE
AND PUSH THE THERMOSTAT
WIRES THROUGH THESE SLOTS

| Y |
| W |
| O |
| G |
| R |
| C |
| AL1 |
| AL2 |
| A |
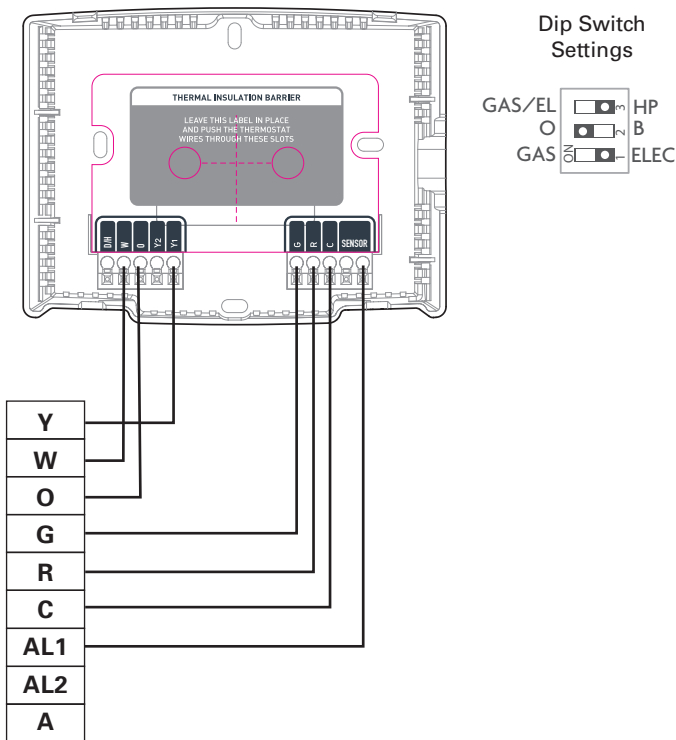
*Note: Do not clip jumper JW1 on CXM board*

## Dual Stage Heat Pump with AUX Heat and ClimaDry



Dip Switch
Settings

GAS/EL ☐ HP
O ☐ B
GAS ☐ ELEC

| H |
| Y1 |
| Y2 |
| W1 |
| O/W2 |
| G |
| R |
| C |
| AL1 |

THERMAL INSULATION BARRIER
LEAVE THIS LABEL IN PLACE
AND PUSH THE THERMOSTAT
WIRES THROUGH THESE SLOTS

*Note 1: Make sure to select 2 compressor stages via MENU › Settings › Installation Settings › Heat & Cool Stages › Compressor Stages*

*Note 2: If using the integral condensate overflow sensing in the heatpump, an overflow condition generates a FAULT signal which halts equipment operation. Bringing that signal into the right most SENSOR terminal and setting Installation Settings › Sensor Settings › AUX in USE to Fault Detection Equipment FDD Error alert will show on Condensate Overflow*

## 1 Stage Heat, 1 Stage Cool (with wired remote sensor)



Dip Switch
Settings

GAS/EL — HP
O — B
GAS — ELEC

THERMAL INSULATION BARRIER

LEAVE THIS LABEL IN PLACE
AND PUSH THE THERMOSTAT
WIRES THROUGH THESE SLOTS

| W1 |
| Y1 |
| G |
| R |
| C |

**HVAC
Equipment**

10K NTC
Thermistor
ACC-TSEN
or ACC-DSEN
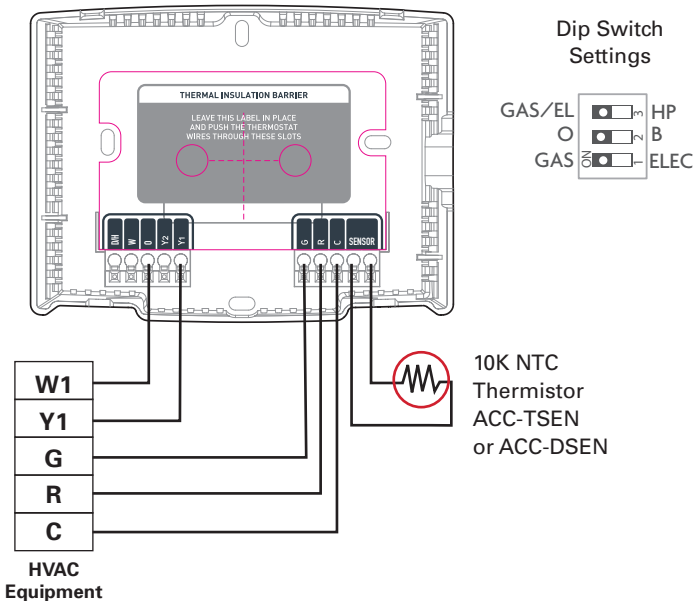
*Notes:*
*1) Connect the two wires from the sensor to the two SENSOR terminals. To enable the function, set MENU › Settings › Installation Settings › AUX IN use to "Use as remote sensor" if you wish to control to the temperature from the sensor or "Use as supply sensor" or "Use as return sensor" to simply monitor the temperature*

## 2 Stage Heat, 2 Stage Cool (with condensate overflow)



Dip Switch
Settings

GAS/EL ⬛ HP
O ⬛ B
GAS ON ⬛ ELEC

Condensate Switch
(optional)
open = normal
closed = condensate
pan full

| HVAC Equipment |
|---|
| W1 |
| W2 |
| Y1 |
| Y2 |
| G |
| R |
| C |

*Notes:*
*1) Make sure to select 2 heat and 2 cool stages via Menu ›*
*Settings › Installation Settings › Heat & Cool Stages*

*2) Connect the normally open Condensate Overflow switch between the two*
*SENSOR terminals. To enable the function, set MENU › Settings › Installation*
*Settings › Sensor Settings › AUX IN use to Condensate Overflow. When*
*triggered, cooling is turned off. If the switch opens, cooling will resume, and*
*a condensate pan overflow alert will be triggered to notify the user that*
*servicing of the condensate drain is required.*

## Sample Wiring Diagrams

### Humidification

**D/H Output Usage
must be set for Hum**

**Use 16-24 gauge
thermostat wire.**



**Humidification
System**

---
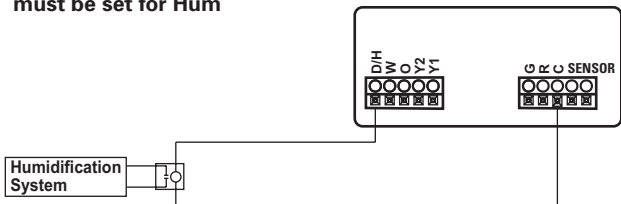
### Dehumidification

**D/H Output Usage
must be set for Dehum**

**Use 16-24 gauge
thermostat wire.**



Dehumidification Terminal
on Equipment

**DEHUM/
HUM**
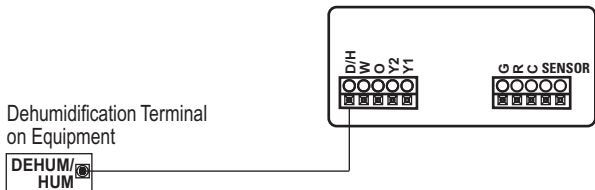
## Troubleshooting

- **SYMPTOM:** The thermostat touchscreen buttons are not responsive.
  **CAUSE:** The touchscreen is out of calibration.
  **REMEDY:** Remove the thermostat from the backplate. Push the thermostat back onto the backplate, while keeping your finger pressed firmly against the center of the touchscreen, until the Calibration screen appears. Re-calibrate the touchscreen. *See Touch Calibration section of full user's manual (page 24).*

- **SYMPTOM:** The display is blank.
  **CAUSE:** Lack of proper power.
  **REMEDY:** Make sure the power is on to the HVAC and that you have 24vac between **R & C**.

- **SYMPTOM:** The air conditioning does not attempt to turn on.
  **CAUSE:** The cooling setpoint is set too high.
  **REMEDY:** Lower the cooling setpoint or lower the cooling set-point limit. *See Setpoint Limits (page 33).*

- **SYMPTOM:** The heating does not attempt to turn on.
  **CAUSE:** The heating setpoint is set too low.
  **REMEDY:** Raise the heating setpoint or raise the heating set-point limit. *See Setpoint Limits (page 33).*

- **SYMPTOM:** When controlling a residential heat pump, and asking for cooling, the heat comes on.
  **CAUSE:** The thermostat reversing valve dip switch is set for **"B"**.
  **REMEDY:** Set the reversing valve jumper for **"O"**.

- **SYMPTOM:** When calling for cooling, both the heat and cool come on.
  **CAUSE:** The thermostat equipment dip switch is configured for "HP" and the HVAC unit is a Gas/Electric.
  **REMEDY:** Set the equipment dip switch for **"Gas"**.

- **SYMPTOM:** Air handler control board fuse blows when thermostat is attached to backplate with power on, but does not blow until the thermostat is placed onto the backplate.
  **CAUSE:** The Outdoor sensor and/or sensor wiring is shorted.
  **REMEDY:** Check/replace Outdoor sensor and/or sensor wiring.

# Warranty

One-Year Warranty - This Product is warranted to be free from defects in material and workmanship. If it appears within one year from the date of original installation, whether or not actual use begins on that date, that the product does not meet this warranty, a new or remanufactured part, at the manufacturer's sole option to replace any defective part, will be provided without charge for the part itself provided the defective part is returned to the distributor through a qualified servicing dealer.

THIS WARRANTY DOES NOT INCLUDE LABOR OR OTHER COSTS incurred for diagnosing, repairing, removing, installing, shipping, servicing or handling of either defective parts or replacement parts. Such costs may be covered by a separate warranty provided by the installer.

THIS WARRANTY APPLIES ONLY TO PRODUCTS IN THEIR ORIGINAL INSTALLATION LOCATION AND BECOMES VOID UPON REINSTALLATION.

LIMITATIONS OF WARRANTIES – ALL IMPLIED WARRANTIES (INCLUDING IMPLIED WARRANTIES OF FITNESS FOR A PARTICULAR PURPOSE AND MERCHANTABILITY) ARE HEREBY LIMITED IN DURATION TO THE PERIOD FOR WHICH THE LIMITED WARRANTY IS GIVEN. SOME STATES DO NOT ALLOW LIMITATIONS ON HOW LONG AN IMPLIED WARRANTY LASTS, SO THE ABOVE MAY NOT APPLY TO YOU. THE EXPRESSED WARRANTIES MADE IN THIS WARRANTY ARE EXCLUSIVE AND MAY NOT BE ALTERED, ENLARGED, OR CHANGED BY ANY DISTRIBUTOR, DEALER, OR OTHER PERSON WHATSOEVER.

ALL WORK UNDER THE TERMS OF THIS WARRANTY SHALL BE PERFORMED DURING NORMAL WORKING HOURS. ALL REPLACEMENT PARTS, WHETHER NEW OR REMANUFACTURED, ASSUME AS THEIR WARRANTY PERIOD ONLY THE REMAINING TIME PERIOD OF THIS WARRANTY.

THE MANUFACTURER WILL NOT BE RESPONSIBLE FOR:

1. Normal maintenance as outlined in the installation and servicing instructions or owner's manual, including filter cleaning and/or replacement and lubrication.

2. Damage or repairs required as a consequence of faulty installation, misapplication, abuse, improper servicing, unauthorized alteration or improper operation.

3. Failure to start due to voltage conditions, blown fuses, open circuit breakers or other damages due to the inadequacy or interruption of electrical service.

4. Damage as a result of floods, winds, fires, lightning, accidents, corrosive environments or other conditions beyond the control of the Manufacturer.

5. Parts not supplied or designated by the Manufacturer, or damages resulting from their use.

6. Manufacturer products installed outside the continental U.S.A., Alaska, Hawaii, and Canada.

7. Electricity or fuel costs or increases in electricity or fuel costs for any reason whatsoever including additional or unusual use of supplemental electric heat.

8. ANY SPECIAL INDIRECT OR CONSEQUENTIAL PROPERTY OR COMMERCIAL DAMAGE OF ANY NATURE WHATSOEVER. Some states do not allow the exclusion of incidental or consequential damages, so the above may not apply to you.

This warranty gives you specific legal rights and you may also have other rights which may vary from state to state.

ClimateMaster®