

# Wireless Thermostat (WTS10)

## Keypad Operation Guide

This Guide is intended to provide basic instructions for operating the thermostat from its on-board user interface prior to it being commissioned into the wireless ControlScope network. For hardware, wiring, and commissioning info see the Installation Instructions.

After commissioning into the ControlScope system using industry standard ZigBee wireless communications, the WTS10 is managed using the ControlScope Manager (CSM) web application, eliminating the need for manual adjustment.



## Built-in Program Schedules (default)

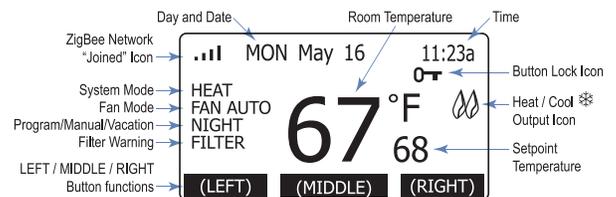
The WTS10 has four built-in programs that can be modified using the on-board user interface. See Program Schedule.

Setting	MORN M-F (S-S)	DAY M-F (S-S)	EVE M-F (S-S)	NIGHT M-F (S-S)
Start time	6:00 A.M.	8:00 A.M.	6:00 P.M.	10:00 P.M.
Heat setpoint	71°F (60°F)	71°F (60°F)	60°F (60°F)	60°F (60°F)
Cool setpoint	74°F (80°F)	74°F (80°F)	80°F (80°F)	80°F (80°F)
Fan mode	Auto	Auto	Auto	Auto
System Mode	Auto	Auto	Auto	Auto

## Home Screen

The Home screen is the main display screen. If you do not press any buttons for 30 seconds, the thermostat will return to the Home screen (the example below may include features not available on your system).

The large temperature reading on the Home screen is the current temperature. The small temperature reading is your setpoint temperature.



### **WARNING! Read BEFORE Adjusting**

- Do not select COOL mode if the outside temperature is below 50° F (10° C). This could damage the controlled cooling system and cause personal injury.
- Ensure the display is reading current room temperature. If not see [Programming, Thermostat Setup](#).



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## Operations

To use the thermostat before it is commissioned into ControlScope you can use the Built-in Program Schedules and the buttons on the user interface to override program settings. After it is joined (registered) to the ControlScope network, the keypad and access to features may be locked, and the schedule for the zone determines operation.

### Change the setpoint temperature:

Press ▲ (Up) or ▼ (Down) until the desired setpoint temperature displays.

### Set System Mode

- When you are in the Home screen, press ▲ (Up) and the screen opposite appears.
- Press - or + to select one of these options:
  - 'HEAT', 'COOL' or 'OFF' (Conventional HVAC)
  - "HEAT", 'EMER' (Emergency Heating, only for HVAC system), 'COOL' or 'OFF' (Heat pump HVAC)
  - 'AUTO' automatically switches between heat and cool depending on setpoint/temp.
- Press the MIDDLE button (CONFIRM) to confirm your selection.

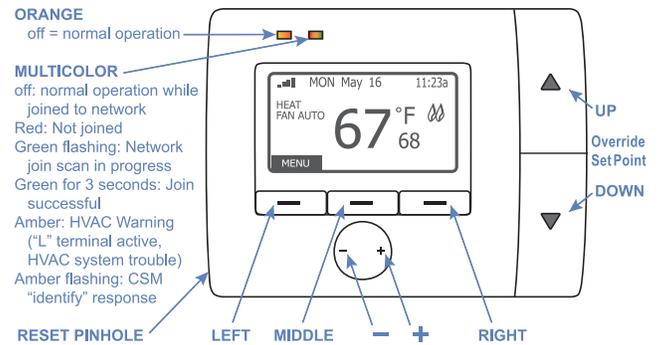


### Set Fan Mode

- When you are in the Home screen, press ▼ (Down) and the screen opposite appears.
- Press - or + to select 'FAN ON' or 'FAN AUTO'.
- Press the MIDDLE button (CONFIRM) to confirm your selection.
  - When the fan is set to 'AUTO' it only runs when the heating/cooling system is working.



## User Interface Overview

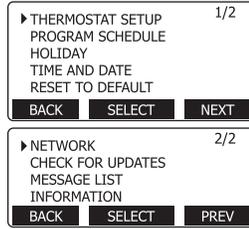


KEY	FUNCTION
- / =	<ul style="list-style-type: none"> <li>Home Screen: Select System/Fan mode for adjustment</li> <li>Program Mode: Increase/Decrease (increment/decrement) setting</li> </ul>
▲ Up Down ▼	<ul style="list-style-type: none"> <li>Override (Home Screen): Increase/Decrease temperature setpoint</li> <li>Change selected System and Fan Mode (Home Screen)</li> <li>Navigate inside menu in Program screens</li> </ul>
Left Button	<ul style="list-style-type: none"> <li>Screen Navigation</li> <li>Save current menu setting and return to previous menu screen</li> </ul>
Middle Button	<ul style="list-style-type: none"> <li>Enter sub-menu</li> <li>Confirm current menu setting, including but not limited to:                             <ul style="list-style-type: none"> <li>- Temporary or permanent override DR events;</li> <li>- Scan/Join/exit ZigBee network;</li> <li>- Get current utility price and message;</li> <li>- Confirm message or confirm cancel message.</li> </ul> </li> </ul>
Right Button	<ul style="list-style-type: none"> <li>Screen Navigation</li> </ul>

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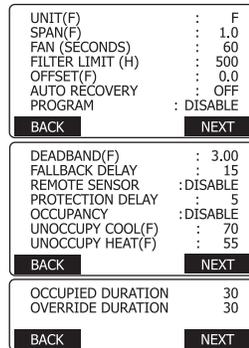
## Programming

1. When you are in the Home screen, press the LEFT button (MENU) and the screen below appears.
2. Press ▲ (Up) or ▼ (Down) to scroll through the main menu options. Depending on software options, there may be two screens with menu selections.
3. Press the MIDDLE button (SELECT) to enter a menu.



## Thermostat Setup

1. Press the LEFT button (MENU) twice. Press the MIDDLE button (SELECT) to enter Thermostat Setup.
2. Use ▲ (Up) or ▼ (Down) to scroll. Press - or + to change a setting.
3. Press the MIDDLE button (CONFIRM) to confirm. Menu settings are:



<b>Unit</b>	Changes the display measurement between Celsius or Fahrenheit.
<b>Fan</b>	Changes the temperature span from 0.5 to 2.0°F in increments of 0.5°.
<b>Span</b>	Number of seconds fan runs after cooling turns off (0, 30, 60 or 90).
<b>Filter Limit</b>	Sets a time (up to 500 hours) to remind you to change or clear the filter.
<b>Offset</b>	Adjust thermostat's internal temperature reading to compensate for temperature differences between thermostat's location and typical temperature in the conditioned space. The default value is zero.
<b>Auto Recovery</b>	Set to OFF.
<b>Program</b>	Enable or Disable built-in program schedules.
<b>Deadband</b>	Minimum separation between heating and cooling setpoints.
<b>Fallback Delay</b>	The maximum wait time for a remote sensor report before "falling back" to only using the thermostat's internal temperature sensor. (Automatically configured by CSM)
<b>Remote Sensor</b>	Only operates when thermostat is connected to CSM. If Remote Sensor is enabled before the thermostat is connected, the thermostat uses its internal temperature sensor after the Fallback Delay expires. (Automatically configured by CSM)
<b>Protection Delay</b>	Use with Heat Pump only. Defines minimum time (minutes) the controlled equipment must be off or inactive before switching between heat and cool. (Automatically configured by CSM)
<b>Occupancy</b>	Enable or Disable operation with an occupancy sensor. (Automatically configured by CSM)
<b>Unoccupy Cool</b>	Set Point for Cooling when unoccupied. (Automatically configured by CSM)
<b>Unoccupy Heat</b>	Set Point for Heating when unoccupied. (Automatically configured by CSM)
<b>Occupied Duration</b>	Amount of time (in minutes) a manual occupancy event is active. (Automatically configured by CSM)
<b>Override Duration</b>	Amount of time (in minutes) a manual override event is active. (Automatically configured by CSM)

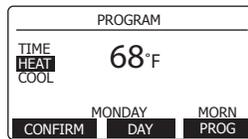
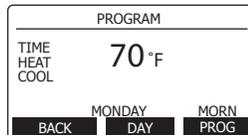


# Wireless Thermostat (WTS10)

## Program Schedule

To edit the time and temperature settings for any day of the week:

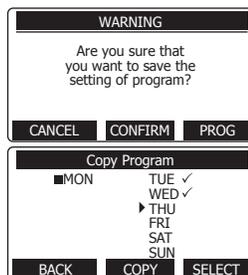
1. Select and enter the Program menu and the screen opposite appears.
2. Use ▲ (Up) or ▼ (Down) to scroll through TIME, HEAT, and COOL settings for the selected program.
3. Press the the MIDDLE button (DAY) to change the day of the week.
4. Press the RIGHT button (PROG) to change the program.
5. Press the LEFT button (CONFIRM) to confirm the setting and enter the Warning and Copy Program menu.



## To copy a program to other days:

To edit the time and temperature settings for any day of the week:

1. Press the MIDDLE button (CONFIRM) to save the setting and enter the copy menu.
2. Use the ▲ (Up) or ▼ (Down) buttons to select day(s) that you wish to copy the program to and press the RIGHT button (SELECT) or - or + to place a ✓ (check) indicating your selection(s).
3. Press the MIDDLE button (COPY) to confirm the copy, and then the LEFT button (BACK) to return to the PROGRAM screen.



## Holiday

When Holiday Mode is ON, the temperature setting overrides the Program Schedule temperature setting for the number of days you specify.

1. Select and enter the HOLIDAY menu.
2. Use ▲ (Up) or ▼ (Down) to scroll through the settings and press - or + to change a setting.
3. Press the MIDDLE button (CONFIRM) to confirm.



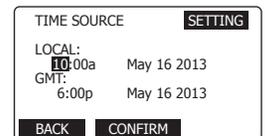
## Time and Date

Before the thermostat is joined (registered) to the ControlScope network, set the Time Source for SETTING. After it is joined set it for NETWORK.

Local time is the time display on the screen;

GMT time is received from the network.

1. To set Time Source, press - or + to select "SETTING" or "NETWORK".
  - If you select SETTING, press the MIDDLE button (CONFIRM) to advance to the LOCAL time setting. Press ▲ (Up) or ▼ (Down) to select the date, time and year. Press - or + to set the local time.
  - If you select NETWORK, press the MIDDLE button (CONFIRM). The thermostat will read the GMT time from ZigBee network immediately, and the thermostat will read time from the network every midnight.
2. Press the LEFT button (BACK) to return to the main menu.

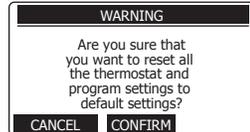


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## Reset to Default

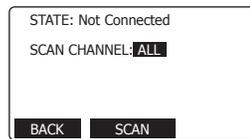
Enter the menu list:

1. Press ▲ (Up) or ▼ (Down) to select the **RESET TO DEFAULT** menu.
2. Press the **MIDDLE** button (**CONFIRM**) to reset all the thermostat and program settings to defaults.



## Network Menu

The network menu advises if the thermostat is communicating with the ZigBee wireless network or if it is disconnected from the network.



If it is already joined to the ControlScope network, the display shows the state as Registered, and provides channel information.

Information about joining the ZigBee network is in the Installation Instructions.

## Check for Updates

The thermostat must be joined to the ControlScope ZigBee network to use this feature.

## Information

The information menu displays thermostat information.

<b>FIRM</b>	Version of thermostat software and ZigBee software
<b>IEEE</b>	IEEE address
<b>HVAC</b>	HVAC mode: ELEC Heat/Cool, Gas Heat/Cool, Heat Pump O or Heat Pump B
<b>RELAY RUNNING</b>	Amount of time Y1, Y2, W1, W2, W3 have been running
<b>FILTER RUNNING</b>	Amount of time filter has been running

## Hardware Reset

To reset the unit, insert a thin, blunt instrument into the RESET hole on the side of the unit. **This function should only be performed by an authorized commissioning or installing agent, or upon the advice of Technical Support.**

## FCC DECLARATION

**WARNING:** Changes or modifications to this unit not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

**NOTE:** This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 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 to radio communications.

However, there is no guarantee that 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 to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

### FCC RF Radiation Exposure statement:

This equipment complies with FCC RF radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with a minimum distance of 20 centimeters between the radiator and your body.



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## ETL

This thermostat is a Class 3 product and must be operating by approved power source under 18-30VAC. It must be connected to 18-30VAC supply of HVAC System or transformer approved by UL/cUL/CSA.

Disconnection means: Type 1B

Pollution Degree: 2

Rated Impulse voltage: 330V

For installation, please refer to the installation and wiring diagram under Appendix. Warning: Do not connect any of the terminals to 110V/220V AC supply.

## Industry Canada (IC) Warning Message

Product complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) This device must accept any interference received, including interference that may cause undesired operation. CAN ICES-005 B / NMB-005 B

## SAFETY INSTRUCTIONS:

### Purpose and correct use

- Read these instructions carefully and keep in a safe place for future reference.
- Only an authorized, qualified installer should install this unit. All manual / safety instructions and electricity supplier's regulations must be adhered to.
- Only connect this unit to a 24-volt AC power source.
- Do not expose the unit to voltage fluctuations of more than +/- 10%.
- Do not install this unit above an altitude over 6500 feet (2000 meters).
- This standalone mounted electronic unit serves as a temperature control system only in dry, closed living and office spaces. Do not place the unit in a bathroom or area of excessive moisture. Do not allow the unit to get wet.
- Do not expose the unit to temperatures below 41°F (5°C) or above 104°F (40°C), humidity above 80% or pollution above level 2.
- Clean the unit with a dry, soft cloth. Do not use solvents or strong cleansers.
- The manufacturer accepts no responsibility for damage caused by non-observance of these instructions.

