



INSTRUCTION MANUAL

## VIEWSTAT COLOR COMMUNICATING THERMOSTAT

ENV-VST-C



## IMPORTANT SAFETY INSTRUCTIONS

1. READ these instructions.
2. KEEP these instructions.
3. HEED all warnings.
4. FOLLOW all instructions.
5. DO NOT use this apparatus near water.
6. CLEAN ONLY with dry cloth.
7. DO NOT block any ventilation openings. Install in accordance with the manufacturer's instructions.
8. DO NOT install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
9. DO NOT defeat the safety purpose of the polarized or grounding type plug. A polarized plug has two blades with one wider than the other. A grounding type plug has two blades and a third grounding prong. The wider blade or the third prong are provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
10. PROTECT the power cord from being walked on or pinched, particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.
11. ONLY USE attachments/accessories specified by the manufacturer.



12. USE ONLY with a cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the apparatus. When a cart is used, use caution when moving the cart/apparatus combination to avoid injury from tip-over.
13. UNPLUG this apparatus during lightning storms or when unused for long periods of time.
14. REFER all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.
15. DO NOT expose this apparatus to dripping or splashing and ensure that no objects filled with liquids, such as vases, are placed on the apparatus.
16. To completely disconnect this apparatus from the AC Mains, disconnect the power supply cord plug from the AC receptacle.
17. Where the mains plug or an appliance coupler is used as the disconnect device, the disconnect device shall remain readily operable.
18. DO NOT overload wall outlets or extension cords beyond their rated capacity as this can cause electric shock or fire.



The exclamation point, within an equilateral triangle, is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the product.



The lightning flash with arrowhead symbol within an equilateral triangle is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electrical shock to persons.



ESD Warning: The icon to the left indicates text regarding potential danger associated with the discharge of static electricity from an outside source (such as human hands) into an integrated circuit, often resulting in damage to the circuit.

- WARNING:** To reduce the risk of fire or electrical shock, do not expose this apparatus to rain or moisture.
- WARNING:** No naked flame sources - such as lighted candles - should be placed on the product.
- WARNING:** Equipment shall be connected to a MAINS socket outlet with a protective earthing connection.
- WARNING:** To reduce the risk of electric shock, grounding of the center pin of this plug must be maintained.

## COPYRIGHT NOTICE

AMX© 2015, all rights reserved. No part of this publication may be reproduced, stored in a retrieval system, or transmitted, in any form or by any means, electronic, mechanical, photocopying, recording, or otherwise, without the prior written permission of AMX. Copyright protection claimed extends to AMX hardware and software and includes all forms and matters copyrightable material and information now allowed by statutory or judicial law or herein after granted, including without limitation, material generated from the software programs which are displayed on the screen such as icons, screen display looks, etc. Reproduction or disassembly of embodied computer programs or algorithms is expressly prohibited.

## LIABILITY NOTICE

No patent liability is assumed with respect to the use of information contained herein. While every precaution has been taken in the preparation of this publication, AMX assumes no responsibility for error or omissions. No liability is assumed for damages resulting from the use of the information contained herein. Further, this publication and features described herein are subject to change without notice.

## AMX WARRANTY AND RETURN POLICY

The AMX Warranty and Return Policy and related documents can be viewed/downloaded at [www.amx.com](http://www.amx.com).

# Table of Contents

<b>ENV-VST-C ViewStat Color Communicating Thermostat .....</b>	<b>7</b>
<b>Overview .....</b>	<b>7</b>
<b>System Components .....</b>	<b>7</b>
<b>Installation and Wiring .....</b>	<b>9</b>
<b>Overview .....</b>	<b>9</b>
<b>Disconnecting Power to All HVAC Equipment .....</b>	<b>9</b>
<b>Selecting the Thermostat Location .....</b>	<b>9</b>
Stand-Alone Thermostat Mounting Criteria .....	9
Remote Temperature Sensors.....	9
Removing the Faceplate from the Base.....	9
Mounting the Base to a Wall .....	9
<b>Wiring the Thermostat .....</b>	<b>10</b>
Wiring Terminals.....	10
Communication and Equipment Terminal Wiring Definitions .....	11
Preparing Captive Wires .....	11
Wiring Guidelines.....	11
Wiring for AxLink .....	11
<b>Wiring Diagrams .....</b>	<b>12</b>
Single Stage Furnace and Single Stage A/C.....	12
Dual Stage Furnace and Dual Stage A/C .....	12
Roof Top Unit with Dual Stage Heat and Dual Stage Cool .....	13
Boiler and A/C with Separate Transformers .....	13
Single Stage Heat Pump .....	14
Two Stage Heat Pump.....	15
First Stage Radiant Floor Heat, Second Stage Furnace with Single Stage Cooling .....	16
<b>Installing a Remote Sensor .....</b>	<b>16</b>
Installing the Outdoor Temperature Sensor .....	17
Installing the Indoor Flush Mount Sensor.....	17
<b>Setup and Configuration .....</b>	<b>19</b>
<b>Overview .....</b>	<b>19</b>
<b>Front Panel Components.....</b>	<b>19</b>
Display .....	19
Navigation Buttons .....	19
Mode/Select Button.....	19
<b>Navigating the ViewStat Color Communicating Thermostat .....</b>	<b>19</b>
Main Screen .....	19
Changing the Heating and Cooling Setpoints .....	20
Changing Hold Mode.....	20
Changing the Heating/Cooling Mode .....	21

Turning Off the HVAC System .....	21
Changing the Fan Mode .....	22
Help Screen.....	22
Current Weather Screen.....	23
5-Day Forecast Screen.....	23
Thermostat Mode Screen .....	24
Program Screen .....	24
Establishing Daytime/Nighttime Temperature Settings .....	25
Copying Programmed Settings .....	25
Away Mode Screen .....	26
Establishing Away Mode Settings.....	26
Settings Screen.....	27
Changing the Fan Settings .....	27
Changing the Filter Settings.....	28
<b>Advanced Thermostat Operations .....</b>	<b>29</b>
<b>Overview .....</b>	<b>29</b>
<b>Changing User Preferences .....</b>	<b>29</b>
Security Code Screen .....	29
Accessing Advanced Setup Options .....	29
Entering the Security Code.....	30
Change Security Code Screen .....	30
Changing the Security Code .....	30
User Preferences Screen .....	31
Changing the Temperature Scale.....	32
Changing the Date and Time Format.....	32
Changing the Backlight Settings .....	33
Disabling the Filter Change Reminder .....	33
Disabling the Weather Alert Icon .....	34
Disabling the Forecast Screens .....	34
Disabling the Screen Saver.....	34
Button Lockout Screen .....	35
Locking the Buttons.....	35
Locking the Temperature Settings .....	36
Locking the Fan Settings .....	36
Locking the Mode Settings .....	37
Advanced Setup Screen.....	37
Changing the Type of HVAC System .....	38
Changing the Type of Fossil Fuel.....	39
Activating the External Sensor .....	39
Activating the Internal On-board Sensor .....	39
Activating the On-board Humidity Sensor.....	40
Setting the Date and Time on the Thermostat .....	40

Turning on Diagnostic Mode.....	41
Turning on the Humidification and Dehumidification Systems.....	41
Turning on Comfort Recovery .....	42
AxLink Communications Screen .....	42
Switching AxLink Devices .....	42
<b>Thermostat Setup.....</b>	<b>43</b>
Thermostat Setup Screen.....	43
Setting First and Second Stage Differentials.....	44
Setting the Deadband Temperature Difference .....	45
Setting the Temperature Offset.....	45
Setting the Balance Point for a Heat Pump System.....	45
<b>Programming .....</b>	<b>47</b>
<b>Overview .....</b>	<b>47</b>
<b>SEND_COMMANDS .....</b>	<b>47</b>
CLOCK .....	47
MESSAGE .....	47
RESET.....	47
SLEEP .....	47
VER.....	47
WAKE .....	47
ZAP!.....	47
<b>Color ViewStat Thermostat Commands .....</b>	<b>48</b>
<b>5-Day Forecast Commands.....</b>	<b>48</b>
FH.....	48
FL .....	48
FK.....	48
<b>AxLink Commands .....</b>	<b>49</b>
BK.....	49
CD .....	49
CF.....	49
?EXTERNAL_TEMP.....	49
FILTER.....	49
?FILTER.....	49
FM .....	50
LK .....	50
MD.....	51
PG .....	51
PRESSURE.....	51
?SERIAL .....	51
<b>AxLink Channels .....</b>	<b>52</b>
SP.....	52
ST.....	52
<b>AxLink Levels .....</b>	<b>54</b>
<b>Weather Duet Module .....</b>	<b>54</b>
i!-Weather Setup Pages .....	55
Changing the Date and Time .....	56
Changing the Humidity Settings.....	57
Changing the Humidity Mode .....	57
Changing the Heat and Cool Settings.....	58
Changing the Fan Mode .....	58

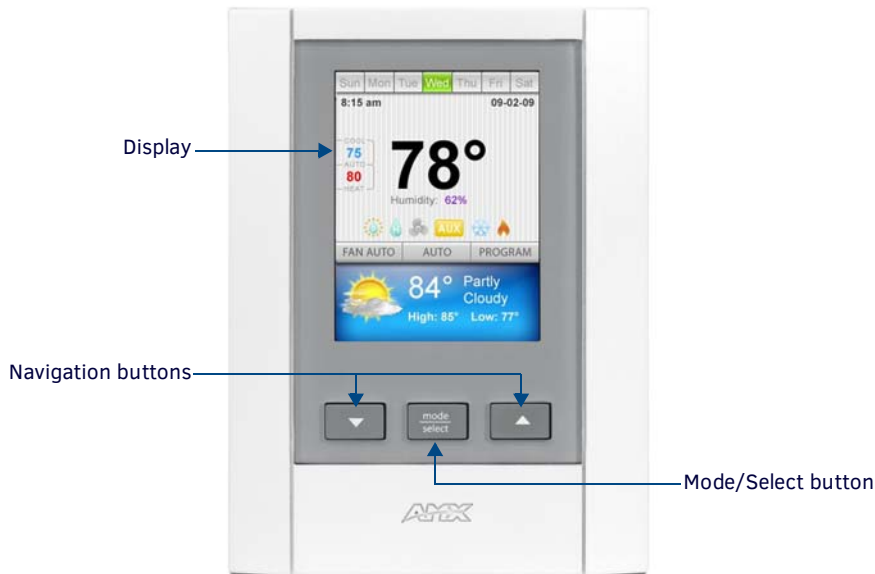
**Changing the HVAC Mode..... 59**  
**Changing the Hold Mode ..... 59**  
**Entering Location by Zip Code..... 60**  
**Entering Location by Station ID..... 60**  
**Changing Temperature Units ..... 60**  
**Changing Wind Speed Units ..... 60**  
**Changing Pressure Units ..... 60**  
**Auto Refresh Interval Select..... 60**

# ENV-VST-C ViewStat Color Communicating Thermostat

## Overview

The ENV-VST-C ViewStat Color Communicating Thermostat (**FG2050-12**) enables you to completely control your heating, ventilation, and air-conditioning (HVAC) system. The thermostat provides the current temperature (from an on-board sensor, a remote sensor, or an average of the on-board and remote sensors), controls and displays humidity, and displays the current outdoor temperature. The ViewStat Color Thermostat displays this information on a 3.5" (8.89 cm) color display. In addition, the ViewStat Color Thermostat provides the current day's weather forecast along with a five-day forecast. The forecast information is driven from AMX's i!-Weather application.

The thermostat receives the forecast information from a NetLink Master, with an internet-enabled IP connection, via AxLink. A three-year subscription to i!-Weather is included with purchase of the thermostat.



**FIG. 1** Front panel components

## System Components

The following table lists the specifications for the ViewStat Color Communicating Thermostat:

ENV-VST-C Specifications	
Control Voltage	24 VAC (interfaces with a power supply through the R-C terminals) <i>Warning: Exceeding the control voltage may cause damage to the thermostat.</i>
Switched Voltage	18 – 30 VAC, 57-63 Hz
Maximum Operating Current	<ul style="list-style-type: none"> <li>• 2 amps total at rated voltage, through all outputs.</li> <li>• 1 amps through any one output.</li> </ul>
Minimum System Power	24VAC, 48VA
Maximum Surge Current	2.0 A
Internal Battery	CR2032 for maintaining real-time clock settings during a power loss.
Control Accuracy	±1.0° F (± 0.56° C) ±3% relative humidity
Operating Range	<ul style="list-style-type: none"> <li>• Temperature: 40°-99° F (5°-37° C)</li> <li>• Humidity: 5%-95% RH non-condensing</li> </ul>
Certifications	<ul style="list-style-type: none"> <li>• IC</li> <li>• FCC Class B</li> <li>• CE</li> <li>• IEC60950</li> </ul>

<b>ENV-VST-C Specifications (Cont.)</b>	
<b>Front Panel Components:</b>	
Main LCD display	3.5" (8.89 cm) color QVGA (320 x 240) Thin Film Transistor Liquid Crystal Display (TFT-LCD). The main display provides the mode status, temperature, and system status information.
Navigation buttons	The Navigation buttons are used to change various parameters on the thermostat, including the temperature setpoints. These buttons are located beneath the display.
Mode/Select button	The Mode/Select button is used to navigate through the various thermostat screens, including the weather screens. This button is located beneath the display.
<b>Circuit Board Components:</b>	
Communication and HVAC Equipment connectors	Terminals with captive-wire connectors that connects to the thermostat, HVAC equipment, control system, remote sensors, and power supply. See the <i>Communication and Equipment Terminal Wiring Definitions</i> section on page 11 for more information.
<b>Enclosure:</b>	
Material	White plastic and removable front panel. The panel can be painted to match wall decor. <i>Warning: If you paint the panel, do not paint over the exposed thermistor. Doing so can cause the external temperature sensor to work improperly.</i>
Dimensions (HWD)	5.31" x 3.93" x 1.18" (13.48 cm x 9.98 cm x 2.99 cm)
Weight	5.29 oz. (150 grams)
Included Accessories	ENV-VST-C ViewStat Color Communicating Thermostat Installation Guide ( <b>93-2050-01</b> ) ENV-VST-TSO ViewStat Indoor/Outdoor Temperature sensor ( <b>FG2050-22</b> ) Duet II-Weather application ( <b>FG070-518</b> ), three-year subscription
Optional Accessories	ENV-VST-TSF ViewStat Indoor Flush Mount Temperature Sensor ( <b>FG2050-21</b> )

The following table lists the specifications for the ENV-VST-TSO Outdoor Temperature Sensor:

<b>ENV-VST-TSO Outdoor Temperature Sensor Specifications</b>	
Sensing Element:	Thermistor (thermal resistor)
Accuracy:	±0.6° C from -20° to 60° C (-4° F to 140° F)
Operating Temperature Range:	-50° C to 110° C (-58° F to 230° F)
Temperature Response:	NTC Thermistor
Connection:	1" (2 1/2 cm) 24 AWG pigtailed
Mounting:	Surface mount or 1/4" hole
Color:	White plastic case
Threaded Case Length:	1 3/16 in. (30 mm)
Threaded Case Diameter:	1/4 in. (7 mm)
Sensor Face Diameter:	1/4 in. (7 mm)
Sensor Face Thickness:	1/13 in. (2 mm)
Weight:	0.88 oz. (29.94 g)



# Installation and Wiring

## Overview

This section covers the installation and wiring of a ViewStat Color Communicating Thermostat system.

**DANGER:** 120 volts may cause serious injury from electrical shock. Disconnect electrical power to the HVAC system before starting installation. This system is a low-voltage system. Improper installation may cause serious injury from electrical shock. This system must be installed by a qualified contractor in accordance with NEC Standards and applicable local and state codes.

**CAUTION:** If you are using more than one thermostat on a single power transformer, use the maximum total current draw of all of the thermostats on the transformer times the voltage for the total "VA draw" of the thermostats on that individual transformer; then keep that value under 50% of the VA rating of the transformer.

## Disconnecting Power to All HVAC Equipment

Since the thermostats wire directly to the HVAC equipment, you must shut off the power at the equipment. You can generally accomplish this by turning off the disconnect switch located near the equipment. If an obvious disconnect switch is unavailable, you need to remove the circuit breaker or shut down the fuse serving the equipment.

**CAUTION:** Failure to disconnect power could result in damage to the HVAC equipment or thermostats. Leave the power disconnected until you have made all other electrical connections and checked them for accuracy.

## Selecting the Thermostat Location

Determine if the thermostat will be operating alone, or with remote temperature sensors. If the unit is stand-alone there are certain measures that must be taken to ensure accurate temperature control.

### Stand-Alone Thermostat Mounting Criteria

- Mount on an interior wall.
- In a room frequently occupied.
- At least 18 inches (45.72 cm) from any outside wall.
- Approximately 5 feet (1.52 m) above the floor. Check with local building codes for height requirements in commercial applications.

#### DO NOT locate the thermostat:

- Behind doors, in corners or other dead air spaces.
- In direct sunlight or near lamps, appliances or other sources of radiant heat.
- On an outside wall or wall exposed to an unconditioned space (i.e. garage, etc.).
- In the flow path of a supply register, in stairways or near outside doors.
- On a wall where concealed pipes and/or duct work will affect the thermostat.
- Near sources of electrical interference such as arcing relay contacts.

### Remote Temperature Sensors

When choosing an installation location for the remote sensor, follow the guidelines for placement of the thermostat, and locate the sensor where its operating range (see the ENV-VST-C Specifications table on page 7) will not be violated (i.e. do not install in a cold garage or hot equipment room).

See the *Installing a Remote Sensor* section on page 16 for details.

### Removing the Faceplate from the Base

No tools are required to disassemble the thermostat - simply use your hands to pull the front panel off of the base.

**CAUTION:** Loss of internal programs may result from static discharge to the thermostat circuit board. Touch a grounded metal object to discharge any static charge before handling the circuit board.

### Mounting the Base to a Wall

You should only mount the ViewStat Color Communicating Thermostat onto a sheetrock wall with the anchors and screws provided with the unit. There are four screw holes located on the base of the thermostat.

1. Place the base over the wire hole opening in the wall. Level the base (leveling required for appearance only) and mark the screw hole mounting locations.
2. Using the supplied wall anchors, drill 1/4" hole in the center of the marked locations, and tap the wall anchors into the holes. If using the supplied screws only, drill a 3/32" hole in the center of the marked locations.

**NOTE:** Minimize the wire entry hole size and seal. Drafts from inside the wall could affect temperature readings.

3. Fasten the base to the wall with the supplied screws.
4. Seal the wire entry with caulk, drywall putty, or insulation.

## Wiring the Thermostat

**NOTE:** A qualified HVAC technician should perform these steps to ensure proper termination.

1. Make sure the HVAC system power is off.
2. Strip 1/4" (0.63 cm) of insulation from each wire you are using.
3. Secure the wires into the terminals on the base according to the appropriate wiring diagram, as described below. Refer to the *Wiring Diagrams* on page 12.

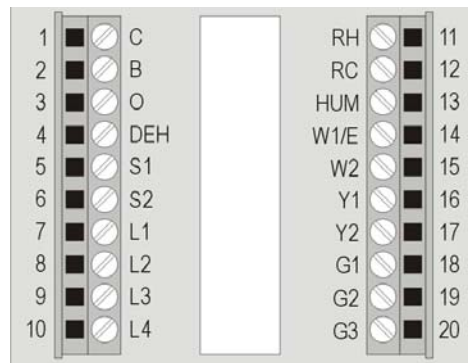
**NOTE:** Use color-coding practices (i.e. white wire to W terminal) whenever possible.

- **Single Stage Furnace and Single Stage A/C** - Refer to the *Single Stage Furnace and Single Stage A/C* on page 12.
  - **Dual Stage Furnace and Dual Stage A/C** - Refer to the *Dual Stage Furnace and Dual Stage A/C* on page 12.
  - **Roof Top Unit with Dual Stage Heat and Dual Stage Cool** - Refer to the *Roof Top Unit with Dual Stage Heat and Dual Stage Cool* on page 13.
  - **Boiler with A/C with Separate Transformers** - Refer to the *Boiler and A/C with Separate Transformers* on page 13.
  - **Single Stage Heat Pump** - Refer to the *Single Stage Heat Pump* on page 14.
  - **Two Stage Heat Pump** - Refer to the *Two Stage Heat Pump* on page 15.
  - **First Stage Radiant Floor Heat, Second Stage Furnace One Stage of Cooling** - Refer to the *First Stage Radiant Floor Heat, Second Stage Furnace with Single Stage Cooling* on page 16.
4. Check each wire to ensure it is securely fastened, not broken, and any exposed wires are not touching each other.

### Wiring Terminals

ViewStat Color Communicating Thermostats are equipped with terminals RC, RH, C, Y, W, G, O, B, S1, S2, L1, L2, L3, and L4. You can use terminals S1 and S2 to accommodate a remote temperature sensor (see the *Installing a Remote Sensor* section on page 16 for more information).

Terminals L1-L4 connect to the AxLink cable. The remaining terminals are used to control various types of heating and cooling systems detailed in the following sections. FIG. 2 displays the layout of the terminals on the thermostat's motherboard.



**FIG. 2** Terminal layout

**CAUTION:** Applying voltage to the external temperature sensor pins (S1 and S2) can cause permanent damage to the thermostat.

## Communication and Equipment Terminal Wiring Definitions

The following table lists the communication and equipment terminal wiring definitions for the thermostat.

Communication and Equipment Terminal Wiring Definitions	
RH	24 VAC in
RC	24 VAC in for AC relays. If a separate 24 VAC is not supplied to the RC terminal, install a jumper from RH to RC.
C	24 VAC common
G1	Fan on 1. If you are using a single speed fan, you should connect it to the G1 terminal, since the fan speed is set to Low by default. On a multi-speed fan, G1 is the lowest speed.
G2	Fan on 2. On a multi-speed fan, G2 is the medium speed.
G3	Fan on 3. On a multi-speed fan, G3 is the highest speed.
W1	1st stage heat or emergency heat for a heat pump system.
W2	2nd stage heat
Y1	1st stage compressor
Y2	2nd stage compressor.
B	Reversing valve (heat). Either the B or O relay will be connected to the reversing valve based on the type of reversing valve used. Connect one or the other. <i>DO NOT CONNECT BOTH.</i>
O	Reversing valve (cool). Either the B or O relay will be connected to the reversing valve based on the type of reversing valve used. Connect one or the other. <i>DO NOT CONNECT BOTH.</i>
DEH	Dehumidify
HUM	Humidify
S1	External thermistor. The Color ViewStat supports only one external sensor.
S2	External thermistor. The Color ViewStat supports only one external sensor.
L1	AxLink PWR. This terminal is optional for AxLink connections.
L2	AxLink AxP. This terminal is required for AxLink connections.
L3	AxLink AxM. This terminal is required for AxLink connections.
L4	AxLink GND. This terminal is required for AxLink connections.

**NOTE:** On older model Color ViewStat thermostats, the 2nd stage heat on Two Stage Heat Pump systems wires to the W2 terminal. On newer thermostat models, 2nd stage heat wires to the Y2 terminal. If you replace an older model thermostat with a newer model, you must rewire the terminals for two stage heat pumps. Failure to do so could result in 2nd stage heating not working properly.

### Preparing Captive Wires

Follow these steps to connect the wiring into a captive-wire connector:

1. Strip 1/4 inch off the wire insulation for all four wires.
2. Tin 2/3 of the exposed wire.
3. Insert each wire into the appropriate captive-wire connector up to the insulation.
4. Tighten the captive screws to secure the fit in the connector.

### Wiring Guidelines

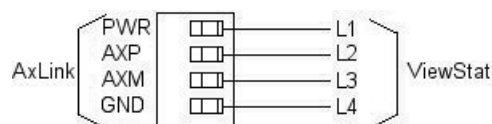
The ViewStat Color Communicating Thermostat accepts configuration and weather information from a NetLink Integrated master via an AxLink bus. Use 18 AWG wire to connect terminals L1-L4 on the ViewStat to the AxLink device.

See the *Communication and Equipment Terminal Wiring Definitions* section on page 11 for more information on the terminals on the ViewStat.

**NOTE:** The ViewStat Color Communicating Thermostat interfaces with a 24 VAC power supply from the heating/cooling unit through its RC terminal. You should not connect the power wiring from the AxLink device to the thermostat with the intent of using the AxLink device to provide power to the thermostat. The L1 terminal on the thermostat can accept the AxLink +12VDC wire and you can connect the wire to the terminal if you want to assure there are no loose wires inside the thermostat, but you should not power the thermostat by running a jumper to the RC pin.

### Wiring for AxLink

Connect the AxLink wiring from the thermostat to the connector on the AxLink device as shown in FIG. 3.



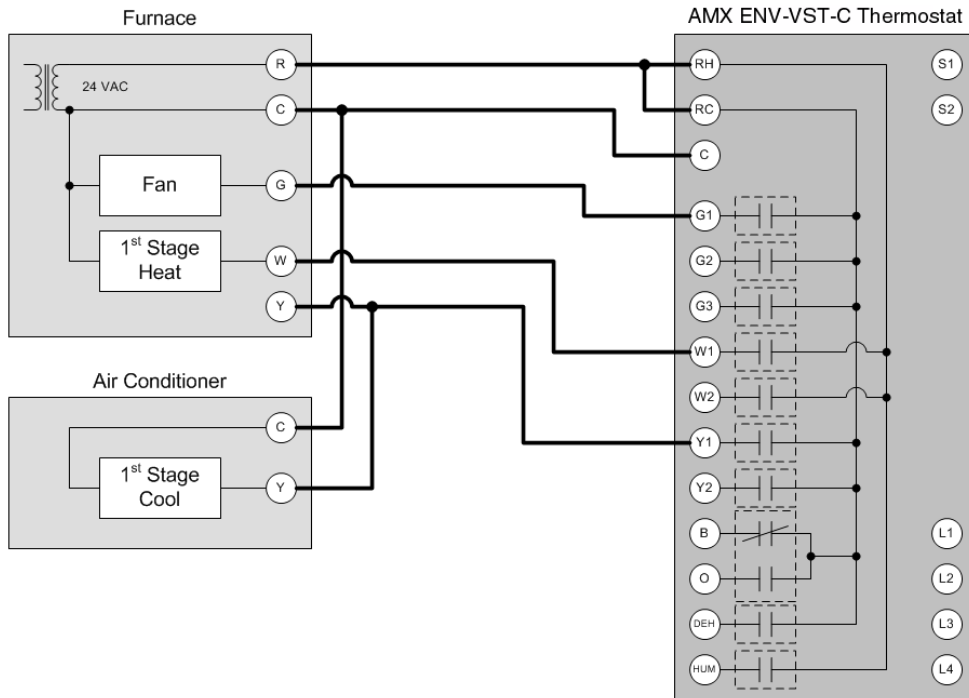
**FIG. 3** AxLink wiring

You can connect the AxLink device to a NetLink Master by following the instructions in the AxLink device's instruction manual.

## Wiring Diagrams

The following sections display wiring diagrams for the types of HVAC systems that are compatible with the thermostat:

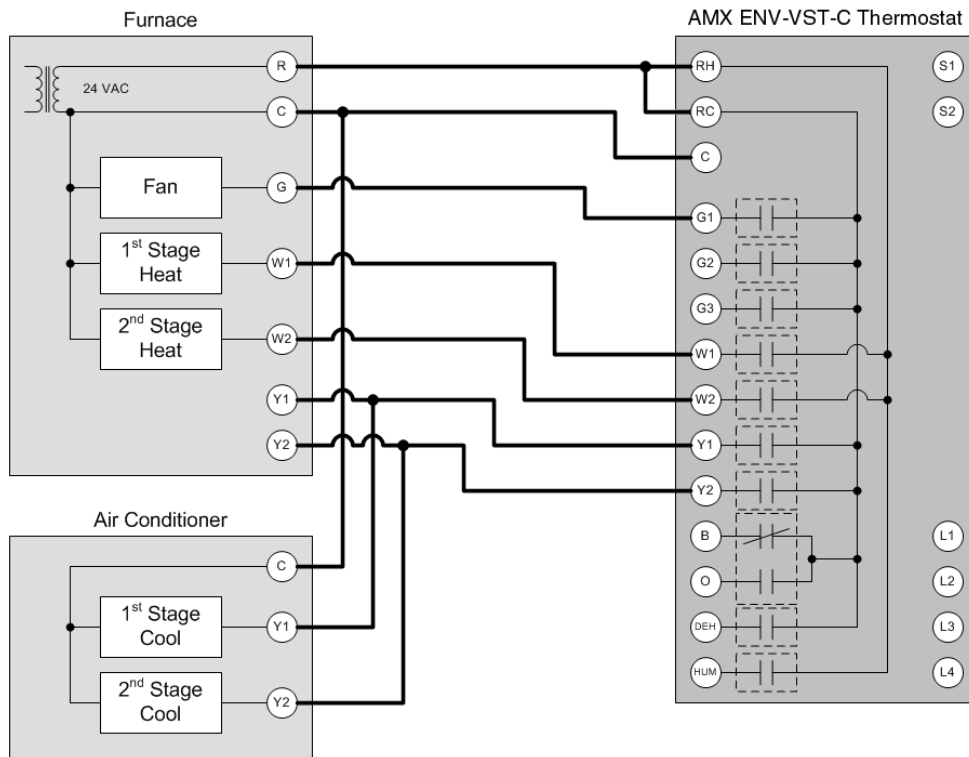
### Single Stage Furnace and Single Stage A/C



**FIG. 4** Single Stage Furnace and Single Stage A/C wiring

The thermostat automatically defaults to One Stage Furnace for the HVAC System setting when you install it. For information about changing the HVAC System setting, see the *Changing the Type of HVAC System* section on page 38.

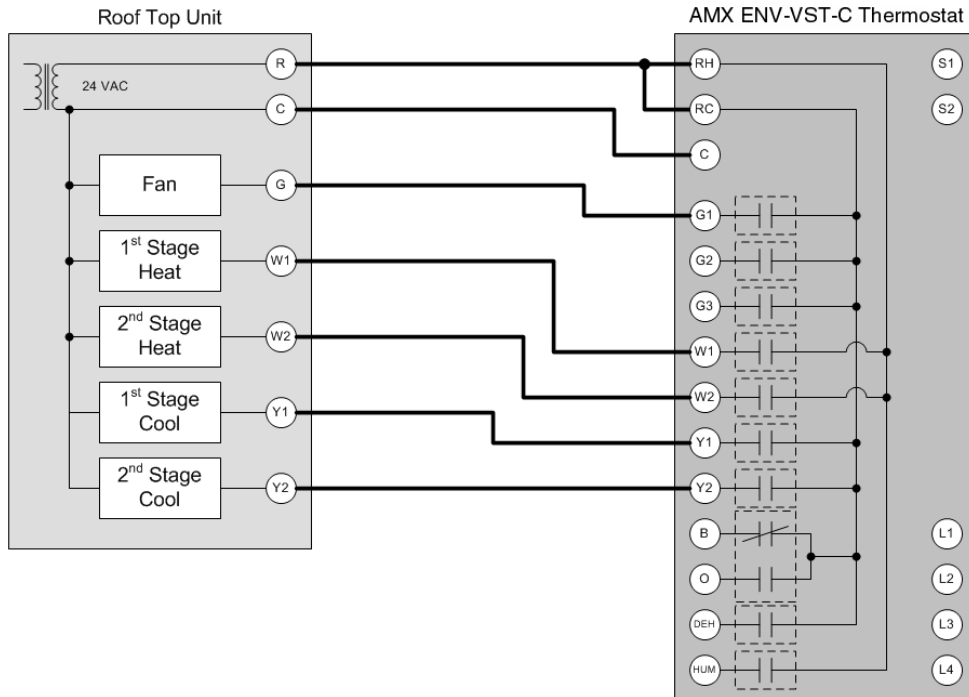
### Dual Stage Furnace and Dual Stage A/C



**FIG. 5** Dual Stage Furnace and Dual Stage A/C wiring

See the *Changing the Type of HVAC System* section on page 38 for information on indicating the thermostat is connected to a Dual Stage Furnace and Dual Stage A/C system.

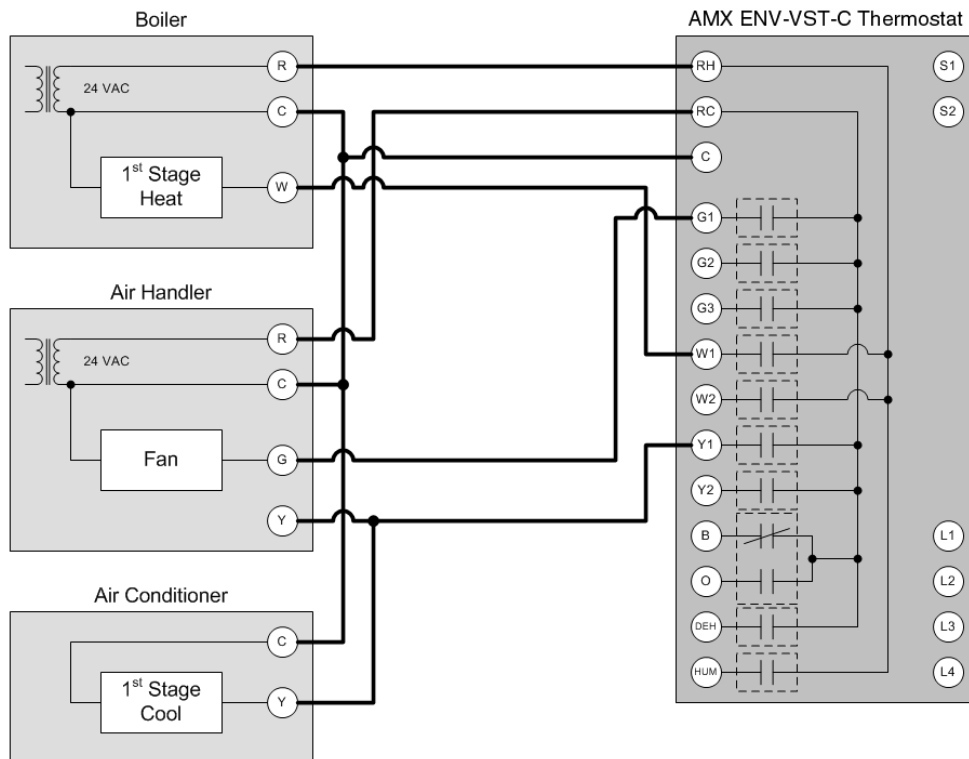
### Roof Top Unit with Dual Stage Heat and Dual Stage Cool



**FIG. 6** Roof Top Unit with Dual Stage Heat and Dual Stage Cool wiring

See the *Changing the Type of HVAC System* section on page 38 for information on indicating the thermostat is connected to a Roof Top Unit with Dual Stage Heat and Dual Stage Cool system.

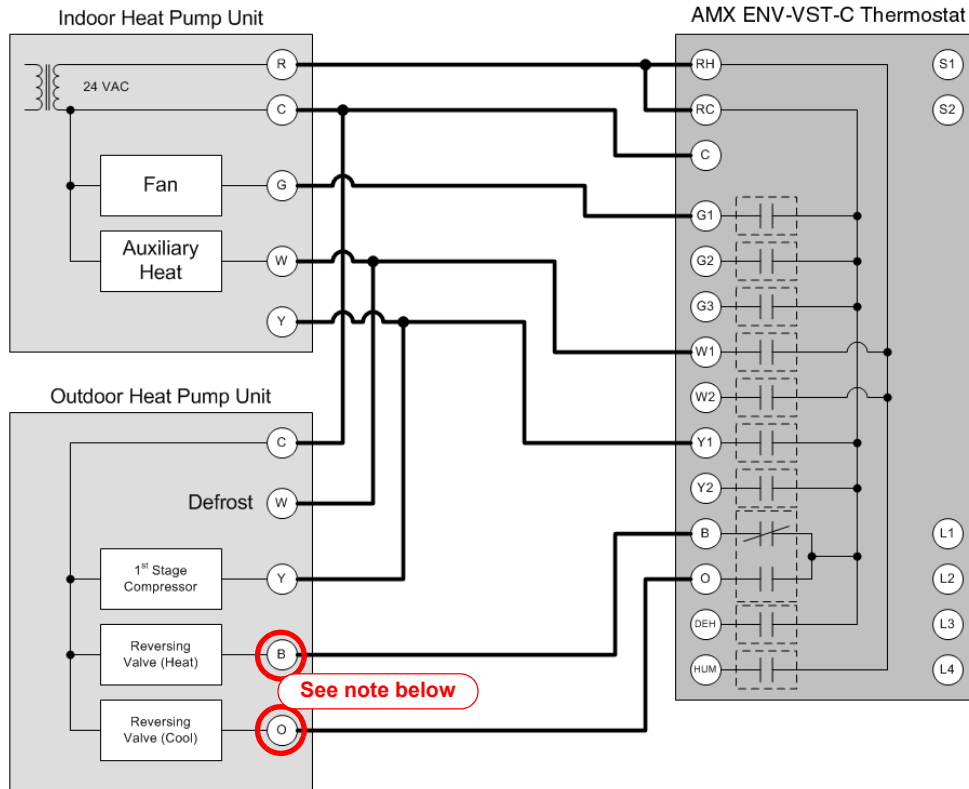
### Boiler and A/C with Separate Transformers



**FIG. 7** Boiler and A/C with Separate Transformers wiring

See the *Changing the Type of HVAC System* section on page 38 for information on indicating the thermostat is connected to a Boiler and A/C with Separate Transformers system.

### Single Stage Heat Pump

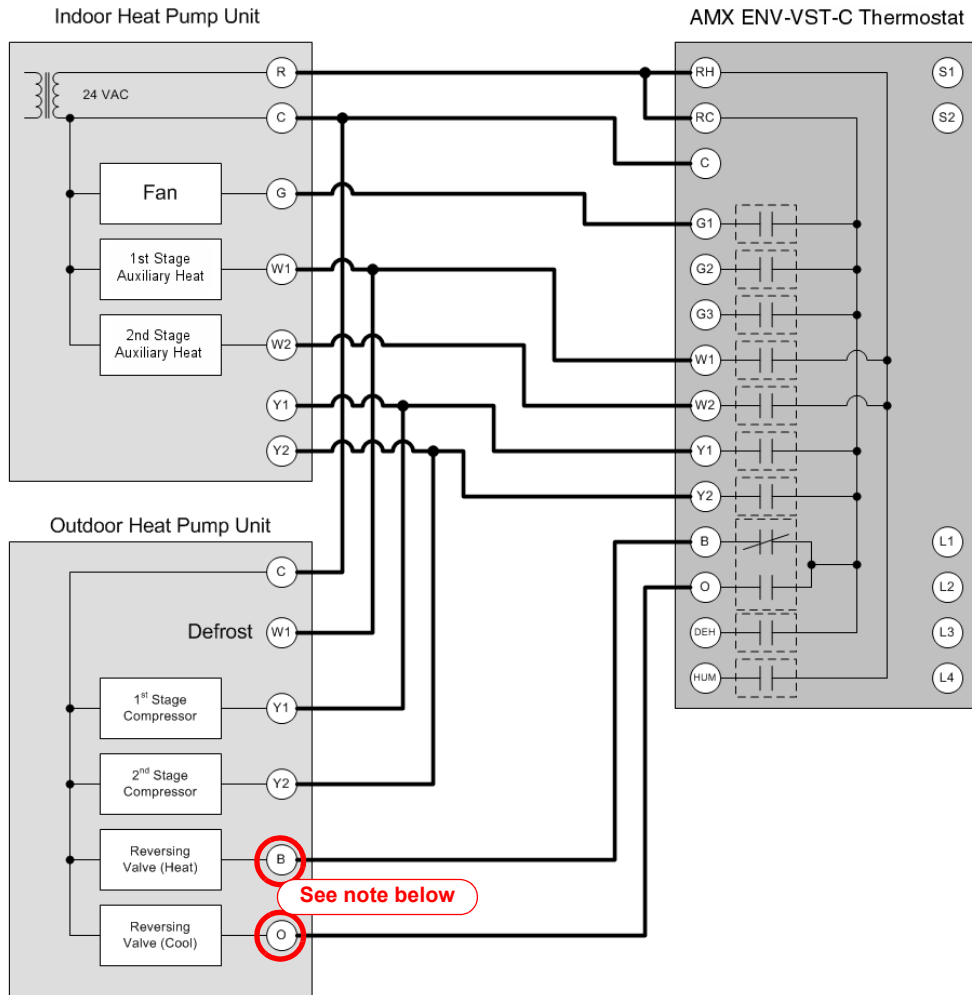


**FIG. 8** Single Stage Heat Pump wiring

**NOTE:** Either the B or O relay will be connected to the reversing valve based on the type of reversing valve used (B is energized for heating, O is energized for cooling). Connect one or the other. **DO NOT CONNECT BOTH.**

See the *Changing the Type of HVAC System* section on page 38 for information on indicating the thermostat is connected to a Single Stage Heat Pump system.

## Two Stage Heat Pump

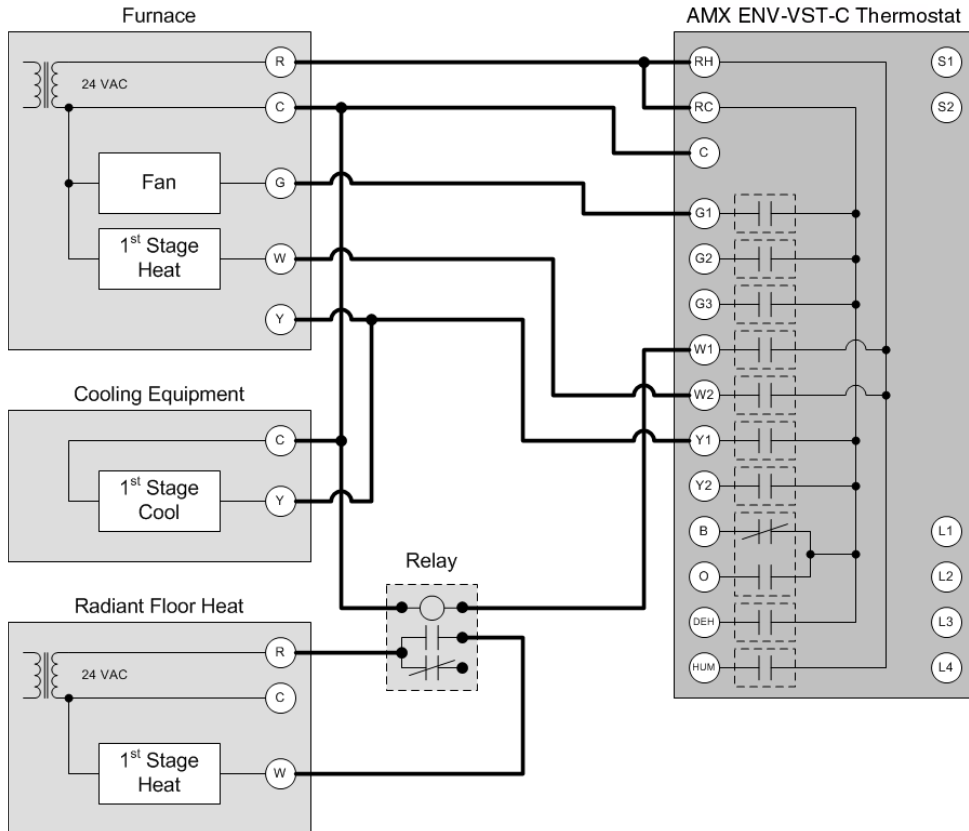


**FIG. 9** Two Stage Heat Pump wiring

**NOTE:** Either the B or O relay will be connected to the reversing valve based on the type of reversing valve used (B is energized for heating, O is energized for cooling). Connect one or the other. **DO NOT CONNECT BOTH.**

See the *Changing the Type of HVAC System* section on page 38 for information on indicating the thermostat is connected to a Two Stage Heat Pump system.

### First Stage Radiant Floor Heat, Second Stage Furnace with Single Stage Cooling

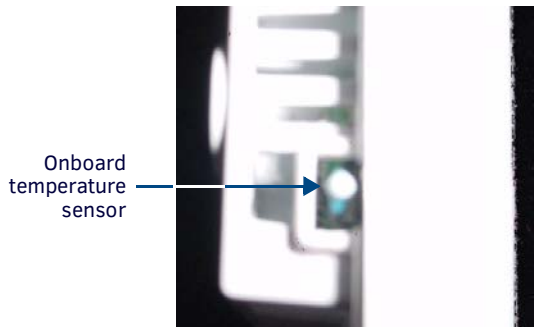


**FIG. 10** First Stage Radiant Floor Heat, Second Stage Furnace with Single Stage Cooling wiring

See the *Changing the Type of HVAC System* section on page 38 for information on indicating the thermostat is connected to a First Stage Radiant Floor Heat, Second Stage Furnace with Single Stage Cooling system.

### Installing a Remote Sensor

The ViewStat Color Communicating Thermostat has an onboard temperature sensor that can read and report the temperature at the location of the unit (see FIG. 11). The onboard temperature sensor detects the current room temperature every 30 seconds.



**FIG. 11** Onboard temperature sensor

**NOTE:** Do not paint or tape over the onboard temperature sensor. Doing so can cause the sensor to work improperly.

**NOTE:** The onboard temperature sensor reports any detected temperature between 40° – 99° F (5° – 37° C). Temperatures outside this range will not display on the thermostat screen. In this case, the temperature reading appears blank.

You can install an additional remote sensor to get a temperature reading from a location away from the thermostat. If you install a remote sensor, you can use the temperature reading as the main reported temperature, or you can use the temperature reading with the reading from the onboard sensor to report an average temperature for the zone.

The ViewStat Color Communicating Thermostat supports only one installed remote sensor. The sensor connects to the S1 or S2 terminal on the ViewStat. See the *Communication and Equipment Terminal Wiring Definitions* section on page 11 for more information on the terminals on the thermostat.

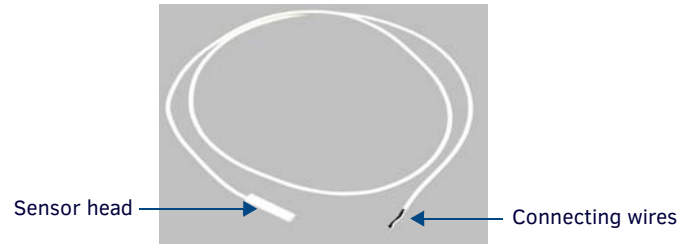


You can install the indoor/outdoor temperature sensor that ships with the unit, or you can install an indoor flush mount sensor (FG2050-21), available for purchase separately. You can use either sensor with the thermostat, but not both at the same time, as the thermostat supports only one external sensor. Refer to the ViewStat Color Communicating Thermostat User Guide for information on enabling or disabling each sensor.

### Installing the Outdoor Temperature Sensor

FIG. 12 displays the ENV-VST-TSO Outdoor Temperature sensor (FG2050-22). You can install this sensor outdoors for a reading of the outdoor temperature that the sensor reports back to the thermostat. You can also install this sensor indoors for an extra indoor temperature reading. You can use the indoor reading with the reading from the on-board temperature sensor on the thermostat to report an average indoor temperature.

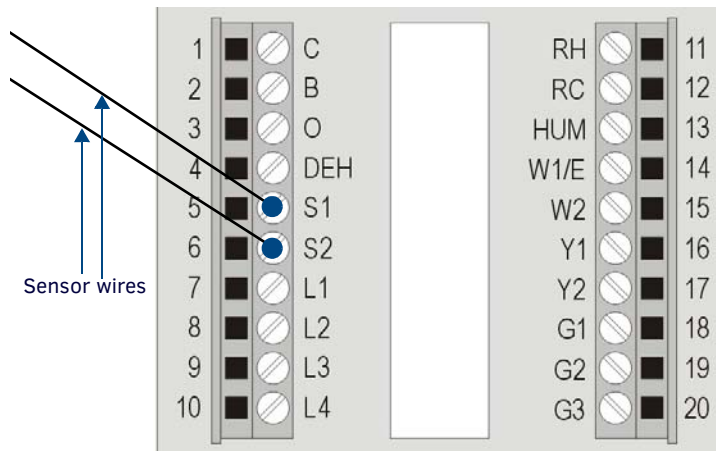
The sensor has a 1" head that protrudes from the wall and a connected wire that plugs into a port on the thermostat. You can use a maximum of 300 ft (91.44 m) of wire for connecting the indoor/outdoor remote sensor to the thermostat.



**FIG. 12** Outdoor Temperature Sensor

Follow these steps to install the indoor/outdoor remote sensor:

1. Drill a 1/4" hole into the surface where you want to install the sensor.
2. Fish the cable that connects to the sensor through the 1/4" hole in the wall until the edge of the sensor, where the cord meets the sensor, is flush against the wall.
3. Apply caulk, drywall putty, insulation, or any other appropriate sealant to the hole in the wall around the sensor to seal the hole.
4. Attach the connecting wires from the sensor to the S1 and S2 terminals on the thermostat (see FIG. 13). It does not matter which wire you connect to either terminal.



**FIG. 13** Indoor/outdoor sensor wiring to S1 and S2 terminals

**NOTE:** Applying voltage to the external temperature sensor pins (S1 and S2) can cause permanent damage to the thermostat.

### Installing the Indoor Flush Mount Sensor

FIG. 14 displays the two pieces of the Indoor Flush Mount Temperature sensor (FG2050-21). The two pieces are the sensor body with the connected wire and the threaded outer case of the sensor.



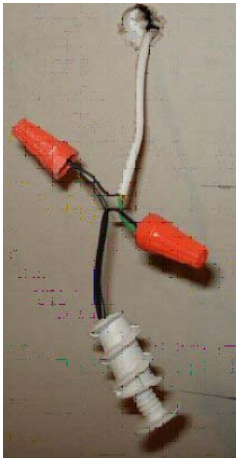
**FIG. 14** Indoor Flush Mount Sensor

The following table lists the specifications for the Indoor Flush Mount Temperature sensor:

Indoor Flush Mount Temperature Sensor Specifications	
Threaded Case Length:	1 in. (25.4 mm)
Threaded Case Diameter:	0.69 in. (17.5 mm)
Sensor Face Diameter:	0.75 in. (19 mm)
Sensor Face Thickness:	0.21 in. (5.4 mm)
Weight:	0.15 oz. (0.0042 kg)

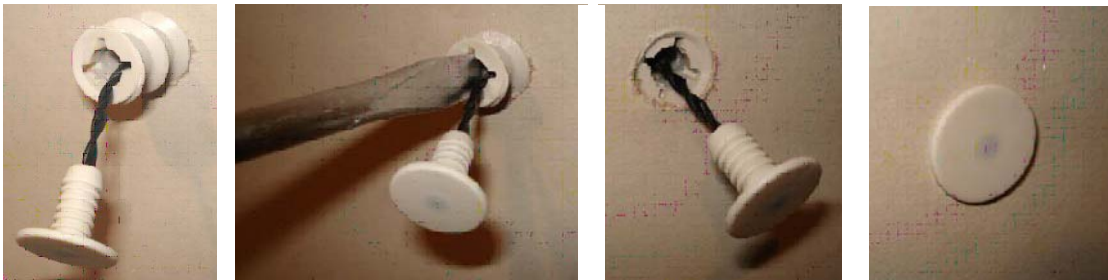
You can use a maximum of 300 ft (91.44 m) of wire for connecting the Indoor Flush Mount Temperature sensor to the thermostat. Follow these steps to install the indoor flush mount sensor:

1. Drill a 1/2" hole into the drywall where you want to install the sensor.
2. Fish the cable that connects to the sensor from behind the drywall and out through the 1/2" hole so that 6" - 12" of the cable hangs through the hole.
3. Feed the sensor wire through the center of the threaded outer case of the sensor and connect it to the cable that is hanging through the hole in the wall as shown in FIG. 15.



**FIG. 15** Sensor wire connected to cable

4. Carefully feed the wires and wire-nuts through the 1/2" hole and into the wall. Use your hands to lightly screw the threaded outer case into the hole in the wall as shown in FIG. 16.



**FIG. 16** Outer case screwed into wall

5. Use a screwdriver to screw the threaded outer case of the sensor the rest of the way into the 1/2" hole in the drywall. Be careful to not pinch the wire while you are screwing in the case. Screw the case into the wall until the front surface of the case is inserted just past the surface of the drywall.
6. Use your thumb to carefully push the sensor body into the threaded outer case until the face of the sensor body is flat against the drywall.
7. Attach the connecting wires from the sensor to the S1 and S2 terminals on the thermostat (see FIG. 13). It does not matter which wire you connect to either terminal.

# Setup and Configuration

## Overview

The ViewStat Color Communicating Thermostat provides the current temperature, controls and displays humidity, and displays the current outdoor temperature. The ViewStat Color Communicating Thermostat displays this information on a 3.5" (8.89 cm) color display. In addition, the ViewStat Color Communicating Thermostat provides the current day's weather forecast along with a five-day forecast, driven from AMX's i!-Weather application.

This chapter provides information about the different screens on the ViewStat Color Communicating Thermostat, how to navigate through them, and how to establish settings on each screen.

## Front Panel Components

This section describes the front panel components and gives instructions for operating the ViewStat Color Communicating Thermostat (see FIG. 1 on page 7).

### Display

The ViewStat Color Communicating Thermostat provides the current temperature condition including indoor and outdoor temperature, the current weather conditions, and the Five Day Forecast. The thermostat displays this information on a 3.5" (8.89 cm) color QVGA (320 x 240) Thin Film Transistor Liquid Crystal Display (TFT-LCD).

### Navigation Buttons

The ViewStat Color Communicating Thermostat is equipped with three tactile buttons that support the thermostat's main functions and its backlight options. When you press any button, the display backlight lights up for 30 seconds. The Navigation buttons are used to change various parameters on the thermostat, including the temperature setpoints. While on the Main screen (FIG. 17), pressing the navigation buttons puts the thermostat in cool/heat setpoint adjust mode. These buttons are located beneath the faceplate.

### Mode/Select Button

The Mode/Select button is used to navigate through the various thermostat screens, including the weather screens. This button is located beneath the faceplate. Pressing Mode/Select for the first time takes the display from an Inactive state to an Active state. Pressing Mode/Select again takes you to the Current Weather screen (provided you have not disabled this screen.) Pressing and holding Mode/Select for three seconds opens the Hold Mode menu (see the *Changing Hold Mode* section on page 20 for more information.)

## Navigating the ViewStat Color Communicating Thermostat

This section describes the various screens on the thermostat, and the options on each screen.

### Main Screen

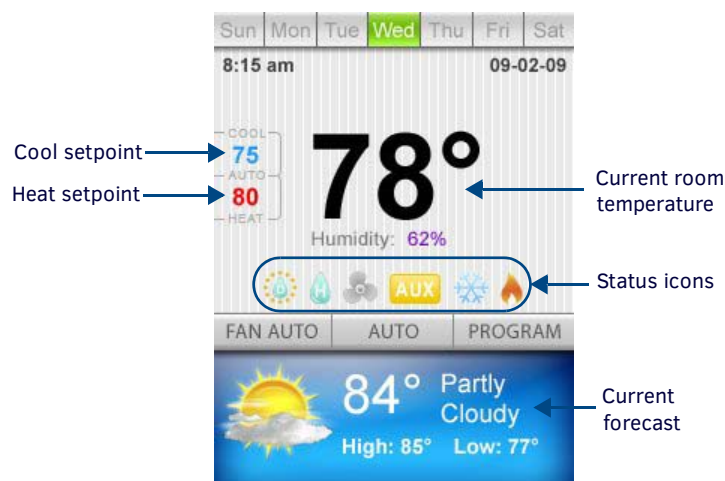








FIG. 17 Main screen

The Main screen (FIG. 17) of the ViewStat Color Communicating Thermostat displays the current date, time, and indoor temperature. You can also view the current heating and cooling setpoints and the humidity.

The current day's forecasted high and low temperatures and weather condition appear on the bottom of the screen. The ViewStat Color Communicating Thermostat receives this information from AMX's i!-Weather service.

The following table describes the status icons that may appear on your thermostat:

Main Screen Status Icons	
Icon	Description
	<b>Dehumidify</b> - This icon appears whenever active dehumidification is occurring.
	<b>Humidify</b> - This icon appears whenever active humidification is occurring.
	<b>Fan</b> - This icon appears whenever the fan is running.
	<b>Auxiliary Heat</b> - This icon appears whenever auxiliary heat is running on Heat Pump systems.
	<b>Cooling</b> - This icon has a light-grey state which displays when the HVAC system is not actively cooling. This icon changes to a color representation when the system is actively cooling.
	<b>Heating</b> - This icon has a light-grey state which displays when the HVAC system is not actively heating. This icon changes to a color representation when the system is actively heating.

While many of the items on the Main screen are view-only, you change the cool and heat setpoints, the H/C mode, and fan mode on this screen. The following sections describe how to change items on the Main screen.

### Changing the Heating and Cooling Setpoints

You can change the heating and cooling setpoints on the Main screen. Changing the setpoints places the thermostat in temporary hold mode and uses the new temperature settings. The setpoints change back to the program mode setpoints at the next program time. You cannot change the heating and cooling setpoints if the thermostat is in permanent hold mode. See the *Changing Hold Mode* section on page 20 for more information about Hold modes.

1. On the Main screen, press either of the navigation buttons to access the heating or cooling setpoints that appear on the left side of the screen. When either of the setpoints blinks, you can change the setpoint by using the navigational buttons to increase or decrease its value.
2. Press **Mode/Select** to select the next setpoint, and use the navigational buttons to increase or decrease its value.

The setpoints continue to blink and are able to be changed until the thermostat reaches a 10-second timeout. Press and hold **Mode/Select** for three seconds for changes to immediately take effect.

**NOTE:** Depending on the H/C mode you select, you may only see one setpoint on the Main screen. (If you turn off the HVAC system, neither appears.) See the *Changing the Heating/Cooling Mode* section on page 21 for more information.

### Changing Hold Mode

You can access Hold Mode by pressing and holding Mode/Select for three seconds. You can use the navigational buttons to scroll through the list. You can also change the Hold mode on the Thermostat Mode screen.



FIG. 18 Hold Mode menu

The change takes effect when you press Mode/Select or after a 10-second timeout.

Hold Mode Options	
Permanent	Sets the thermostat into Permanent Hold mode. When in Permanent Hold mode, the thermostat disregards the heating and cooling settings established on the Program screen until the user sets the Hold mode back to Program.
Temporary	Sets the thermostat into Temporary Hold mode. When in Temporary Hold mode, the thermostat disregards the heating and cooling settings established on the Program screen until the start of the next program cycle.
Program	Sets the thermostat to use the settings established in the program settings. See the <i>Establishing Daytime/Nighttime Temperature Settings</i> section on page 25 for more information.

Perform these steps to change the Hold mode:

1. On the Main screen, hold **Mode/Select** for three seconds. The Hold Mode menu appears.
2. Use the navigational buttons to select the option you want.
3. Press **Mode/Select** to activate the selected mode.

### Changing the Heating/Cooling Mode

You can access Heating/Cooling mode by holding Mode/Select for three seconds while on the Main screen until the Hold Mode menu opens. With the Hold Mode menu open, press Mode/Select one time and a menu with heating/cooling options appears. You can use the navigational buttons to scroll through the list. You can also change the H/C mode on the Settings screen.



**FIG. 19** Heating/Cooling Mode menu

The Heating/Cooling Mode options enable you to toggle the HVAC system setting between heating and cooling. The change takes effect when you press Mode/Select or after a 10-second timeout.

Heating/Cooling Mode Options	
Emergency	Toggles the emergency heat setting between On and Off. This option is only available on Heat Pump systems.
Auto	Runs the heating or cooling systems when the heating and cooling settings determine it should do so. Pressing either of the navigational buttons causes the most recently used setpoint to start blinking. While the setpoint is blinking, you can use the navigational buttons to increase or decrease the setpoint. Pressing Mode/Select while either setpoint is blinking causes the current setpoint to stop blinking and the other setpoint to start blinking. After a timeout of 10 seconds the setpoint stops blinking.
Off	Turns off the HVAC system. The heat and cool setpoints do not appear on the Main screen in Off mode.
Heat	Activates the heating system using the heat setpoint. Pressing either of the navigational buttons while on the Main screen causes the heat setpoint to start blinking. While the setpoint is blinking, you can use the navigational buttons to increase or decrease the heat setpoint. After a timeout of 10 seconds the setpoint stops blinking.
Cool	Activates the cooling system using the cool setpoint. Pressing either of the navigational buttons while on the Main screen causes the cool setpoint to start blinking. While the setpoint is blinking, you can use the navigational buttons to increase or decrease the cool setpoint. After a timeout of 10 seconds the setpoint stops blinking.

Perform these steps to change the heating/cooling mode:

1. On the Main screen, hold **Mode/Select** for three seconds. The heating/cooling menu appears.
2. Use the navigational buttons to select the option you want.
3. Press **Mode/Select** to activate the selected mode.

**NOTE:** Do not use air conditioning when the outdoor temperature is below 50° F (10° C).

### Turning Off the HVAC System

Perform the following steps to turn off the HVAC system:

1. On the Main screen, hold **Mode/Select** for three seconds. The Hold Mode menu appears.
2. Press **Mode/Select** to open to the Heating/Cooling mode menu.
3. Use the navigation buttons to select **Off**, and press **Mode/Select** to turn the HVAC system off. The Fan Mode settings appear, but you do not need to change them. The settings disappear after a 10-second timeout.

## Changing the Fan Mode

You can access Fan mode by pressing Mode/Select two times after accessing Hold mode. You can use the navigational buttons to scroll through the list. You can also change the Fan mode on the Settings screen.



FIG. 20 Fan Mode menu

The change takes effect when you press Mode/Select or after a 10-second timeout.

Fan Mode Options	
Fan Auto	Sets the fan to Auto mode. When in Auto mode, the fan runs only when the HVAC system is actively heating or cooling.
Fan On	Turns on the fan. The fan runs continuously in this mode until you change it to Auto mode.

Perform these steps to change the Fan mode:

1. On the Main screen, hold **Mode/Select** for three seconds. The Hold Mode menu appears.
2. Press **Mode/Select** two times to switch to the Fan mode menu.
3. Use the navigational buttons to select the option you want.
4. Press **Mode/Select** to activate the selected mode.

## Help Screen

The Help screen provides simple instructions on how to use the thermostat. This screen is accessible by pressing Mode/Select on the Main screen, but only if Help mode is active.

Pressing Mode/Select again moves the thermostat to the next available screen.

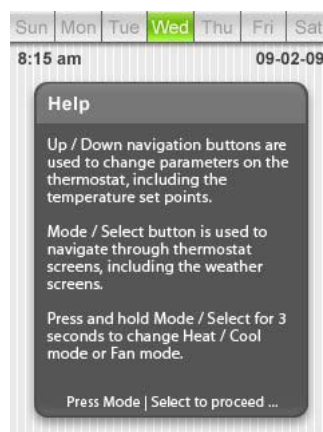


FIG. 21 Help screen

Follow these steps to activate, or deactivate, the Help screen.

1. From the Main screen, press **Mode/Select** to access the Thermostat Mode screen.
2. Use the navigation buttons to select **Settings**, and press **Mode/Select**. The Settings screen appears.
3. Use the navigation buttons to select **Advanced Settings**. Press **Mode/Select** to access the Security Code screen.
4. Enter the security code, and select **Enter** to access the User Preferences screen. See the *Entering the Security Code* section on page 30 for more information.
5. On the User Preferences screen, use the navigation buttons to highlight **More**, and press **Mode/Select** to access the second User Preferences screen.
6. On the second User Preferences screen, use the navigation buttons to highlight **More**, and press **Mode/Select** to access the third User Preferences screen.

7. Use the navigation buttons to highlight **Advanced Setup**, and press **Mode/Select** to access the Advanced Setup screen.
8. Use the navigation buttons to highlight **More**, and press **Mode/Select** to access the second Advanced Setup screen.
9. Use the navigation buttons to highlight **More**, and press **Mode/Select** to access the third Advanced Setup screen.
10. Use the navigation buttons to highlight **Help Mode**, and press **Mode/Select** to toggle whether the Help screen is active and accessible from the Main screen.

### Current Weather Screen

The Current Weather screen (FIG. 22) displays a detailed description of the day's weather forecast. This screen includes the outdoor temperature, the expected high and low temperatures for the current day, the wind chill/heat index temperature, the wind direction and speed, the percent humidity, the dew point, and barometric pressure. The ViewStat Color Communicating Thermostat receives this information from AMX's i!-Weather service. This screen is view-only. You can disable this screen so it does not appear when you navigate through the thermostat's screens. See the *Disabling the Forecast Screens* on page 34 for more information.



**FIG. 22** Current Weather screen

Pressing Mode/Select takes you to the 5-Day Forecast screen. This screen returns to the main screen after a 20-second timeout.

### 5-Day Forecast Screen

The 5-Day Forecast screen (FIG. 23) displays the high and low temperatures and the expected weather condition for each of the next five days. The ViewStat Color Communicating Thermostat receives this information from AMX's i!-Weather service. This screen is view-only. You can disable this screen so it does not appear when you navigate through the thermostat's screens. See the *Disabling the Forecast Screens* on page 34 for more information.



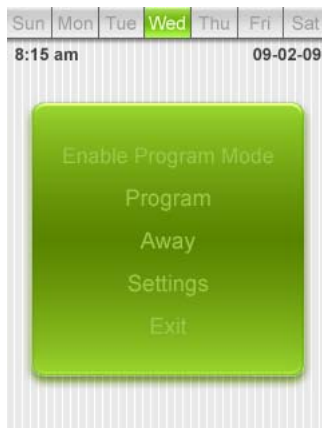
**FIG. 23** 5-Day Forecast screen

Pressing Mode/Select takes you to the Thermostat Mode screen. This screen returns to the main screen after a 20-second timeout.

## Thermostat Mode Screen

The Thermostat Mode screen (FIG. 24) displays a menu providing a list that enables you to navigate to other screens to create settings for different times and occasions. You can use the navigation buttons to move through the highlighted options. The Mode/Select button selects the highlighted item.

This screen returns to the main screen after a 20-second timeout.



**FIG. 24** Thermostat Mode screen

The following table lists the options on the Thermostat Mode screen:

Thermostat Mode Screen Options	
Enable Program Mode/ Enable Permanent Hold	Turns on Program mode or Permanent Hold. The option that is currently inactive appears here. Select the option that appears to activate it. Program mode activates the settings you establish on the Program screen. Permanent Hold mode disregards the heating and cooling settings established on the Program screen until the user sets the Hold mode back to Program.
Program	Opens the Program Settings screen. See the <i>Program Screen</i> section on page 24 for more information.
Away	Opens the Away Mode screen. See the <i>Away Mode Screen</i> section on page 26 for more information.
Settings	Opens the Settings screen. See the <i>Settings Screen</i> section on page 27 for more information.
Exit	Returns to the Main screen.

## Program Screen

The Program screen (FIG. 25) enables you to set heating, cooling, humidify, and dehumidify setpoints for various times of the day for each day of the week. Entering this screen automatically puts the unit into Program mode. You can use the navigation buttons to move through the highlighted options. The Mode/Select button selects the highlighted item. You can then use the navigation buttons to change the setting of the highlighted option.



**FIG. 25** Program screen

Pressing Mode/Select again highlights the next available option. The following table lists the options on the Program Setting screen:

Program Screen Options	
Period	Separate times of the day when you can create heating, cooling, humidify, and dehumidify setpoints. The available times are Wake, Leave, Return, and Sleep.
Heat	The level of desired heat for the HVAC system during the selected period.



Program Screen Options (Cont.)	
Cool	The level of desired coolness for the HVAC system during the selected period.
Time	The time of day when you want the period to begin and the heat and cool setpoints to take effect.
Humidify	The desired humidify level for the HVAC system. This option is only available if you have the Humidification System option turned on in the Advanced Setup options. See the <i>Advanced Setup Screen</i> section on page 37 for more information.
Dehumidify	The desired dehumidify level for the HVAC system. This option is only available if you have the Dehumidification System option turned on in the Advanced Setup options. See the <i>Advanced Setup Screen</i> section on page 37 for more information.
Copy To	Copy the settings from the one day of the week to any or all of the other days.
Next Day	Select the next day of the week.
Exit	Exit the Program Mode Setting screen and return to the Thermostat Mode screen.

### Establishing Daytime/Nighttime Temperature Settings

Perform these steps to establish daytime/nighttime temperature settings for program mode:

1. From the Main screen, press **Mode/Select** to access the Thermostat Mode screen (FIG. 24).
2. Use the navigation buttons to select **Program**, and press **Mode/Select**. The Program screen appears (FIG. 25).
3. Use the navigation buttons to select a period of the day for which you want to program temperature settings.
4. Press **Mode/Select** after you select the appropriate period of the day.
5. Use the navigation buttons to select the heat setpoint you want for that time of day, and press **Mode/Select**.
6. Use the navigation buttons to select the cool setpoint you want for that time of day, and press **Mode/Select**.
7. Use the navigation buttons to select the hour in which you want these settings to take effect, and press **Mode/Select**.
8. Use the navigation buttons to select the minutes in which you want these settings to take effect, and press **Mode/Select**.
9. Use the navigation buttons to select the time of day (AM/PM) which you want these settings to take effect, and press **Mode/Select**.
10. Repeat steps 5 through 10 for each appropriate section of the day.

**NOTE:** You can only set the Humidify and Dehumidify settings if you have the Humidification System and Dehumidification System options turned on in the Advanced Setup options. See the *Advanced Setup Screen* section on page 37 for more information.

11. Use the navigation buttons to select **Dehumidify**, and press **Mode/Select**.
12. Use the navigation buttons to indicate the new dehumidify settings, and press **Mode/Select**.
13. Use the navigation buttons to select **Humidify**, and press **Mode/Select**.
14. Use the navigation buttons to indicate the new humidify settings, and press **Mode/Select**.

### Copying Programmed Settings

To make it easier to program the thermostat, you can create settings for one day and copy the settings to every following day for the entire week. Perform the following steps to copy programmed settings:

1. On the Program screen, use the thermostat to set the times and setpoints for a full day. See the *Establishing Daytime/Nighttime Temperature Settings* section on page 25 for more information.
2. Use the navigation buttons to select **Copy To**, and press **Mode/Select**. The settings for the next day of the week appear (FIG. 26).

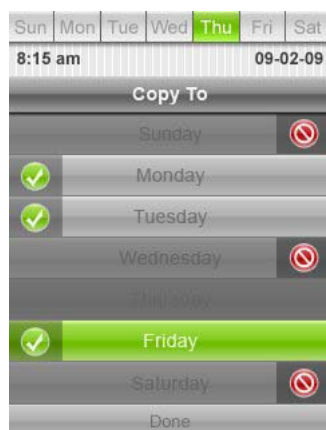


FIG. 26 Copy To screen

- Use the navigation buttons to select the day of the week to which you want to copy the settings, and press **Mode/Select**. A green check mark appears next to the day you select. Repeat this step for every other day to which you want to copy the settings.
- Use the navigation buttons to select **Done**, and press **Mode/Select**. The thermostat copies the settings to all the selected days. You can verify this on the Program screen by highlighting **Next Day** and pressing **Mode/Select** to view the settings for each day in the week.

### Away Mode Screen

The Away Mode screen (FIG. 27) enables you to set heating, cooling, humidify, and dehumidify setpoints that remain unchanged until a specific date and time. You can use the navigation buttons to move through the highlighted options. The Mode/Select button selects the highlighted item. You can then use the navigation buttons to change the setting of the highlighted option.



FIG. 27 Away Mode screen

Pressing Mode/Select again highlights the next available option. The following table lists the options on the Away Mode screen:

Away Mode Screen Options	
Away Mode	The Hold temperature overrides the heating and cooling settings. If you select Disabled, the thermostat uses the heating and cooling settings you establish on the Hold Mode screen.
Return Date	The thermostat uses the settings until the date you indicate here.
Return Time	The thermostat uses the settings until the time you indicate here on the date you indicate in Return Date.
Cooling Temp	Establishes the level of desired coolness for the HVAC system.
Heating Temp	Establishes the level of desired heat for the HVAC system.
Humidify	Establishes the level of humidity. This option does not appear if you have the Humidification System option turned off in the Advanced Setup options. See the <i>Advanced Setup Screen</i> section on page 37 for more information.
Dehumidify	Establishes the level of de-humidity. This option does not appear if you have the Dehumidification System option turned off in the Advanced Setup options. See the <i>Advanced Setup Screen</i> section on page 37 for more information.
Exit	Exit the Away Mode screen and return to the Main screen.

### Establishing Away Mode Settings

Away Mode settings enable you to create heating, cooling, humidify, and dehumidify setpoints that remain unchanged until a specific date and time. When the time limit expires, the thermostat uses the previous program or hold mode settings you set. Perform the following steps to create away mode settings:

- From the Main screen, press **Mode/Select** to access the Thermostat Mode screen (FIG. 24).
- Use the navigation buttons to select **Away**, and press **Mode/Select**. The Away Mode screen appears (FIG. 27).
- Press **Mode/Select** to enable your Away Mode settings. Enabling the Away Mode settings automatically selects the Return Date option.
- Press **Mode/Select** to change the return date. The month, day, and year each change individually, so use the navigation buttons to change the month. Press **Mode/Select** again to select the day, and use the navigation button to change it. Repeat the process one more time to change the year.
- Press **Mode/Select** to change the return time. The hour, minute, and clock period each change individually, so use the navigation buttons to change the hour. Press **Mode/Select** again to select the minute, and use the navigation button to change it. Repeat the process one more time to change the clock period.
- Press **Mode/Select** to change the cooling temperature, then use the navigation buttons to indicate the cool setpoint you want.
- Press **Mode/Select** to change the heating temperature, then use the navigation buttons to indicate the heat setpoint you want.

8. Press **Mode/Select** to change the Humidify setting, then use the navigation buttons to indicate the humidity setpoint you want. This option is only available if you have the Humidification System active.
9. Press **Mode/Select** to change the Dehumidify setting, then use the navigation buttons to indicate the dehumidity setpoint you want. This option is only available if you have the Dehumidification System active.
10. With Exit selected, press **Mode/Select** to accept the new settings and return to the Main screen.

### Settings Screen

The Settings screen (FIG. 28) enables you to establish settings for the fan and filter, and enables you to switch between heating and cooling. You can use the navigation buttons to move through the highlighted options. The Mode/Select button selects the highlighted item. You can then use the navigation buttons to change the setting of the highlighted option. Pressing Mode/Select again highlights the next available option.



**FIG. 28** Settings screen

The following table lists the options on the Settings screen:

Settings Screen Options	
HVAC Mode	Toggles the heat or cool selection between Off, Auto, Heat, and Cool. The Emergency Heat option also appears here if your thermostat is configured to operate with a heat pump. You can also change the HVAC mode on the main screen. See the <i>Changing the Heating/Cooling Mode</i> section on page 21 for more information.
Fan Mode	Toggles the fan state between On and Auto. You can also change the HVAC mode on the main screen. See the <i>Changing the Fan Mode</i> section on page 22 for more information.
Fan Speed	Toggles the fan speed between High, Medium, and Low.
Filter Reminder	Enables you to indicate how often you want the thermostat to remind you that the filter for your HVAC system needs to be changed. You can choose from 30, 60, 90, 120, 150, and 180 days. <ul style="list-style-type: none"> <li>• When you enable the Filter Change Reminder feature, the thermostat monitors the number of calendar days since the feature was set.</li> <li>• When the operation time reaches the selected number of days, a filter change reminder icon displays to alert you to change the filter.</li> </ul>
Advanced Setup	Enables you to access more advanced features of the thermostat. Selecting Advanced Setup opens the Security Code Input screen. See <i>Security Code Screen</i> on page 29 for more information.
Exit	Saves all settings and returns to the main screen.

### Changing the Fan Settings

The thermostat has two separate settings to configure the fan on your HVAC system. You can use the Fan State option to set the fan state to On, which runs the fan continuously, or Auto, which runs the fan when the heating and cooling settings determine it should do so. You can also set the Fan Speed option to Low, Medium, or High. Perform the following steps to change the fan settings:

1. On the Main screen, press **Mode/Select** until the Thermostat Mode screen appears (FIG. 24).
2. Use the navigation buttons to select **Settings**, and press **Mode/Select**. The Settings screen appears (FIG. 28).
3. Press **Mode/Select** to select Fan State.
4. Use the navigation buttons to toggle the Fan State between **On** and **Auto**.
5. Press **Mode/Select** to select Fan Speed.
6. Press **Mode/Select** to toggle the Fan Speed between High, Medium, or Low.

**NOTE:** If you are unable to change the fan settings, make sure the fan lock is not turned on. See the *Locking the Fan Settings* section on page 36 for more information.

## Changing the Filter Settings

If you set the thermostat to tell you when your filter needs to be changed, you must also indicate how often you want the thermostat to remind you. You can choose from 30, 60, 90, 120, 150, or 180 days. When the Filter Change Reminder feature is enabled (see the *Disabling the Filter Change Reminder* section on page 33 for more information), the thermostat monitors the number of calendar days since the feature was set. When the operation time reaches the selected number of days, a filter change reminder icon displays to alert you to change the filter. Perform the following steps to change the filter settings:

1. On the Main screen, press **Mode/Select** until the Thermostat Mode screen appears (FIG. 24).
2. Use the navigation buttons to select **Settings**, and press **Mode/Select**. The Settings screen appears (FIG. 28).
3. Use the navigation buttons to select **Filter**.
4. Press **Mode/Select** to toggle the Filter setting between 30, 60, 90, 120, 150, or 180 days.

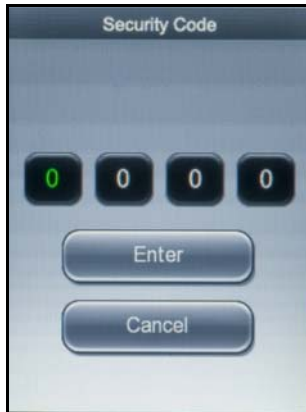
# Advanced Thermostat Operations

## Overview

This chapter provides step-by-step procedures for changing the settings and activating specific options on the thermostat.

## Changing User Preferences

### Security Code Screen



**FIG. 29** Security Code screen

The Security Code screen (FIG. 29) enables you to enter the security code for the thermostat. Without entering a security code, the user cannot have access to advanced setup features or make changes to the user preferences.

The default security code is 1988.

Pressing the Up/Down arrow buttons increases or decreases the numeric value in the highlighted box. Pressing the Mode/Select button highlights the next box in the sequence or highlights Enter if pressed while the fourth box is highlighted. Use Up/Down arrow buttons to move between Enter and Cancel. Press the Mode/Select button while Enter is highlighted to open the User Preferences screen. Press the Mode/Select button while Cancel is highlighted to return to the Settings screen.

To change the security code, see the *Changing the Security Code* on page 30.

### Accessing Advanced Setup Options

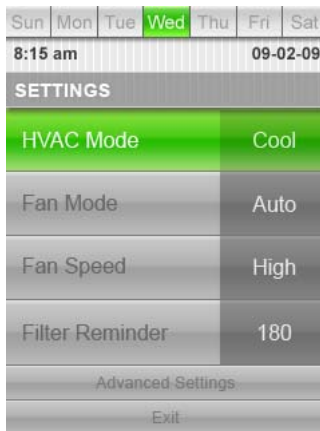
Perform the following steps to access advanced setup options:

1. On the Main screen, press **Mode/Select** until the Thermostat Mode screen appears (FIG. 30).



**FIG. 30** Thermostat Mode screen

2. Use the navigation buttons to select **Settings**, and press **Mode/Select**. The Settings screen appears (FIG. 31).



**FIG. 31** Settings screen

3. Use the navigation buttons to select **Advanced Setup**.
4. Press **Mode/Select** to access the Security Code screen (FIG. 29).

### Entering the Security Code

You must enter a security code to access the advanced setup options on the thermostat. The default security code is *1988*. See the *Changing the Security Code* on page 30 for information on changing the security code. Perform the following steps to enter the security code.

1. Use the navigation buttons to scroll through the numbers until you reach the first digit in the code, and press **Mode/Select** to move to the next digit in the code.
2. Repeat the previous step until you have entered the full four-digit code.
3. Press **Mode/Select** while Enter is selected. If the code is correct, the User Preferences screen appears (FIG. 35).

### Change Security Code Screen



**FIG. 32** Change Security Code screen

The Change Security Code screen (FIG. 32) enables you to change the security code for the thermostat. Without entering a security code, the user cannot have access to advanced setup features or make changes to the user preferences. The default security code is *1988*.

- Pressing the Up/Down arrow buttons increases or decreases the numeric value in the highlighted box.
- Pressing the Mode/Select button highlights the next box in the sequence or highlights Enter if pressed while the fourth box is highlighted.
- Use Up/Down arrow buttons to move between Enter and Cancel.
- Press the Mode/Select button while Enter is highlighted to accept the new security code and open the User Preferences screen.
- Press the Mode/Select button while Cancel is highlighted to return to the User Preferences screen.

### Changing the Security Code

You can change the security code for the thermostat to a new four-digit code. If you change the security code, store the new code in a safe location where you can access it if you ever forget it. If you forget your new code and need to have it reset to a known value, you can reset the code through the NI Master.

Perform the following steps to change the security code.

1. From the Main screen, press **Mode/Select** to access the Thermostat Mode screen.
2. Use the navigation buttons to select **Settings**, and press **Mode/Select**. The Settings screen appears.

3. Use the navigation buttons to select **Advanced Settings**. Press **Mode/Select** to access the Security Code screen.
4. Enter the security code, and select **Enter** to access the User Preferences screen. See the *Entering the Security Code* on page 30 for more information.
5. Use the navigation buttons to highlight **More**, and press **Mode/Select** to access the second User Preferences screen.
6. On the second User Preferences screen, use the navigation buttons to highlight **More**, and press **Mode/Select** to access the third User Preferences screen.
7. Use the navigation buttons to highlight **Change Security Code**, and press **Mode/Select** to access the Change Security Code screen (FIG. 33).

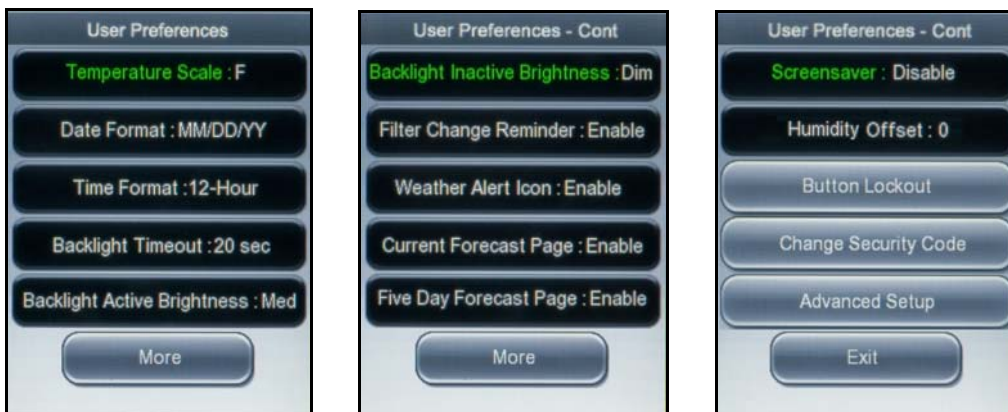


**FIG. 33** Change Security Code screen

8. Use the navigation buttons to scroll through the numbers until you reach the first digit in the code, and press **Mode/Select** to move to the next digit in the code.
9. Repeat the previous step until you have entered the full four-digit code.
10. Press **Mode/Select** while Enter is selected to accept the code change. If you want to cancel, use the navigation buttons to select **Cancel**, and press **Mode/Select**.

### User Preferences Screen

The User Preferences screens (FIG. 34) enable you to establish personal preference settings for the thermostat including temperature scale, date and time format, and brightness level. You can use the navigation buttons to move through the highlighted options. The Mode/Select button selects the highlighted item. You can then use the navigation buttons to change the setting of the highlighted option. Pressing Mode/Select again highlights the next available option.



**FIG. 34** User Preferences screens

The following table lists the options on the User Preferences screen:

User Preferences Screen Options	
Temperature Scale	Toggles between Celsius (C) and Fahrenheit (F).
Date Format	Toggles between a date format of MMDDYY, DDMMYY, and YYDDMM.
Time Format	Toggles between a 12- or 24-hour time format.
Backlight Timeout	Establishes the amount of inactive time before the backlight on the unit automatically turns off. You can set a value between 10 seconds and 5 minutes in 10 second increments. The default value is 30 seconds.
Backlight Active Brightness	Establishes the level of brightness for the backlight when the unit is active. You can choose Low, Medium, or High.

User Preferences Screen Options (Cont.)	
Backlight Inactive Brightness	Establishes the level of brightness for the backlight when the unit is inactive. You can choose Dim or Off.
Filter Change Reminder	Enables the reminder to periodically change the air filter. When you enable this feature, the thermostat monitors the operation time of the HVAC system and fan. When the operation time reaches the number of days you set on the Settings screen, the filter change reminder icon displays alerting you to change the filter.
Weather Alert Icon	Enables a weather alert when the thermostat receives a weather alert channel activation from the NI Master.
Current Weather Page	Enables you to turn off the current weather screen on the thermostat. If you are not using the i!-Weather application to report the weather forecast to the thermostat, you might want to disable the current weather screen so it does not appear when you navigate through the thermostat's screens. If you disable the forecast screens, only the indoor temperature displays on the Main screen.
Five Day Forecast Page	Enables you to turn off the 5-Day Forecast screen on the thermostat. If you are not using the i!-Weather application to report the weather forecast to the thermostat, you might want to disable the 5-Day Forecast screen so it does not appear when you navigate through the thermostat's screens. If you disable the forecast screens, only the indoor temperature displays on the Main screen.
Screensaver	Enables you to turn on a screen saver for the thermostat. The screen saver activates after 30 seconds without any user input, and displays the current room temperature moving around the screen on a black background.
Humidity Offset	The humidity offset enables you to customize the humidity shown on the display. <ul style="list-style-type: none"> <li>You can set the humidity offset in 1° increments.</li> <li>The default humidity offset is 0.</li> </ul>
Button Lockout	Enables you to allow certain buttons on the thermostat to be completely or partially disabled. Opens the Button Lockout screen. See <i>Button Lockout Screen</i> on page 35 for more information.
Config Security Code	Enables you to change the security code for the thermostat. Opens the Config Security Code screen.
Advanced Setup	Opens the Advanced Setup screen.
Exit	Returns you to the Settings screen.

### Changing the Temperature Scale

When you change the temperature scale, you indicate whether you want to use the Fahrenheit (F) or Celsius (C) scale. Perform the following steps to change the temperature scale:

- From the Main screen, press **Mode/Select** to access the Thermostat Mode screen.
- Use the navigation buttons to select **Settings**, and press **Mode/Select**. The Settings screen appears.
- Use the navigation buttons to select **Advanced Settings**. Press **Mode/Select** to access the Security Code screen.
- Enter the security code, and select **Enter** to access the User Preferences screen (FIG. 35). See the *Entering the Security Code* on page 30 for more information.



FIG. 35 User Preferences screen (1 of 3)

- Press **Mode/Select** to toggle the temperature scale setting between Fahrenheit (F) and Celsius (C).

### Changing the Date and Time Format

The thermostat allows you to choose one of three formats for displaying the date. You can choose between MMDDYY, DDMMYY, and YYDDMM. You can also choose a 12- or 24-hour time format. Perform the following steps to change the date and time format:

- From the Main screen, press **Mode/Select** to access the Thermostat Mode screen.
- Use the navigation buttons to select **Settings**, and press **Mode/Select**. The Settings screen appears.
- Use the navigation buttons to select **Advanced Settings**. Press **Mode/Select** to access the Security Code screen.



4. Enter the security code, and select **Enter** to access the User Preferences screen (FIG. 35). See the *Entering the Security Code* on page 30 for more information.
5. Use the navigation buttons to select **Date Format**.
6. Press **Mode/Select** to toggle the date format setting between MMDDYY, DDMMYY, and YYDDMM.
7. Use the navigation buttons to select **Time Format**.
8. Press **Mode/Select** to toggle the time format setting between 12- and 24-hour.

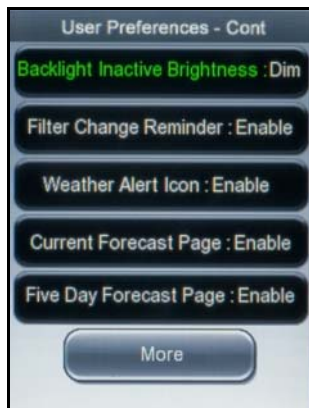
### Changing the Backlight Settings

Backlight settings allow adjustments to the thermostat display's backlight including the timeout before the backlight turns off and the brightness of the backlight.

- You can set the backlight timeout from any value between 10 seconds to 5 minutes in 10-second increments.
- The default backlight timeout is 30 seconds.
- You can set the backlight active brightness to High, Medium, and Low with a default value of Medium.
- You can set the backlight inactive brightness to Dim or Off with a default value of Dim.

Perform the following steps to change the backlight settings:

1. From the Main screen, press **Mode/Select** to access the Thermostat Mode screen.
2. Use the navigation buttons to select **Settings**, and press **Mode/Select**. The Settings screen appears.
3. Use the navigation buttons to select **Advanced Settings**. Press **Mode/Select** to access the Security Code screen.
4. Enter the security code, and select **Enter** to access the User Preferences screen (FIG. 35). See the *Entering the Security Code* on page 30 for more information.
5. Use the navigation buttons to highlight **Backlight Timeout**, and press **Mode/Select** to activate it.
6. Press **Mode/Select** to indicate a new backlight timeout setting. You can set any period of time between 10 seconds and 5 minutes, in 10-second increments.
7. Use the navigation buttons to highlight **Backlight Active Brightness**, and press **Mode/Select** to activate it.
8. Press **Mode/Select** to toggle the Backlight Active Brightness setting between Low, Medium, and High.
9. Use the navigation buttons to highlight **More**, and press **Mode/Select** to access the second User Preferences screen (see FIG. 36).



**FIG. 36** User Preferences screen (2 of 3)

10. With Backlight Inactive Brightness highlighted, press **Mode/Select** to activate it.
11. Press **Mode/Select** to toggle the Backlight Inactive Brightness setting between Dim and Off.

### Disabling the Filter Change Reminder

The thermostat filter change reminder monitors the number of calendar days since the feature was set. When the operation time reaches the number of days you set on the Settings screen, the filter change reminder icon displays alerting you to change the filter. (see the *Changing the Filter Settings* on page 28 for more information). This option is enabled by default.

Perform the following steps to disable the filter change reminder:

1. From the Main screen, press **Mode/Select** to access the Thermostat Mode screen.
2. Use the navigation buttons to select **Settings**, and press **Mode/Select**. The Settings screen appears.
3. Use the navigation buttons to select **Advanced Settings**. Press **Mode/Select** to access the Security Code screen.
4. Enter the security code, and select **Enter** to access the User Preferences screen. See the *Entering the Security Code* on page 30 for more information.
5. Use the navigation buttons to highlight **More**, and press **Mode/Select** to access the second User Preferences screen (FIG. 36).
6. Use the navigation buttons to highlight **Filter Change Reminder**.
7. Press **Mode/Select** to toggle the Filter Change Reminder setting between Enable and Disable.

### Disabling the Weather Alert Icon

A weather alert message is sent by the NI Master to report active weather alerts and when a weather alert is cancelled. If you do not want these weather alerts to appear, or if you are not using the i!-Weather application, you can disable this feature.

Perform the following steps to disable the weather alert icon:

1. From the Main screen, press **Mode/Select** to access the Thermostat Mode screen.
2. Use the navigation buttons to select **Settings**, and press **Mode/Select**. The Settings screen appears.
3. Use the navigation buttons to select **Advanced Settings**. Press **Mode/Select** to access the Security Code screen.
4. Enter the security code, and select **Enter** to access the User Preferences screen. See the *Entering the Security Code* on page 30 for more information.
5. Use the navigation buttons to highlight **More**, and press **Mode/Select** to access the second User Preferences screen (FIG. 36).
6. Use the navigation buttons to highlight **Weather Alert Icon**.
7. Press **Mode/Select** to toggle the Weather Alert Icon setting between Enable and Disable.

### Disabling the Forecast Screens

If you are not using the i!-Weather application to report the weather forecast to the thermostat, you might want to disable the forecast screens so they do not appear when you navigate through the thermostat's screens. Perform the following steps to disable the forecast screens:

1. From the Main screen, press **Mode/Select** to access the Thermostat Mode screen.
2. Use the navigation buttons to select **Settings**, and press **Mode/Select**. The Settings screen appears.
3. Use the navigation buttons to select **Advanced Settings**. Press **Mode/Select** to access the Security Code screen.
4. Enter the security code, and select **Enter** to access the User Preferences screen. See the *Entering the Security Code* on page 30 for more information.
5. Use the navigation buttons to highlight **More**, and press **Mode/Select** to access the second User Preferences screen (FIG. 36).
6. Use the navigation buttons to highlight **Current Weather Page**.
7. Press **Mode/Select** to toggle the Current Weather Page setting between Enable and Disable.
8. Use the navigation buttons to highlight **5-Day Forecast Page**.
9. Press **Mode/Select** to toggle the 5-Day Forecast Page setting between Enable and Disable.

### Disabling the Screen Saver

The thermostat has a screen saver option which you can turn to avoid screen burn. The screen saver activates after 20 seconds without any user input, and displays the current room temperature moving around the screen on a black background. The screen saver is automatically enabled when the thermostat is installed. Perform these steps to disable the screen saver:

1. From the Main screen, press **Mode/Select** to access the Thermostat Mode screen.
2. Use the navigation buttons to select **Settings**, and press **Mode/Select**. The Settings screen appears.
3. Use the navigation buttons to select **Advanced Settings**. Press **Mode/Select** to access the Security Code screen.
4. Enter the security code, and select **Enter** to access the User Preferences screen. See the *Entering the Security Code* on page 30 for more information.
5. Use the navigation buttons to highlight **More**, and press **Mode/Select** to access the second User Preferences screen.
6. Use the navigation buttons to highlight **More**, and press **Mode/Select** to access the third User Preferences screen (FIG. 37).



FIG. 37 User Preferences screen (3 of 3)

## Button Lockout Screen

The Button Lockout screens (FIG. 38) enable you to set locks on certain features of the thermostat so the features cannot be changed. When you lock a feature, you also set the amount of time you want the feature to be locked.

**NOTE:** You cannot change the features you lock using the buttons on the thermostat, however, you can still change the locked features through AxLink.

You can use the navigation buttons to move through the highlighted options. The Mode/Select button selects the highlighted item. You can then use the navigation buttons to change the setting of the highlighted option.

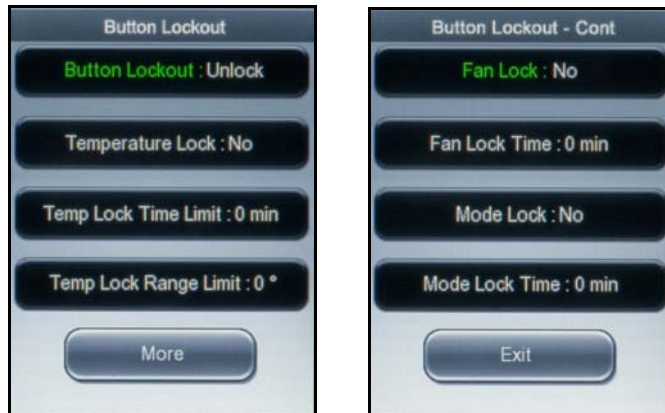


FIG. 38 Button Lockout screens

Pressing Mode/Select again highlights the next available option. The following table lists the options on the Button Lockout screen:

Button Lockout Screen Options	
Button Lockout	Enables you to lock or unlock the buttons on the thermostat so they cannot change certain settings. You must set this option to Lock for any lockout setting to apply. The default setting is Lock.
Temperature Lock	Enables you to lock the temperature settings so they cannot be changed.
Temp Lock Time Limit	Enables you to enter an amount of time in minutes in which you want the temperature lock to last. You can set the time limit to any value between 0 and 60 minutes.
Temp Lock Range Limit	Enables you to lock the temperature to a range so temperature range changes vary by only a set number of degrees. For example, if you set the limit to 3, you can only change the temperature by + or -3 degrees from its current setting. You can set the range to any value between 0 and 10 degrees.
Fan Lock	Enables you to lock the current fan setting so you cannot change it. The default setting is Yes.
Fan Lock Time	Enables you to enter an amount of time in minutes in which you want the fan lock to last. You can set the time limit to any value between 0 and 60 minutes.
Mode Lock	Enables you to lock the current mode setting so you cannot change it.
Mode Lock Time	Enables you to enter an amount of time in minutes in which you want the mode lock to last. You can set the time limit to any value between 0 and 60 minutes.
Exit	Returns you to the Main screen.

## Locking the Buttons

You can lock the buttons on the thermostat so no one can change the settings.

Perform the following steps to lock the buttons on the thermostat:

1. From the Main screen, press **Mode/Select** to access the Thermostat Mode screen.
2. Use the navigation buttons to select **Settings**, and press **Mode/Select**. The Settings screen appears.
3. Use the navigation buttons to select **Advanced Settings**. Press **Mode/Select** to access the Security Code screen.
4. Enter the security code, and select **Enter** to access the User Preferences screen. See the *Entering the Security Code* on page 30 for more information.
5. Use the navigation buttons to highlight **More**, and press **Mode/Select** to access the second User Preferences screen.
6. Use the navigation buttons to highlight **Button Lockout**.
7. Press **Mode/Select** to access the Button Lockout screen (FIG. 39).



**FIG. 39** Button Lockout screen (1 of 2)

8. With Button Lockout highlighted, press **Mode/Select** to toggle the button lockout setting between Lock and Unlock.

### Locking the Temperature Settings

You can lock the temperature settings on the thermostat so no one can change them. When you lock the temperature settings, you must set an amount of time for the settings to be locked. You can set the time limit to any amount of time between 0 and 60 minutes. After the time limit expires, the temperature settings automatically unlock and can be changed again.

Perform the following steps to lock the temperature settings:

1. From the Main screen, press **Mode/Select** to access the Thermostat Mode screen.
2. Use the navigation buttons to select **Settings**, and press **Mode/Select**. The Settings screen appears.
3. Use the navigation buttons to select **Advanced Settings**. Press **Mode/Select** to access the Security Code screen.
4. Enter the security code, and select **Enter** to access the User Preferences screen. See the *Entering the Security Code* on page 30 for more information.
5. Use the navigation buttons to highlight **More**, and press **Mode/Select** to access the second User Preferences screen.
6. Use the navigation buttons to highlight **Button Lockout**.
7. Press **Mode/Select** to access the Button Lockout screen (FIG. 39).
8. Use the navigation buttons to select **Temperature Lock**, and press **Mode/Select** to toggle the temperature lockout setting between Yes and No.
9. Use the navigation buttons to select **Temperature Lock Time Limit**, and press **Mode/Select** activate it.
10. Press **Mode/Select** multiple times until you reach the time limit value you want.
11. Use the navigation buttons to select **Temperature Lock Range Limit**, and press **Mode/Select** activate it.
12. Press **Mode/Select** multiple times until you reach the range limit value you want.

### Locking the Fan Settings

You can lock the fan settings on the thermostat so no one can change them. When you lock the fan settings, you must set an amount of time for the settings to be locked. You can set the time limit to any amount of time between 0 and 60 minutes. After the time limit expires, the fan settings automatically unlock and can be changed again.

Perform the following steps to lock the fan settings:

1. From the Main screen, press **Mode/Select** to access the Thermostat Mode screen.
2. Use the navigation buttons to select **Settings**, and press **Mode/Select**. The Settings screen appears.
3. Use the navigation buttons to select **Advanced Settings**. Press **Mode/Select** to access the Security Code screen.
4. Enter the security code, and select **Enter** to access the User Preferences screen. See the *Entering the Security Code* on page 30 for more information.
5. Use the navigation buttons to highlight **More**, and press **Mode/Select** to access the second User Preferences screen.
6. Use the navigation buttons to highlight **Button Lockout**.
7. Press **Mode/Select** to access the Button Lockout screen.
8. Use the navigation buttons to highlight **More**, and press **Mode/Select** to access the second Button Lockout screen (FIG. 40).



**FIG. 40** Button Lockout screen (2 of 2)

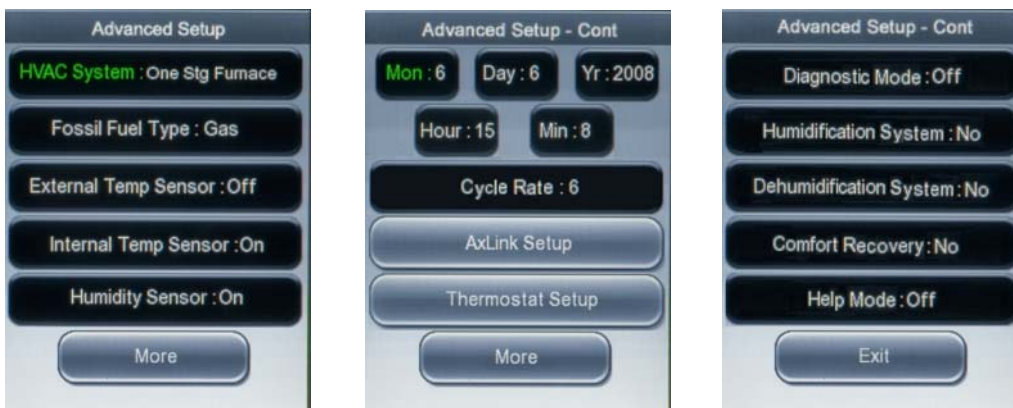
9. Use the navigation buttons to select **Fan Lock**, and press **Mode/Select** to toggle the fan lockout setting between Yes and No.
10. Use the navigation buttons to select **Fan Lock Time**, and press **Mode/Select** activate it.
11. Press **Mode/Select** multiple times until you reach the fan lock time value you want.

### Locking the Mode Settings

You can lock the mode settings on the thermostat so no one can change them. When you lock the mode settings, you must set an amount of time for the settings to be locked. You can set the time limit to any amount of time between 0 and 60 minutes. After the time limit expires, the mode settings automatically unlock and can be changed again. Perform the following steps to lock the mode settings:

1. From the Main screen, press **Mode/Select** to access the Thermostat Mode screen.
2. Use the navigation buttons to select **Settings**, and press **Mode/Select**. The Settings screen appears.
3. Use the navigation buttons to select **Advanced Settings**. Press **Mode/Select** to access the Security Code screen.
4. Enter the security code, and select **Enter** to access the User Preferences screen. See the *Entering the Security Code* on page 30 for more information.
5. Use the navigation buttons to highlight **More**, and press **Mode/Select** to access the second User Preferences screen.
6. Use the navigation buttons to highlight **Button Lockout**.
7. Press **Mode/Select** to access the Button Lockout screen.
8. Use the navigation buttons to highlight **More**, and press **Mode/Select** to access the second Button Lockout screen (FIG. 40).
9. Use the navigation buttons to select **Mode Lock**, and press **Mode/Select** to toggle the mode lockout setting between Yes and No.
10. Use the navigation buttons to select **Mode Lock Time**, and press **Mode/Select** activate it.
11. Press **Mode/Select** multiple times until you reach the mode lock time value you want.

### Advanced Setup Screen



**FIG. 41** Advanced Setup screens

The Advanced Setup screens (FIG. 41) enable you to indicate the type of HVAC system you are using, activate temperature sensors, and set the date for the thermostat. The thermostat automatically computes the day of the week based on the date you input. These settings should be set when the thermostat is initially installed, and should not need to be updated with regular use. You can use the navigation buttons to move through the highlighted options. The Mode/Select button selects the highlighted item. You can then use the navigation buttons to change the setting of the highlighted option.

Pressing Mode/Select again highlights the next available option. The following table lists the options on the Advanced Setup screen:

Advanced Setup Screen Options	
HVAC System	Enables you to set the type of HVAC you are using. The thermostat defaults to One Stg Furnace. For a list of HVAC System types, refer to the <i>Wiring the Thermostat</i> on page 10 of the ViewStat Color Communicating Thermostat Operation/Reference Guide.
Fossil Fuel	Enables you to indicate the type of fossil fuel your HVAC system uses. You can choose from Electric or Gas.
External Temp Sensor	Enables you to indicate whether the external sensor is located indoors or outdoors. If you activate both this sensor and the Onboard Temperature sensor, the thermostat reports an average temperature based on the temperature readings from each sensor. You can also turn off the external sensor with this option.
Internal Temp Sensor	Enables you to indicate whether you want to turn on or turn off the onboard temperature sensor. If you activate both this sensor and the External Temperature sensor, the thermostat reports an average temperature based on the temperature readings from each sensor.
Humidity Sensor	Enables you to indicate whether you want to turn on or turn off the onboard humidity sensor.
Month	Enables you to set the current month. You can enter a value between 1-12.
Day	Enables you to set the current day. You can enter a value between 1-31.
Year	Enables you to set the current year.
Hour	Enables you to set the current hour. You can enter a value between 0-23.
Minute	Enables you to set the current minute. You can enter a value between 0-59.
Cycle Rate	Enables you to set the number of times per hour your HVAC system can turn on and off. You can choose from 3, 4, 5, or 6. The default value is 4.
AxLink Setup	Enables you to access the AxLink Setup screen. See the <i>AxLink Communications Screen</i> on page 42 for more information.
Thermostat Setup	Enables you to access the Thermostat Setup screen. See the <i>Thermostat Setup Screen</i> on page 43 for more information.
Diagnostic Mode	Enables you to activate a mode during which you can test the functionality of the thermostat. With Diagnostic Mode turned on, the cycle rate no longer applies and you can enter the Advanced Settings sections without entering a security code. Text appears on the Main screen notifying you when Diagnostic Mode is active.
Humidification System	Enables you to activate the humidification system to add humidity to the air. You can set the humidify setpoint on the Program Mode or Away Mode screens. See the <i>Program Screen</i> section on page 24 and the <i>Away Mode Screen</i> section on page 26 for more information.
Dehumidification System	Enables you to activate the dehumidification system to remove humidity from the air. You can set the dehumidify setpoint on the Program Mode or Away Mode screens. See the <i>Program Screen</i> section on page 24 and the <i>Away Mode Screen</i> section on page 26 for more information.
Comfort Recovery	Enables you to indicate whether the heating/cooling system recovers gradually from an energy-saving setpoint temperature to a comfort setpoint temperature. By incrementing the setpoints gradually, the heating/cooling system activates in advance of the actual set program time so the area is at the desired temperature at the start of the program time. If this option is disabled, heating/cooling setpoints are changed at the exact start time of the program period.
Help Mode	Enables a help screen that you can access by pressing Mode/Select on the Main screen. See the <i>Help Screen</i> section on page 22 for more information.
Exit	Returns you to the User Preferences screen.

### Changing the Type of HVAC System

The thermostat automatically defaults to One Stage Furnace for the HVAC System setting when you install it. You can change the type of HVAC system you are using, which activates certain features depending on which type of system you have. This option should be set when the thermostat is installed for the first time, and should not need to be changed after that. Perform the following steps to change the type of HVAC system you are using:

1. From the Main screen, press **Mode/Select** to access the Thermostat Mode screen.
2. Use the navigation buttons to select **Settings**, and press **Mode/Select**. The Settings screen appears.
3. Use the navigation buttons to select **Advanced Settings**. Press **Mode/Select** to access the Security Code screen.
4. Enter the security code, and select **Enter** to access the User Preferences screen. See the *Entering the Security Code* on page 30 for more information.
5. Use the navigation buttons to highlight **More**, and press **Mode/Select** to access the second User Preferences screen.
6. On the second User Preferences screen, use the navigation buttons to highlight **More**, and press **Mode/Select** to access the third User Preferences screen.
7. Use the navigation buttons to highlight **Advanced Setup**, and press **Mode/Select** to access the Advanced Setup screen (FIG. 42).



**FIG. 42** Advanced Setup screen (1 of 3)

8. With HVAC System highlighted, press **Mode/Select** to indicate the type of HVAC system you are using.

### Changing the Type of Fossil Fuel

The thermostat gives you the option to indicate the type of fossil fuel your HVAC system uses. You can choose from Gas and Electric. Perform these steps to change the type of fossil fuel:

1. From the Main screen, press **Mode/Select** to access the Thermostat Mode screen.
2. Use the navigation buttons to select **Settings**, and press **Mode/Select**. The Settings screen appears.
3. Use the navigation buttons to select **Advanced Settings**. Press **Mode/Select** to access the Security Code screen.
4. Enter the security code, and select **Enter** to access the User Preferences screen. See the *Entering the Security Code* on page 30 for more information.
5. Use the navigation buttons to highlight **More**, and press **Mode/Select** to access the second User Preferences screen.
6. On the second User Preferences screen, use the navigation buttons to highlight **More**, and press **Mode/Select** to access the third User Preferences screen.
7. Use the navigation buttons to highlight **Advanced Setup**, and press **Mode/Select** to access the Advanced Setup screen (FIG. 42).
8. Use the navigation buttons to select **Fossil Fuel Type**, and press **Mode/Select** to indicate the type of HVAC system you are using.

### Activating the External Sensor

If you have an external sensor installed with the thermostat, you must indicate if the sensor is installed indoors or outdoors. If you activate both this sensor and the Onboard Temperature sensor, the thermostat reports an average temperature based on the temperature readings from each sensor. You can also turn off the external sensor if it is connected, but you do not want to use it. Perform the following steps to activate the external sensor:

1. From the Main screen, press **Mode/Select** to access the Thermostat Mode screen.
2. Use the navigation buttons to select **Settings**, and press **Mode/Select**. The Settings screen appears.
3. Use the navigation buttons to select **Advanced Settings**. Press **Mode/Select** to access the Security Code screen.
4. Enter the security code, and select **Enter** to access the User Preferences screen. See the *Entering the Security Code* on page 30 for more information.
5. Use the navigation buttons to highlight **More**, and press **Mode/Select** to access the second User Preferences screen.
6. On the second User Preferences screen, use the navigation buttons to highlight **More**, and press **Mode/Select** to access the third User Preferences screen.
7. Use the navigation buttons to highlight **Advanced Setup**, and press **Mode/Select** to access the Advanced Setup screen (FIG. 42).
8. Use the navigation buttons to select **External Temperature Sensor**, and press **Mode/Select** to activate it.
9. Press **Mode/Select** to indicate the location of the external sensor. You can choose from Indoor or Outdoor. Selecting one of these choices activates the external sensor. You can select Off if you want to deactivate the sensor.

### Activating the Internal On-board Sensor

The thermostat comes installed with an internal on-board temperature sensor, which is activated by default when the thermostat is installed. You can use this sensor to report room temperature, or you can activate both this sensor and the External Temperature sensor, at which point the thermostat reports an average temperature based on the temperature readings from each sensor. You can also turn off the internal on-board sensor if you do not want to use it. Perform the following steps to activate the internal on-board sensor:

1. From the Main screen, press **Mode/Select** to access the Thermostat Mode screen.
2. Use the navigation buttons to select **Settings**, and press **Mode/Select**. The Settings screen appears.
3. Use the navigation buttons to select **Advanced Settings**. Press **Mode/Select** to access the Security Code screen.

4. Enter the security code, and select **Enter** to access the User Preferences screen. See the *Entering the Security Code* on page 30 for more information.
5. Use the navigation buttons to highlight **More**, and press **Mode/Select** to access the second User Preferences screen.
6. On the second User Preferences screen, use the navigation buttons to highlight **More**, and press **Mode/Select** to access the third User Preferences screen.
7. Use the navigation buttons to highlight **Advanced Setup**, and press **Mode/Select** to access the Advanced Setup screen (FIG. 42).
8. Use the navigation buttons to select **Internal Temperature Sensor**, and press **Mode/Select** to activate it.
9. Press **Mode/Select** to toggle whether you want the internal sensor turned on or off.

### Activating the On-board Humidity Sensor

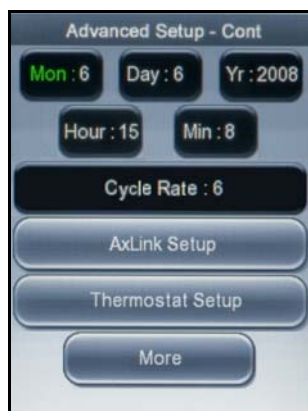
The thermostat comes installed with an internal on-board humidity sensor. You can use this sensor to report room humidity. You can also turn off the internal on-board humidity sensor if you do not want to use it. Perform the following steps to activate the on-board humidity sensor:

1. From the Main screen, press **Mode/Select** to access the Thermostat Mode screen.
2. Use the navigation buttons to select **Settings**, and press **Mode/Select**. The Settings screen appears.
3. Use the navigation buttons to select **Advanced Settings**. Press **Mode/Select** to access the Security Code screen.
4. Enter the security code, and select **Enter** to access the User Preferences screen. See the *Entering the Security Code* on page 30 for more information.
5. Use the navigation buttons to highlight **More**, and press **Mode/Select** to access the second User Preferences screen.
6. On the second User Preferences screen, use the navigation buttons to highlight **More**, and press **Mode/Select** to access the third User Preferences screen.
7. Use the navigation buttons to highlight **Advanced Setup**, and press **Mode/Select** to access the Advanced Setup screen (FIG. 42).
8. Use the navigation buttons to select **Humidity Sensor**, and press **Mode/Select** to activate it.
9. Press **Mode/Select** to toggle whether you want the humidity sensor turned on or off.

### Setting the Date and Time on the Thermostat

The thermostat enables you to set the date and time, which displays on the main screen. Perform the following steps to set the date and time on the thermostat:

1. From the Main screen, press **Mode/Select** to access the Thermostat Mode screen.
2. Use the navigation buttons to select **Settings**, and press **Mode/Select**. The Settings screen appears.
3. Use the navigation buttons to select **Advanced Settings**. Press **Mode/Select** to access the Security Code screen.
4. Enter the security code, and select **Enter** to access the User Preferences screen. See the *Entering the Security Code* on page 30 for more information.
5. Use the navigation buttons to highlight **More**, and press **Mode/Select** to access the second User Preferences screen.
6. On the second User Preferences screen, use the navigation buttons to highlight **More**, and press **Mode/Select** to access the third User Preferences screen.
7. Use the navigation buttons to highlight **Advanced Setup**, and press **Mode/Select** to access the Advanced Setup screen.
8. Use the navigation buttons to highlight **More**, and press **Mode/Select** to access the second Advanced Setup screen (FIG. 43).



**FIG. 43** Advanced Setup screen (2 of 3)

9. With **Mon** highlighted, press **Mode/Select** to change the number of the current month.
10. Use the navigation buttons to highlight **Day**, and press **Mode/Select** to activate it.
11. Press **Mode/Select** to change the current day.
12. Use the navigation buttons to highlight **Yr**, and press **Mode/Select** to activate it.

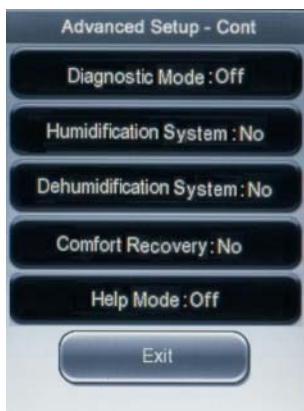


13. Press **Mode/Select** to change the current year.
14. Use the navigation buttons to highlight **Hour**, and press **Mode/Select** to activate it.
15. Press **Mode/Select** to change the current hour.
16. Use the navigation buttons to highlight **Min**, and press **Mode/Select** to activate it.
17. Press **Mode/Select** to change the current minute.

### Turning on Diagnostic Mode

Diagnostic Mode enables you to activate a mode during which you can test the functionality of the thermostat. With Diagnostic Mode turned on, the cycle rate no longer applies and you can enter the Advanced Settings sections without entering a security code. Text appears on the Main screen notifying you when Diagnostic Mode is active. Perform the following steps to turn on Diagnostic Mode:

1. From the Main screen, press **Mode/Select** to access the Thermostat Mode screen.
2. Use the navigation buttons to select **Settings**, and press **Mode/Select**. The Settings screen appears.
3. Use the navigation buttons to select **Advanced Settings**. Press **Mode/Select** to access the Security Code screen.
4. Enter the security code, and select **Enter** to access the User Preferences screen. See the *Entering the Security Code* on page 30 for more information.
5. Use the navigation buttons to highlight **More**, and press **Mode/Select** to access the second User Preferences screen.
6. On the second User Preferences screen, use the navigation buttons to highlight **More**, and press **Mode/Select** to access the third User Preferences screen.
7. Use the navigation buttons to highlight **Advanced Setup**, and press **Mode/Select** to access the Advanced Setup screen.
8. Use the navigation buttons to highlight **More**, and press **Mode/Select** to access the second Advanced Setup screen.
9. Use the navigation buttons to highlight **More**, and press **Mode/Select** to access the third Advanced Setup screen (FIG. 44).



**FIG. 44** Advanced Setup screen (3 of 3)

10. With Diagnostic Mode highlighted, press **Mode/Select** to toggle the mode setting to On.
11. Use the navigation buttons to highlight **Exit**, and press **Mode/Select** to return to the Main screen.

### Turning on the Humidification and Dehumidification Systems

Humidification and dehumidification systems enable you to add humidity to or remove humidity from the air. You can set the humidify and dehumidify setpoints on the Program Mode or Away Mode screens. See the *Program Screen* section on page 24 and the *Away Mode Screen* section on page 26 for more information. Perform the following steps to turn on the humidification and dehumidification systems:

1. From the Main screen, press **Mode/Select** to access the Thermostat Mode screen.
2. Use the navigation buttons to select **Settings**, and press **Mode/Select**. The Settings screen appears.
3. Use the navigation buttons to select **Advanced Settings**. Press **Mode/Select** to access the Security Code screen.
4. Enter the security code, and select **Enter** to access the User Preferences screen. See the *Entering the Security Code* on page 30 for more information.
5. Use the navigation buttons to highlight **More**, and press **Mode/Select** to access the second User Preferences screen.
6. On the second User Preferences screen, use the navigation buttons to highlight **More**, and press **Mode/Select** to access the third User Preferences screen.
7. Use the navigation buttons to highlight **Advanced Setup**, and press **Mode/Select** to access the Advanced Setup screen.
8. Use the navigation buttons to highlight **More**, and press **Mode/Select** to access the second Advanced Setup screen.
9. Use the navigation buttons to highlight **More**, and press **Mode/Select** to access the third Advanced Setup screen (FIG. 44).
10. Use the navigation buttons to highlight **Humidification System**, and press **Mode/Select** to toggle the system to Yes.
11. Use the navigation buttons to highlight **Dehumidification System**, and press **Mode/Select** to toggle the system to Yes.
12. Use the navigation buttons to highlight **Exit**, and press **Mode/Select** to return to the Main screen.

## Turning on Comfort Recovery

Comfort Recovery enables you to indicate whether the heating/cooling system recovers gradually from an energy-saving setpoint temperature to a comfort setpoint temperature. By incrementing the setpoints gradually, the heating/cooling system activates in advance of the actual set program time so the area is at the desired temperature at the start of the program time.

Comfort Recovery begins two hours before the next programmed setpoint. During the Comfort Recovery period, every 15 minutes the thermostat computes the difference between actual room temperature and the desired temperature of the next setpoint and set the setpoint to the halfway point between the two.

For example, if the room temperature is 60 and the next setpoint is 70, Comfort Recovery begins and the thermostat moves the setpoint to 65. Fifteen minutes later, the thermostat checks the setpoints again and finds the room temperature is 63 and the next setpoint still at 70, so it changes the setpoint to 66. Fifteen minutes later, the thermostat checks the setpoints again and finds the room temperature is 66 and the next setpoint still at 70, so it changes the setpoint to 68.

**NOTE:** *Comfort Recovery only works when moving forward between Sleep and Wake states and between Leave and Return states. When using Comfort Recovery between Sleep and Wake states, the thermostat uses the Sleep setpoint from the previous day and the Wake setpoint from the current day.*

If this option is disabled, heating/cooling setpoints are changed at the exact start time of the program period. Perform the following steps to turn on the humidification and dehumidification systems:

1. From the Main screen, press **Mode/Select** to access the Thermostat Mode screen.
2. Use the navigation buttons to select **Settings**, and press **Mode/Select**. The Settings screen appears.
3. Use the navigation buttons to select **Advanced Settings**. Press **Mode/Select** to access the Security Code screen.
4. Enter the security code, and select **Enter** to access the User Preferences screen. See the *Entering the Security Code* on page 30 for more information.
5. Use the navigation buttons to highlight **More**, and press **Mode/Select** to access the second User Preferences screen.
6. On the second User Preferences screen, use the navigation buttons to highlight **More**, and press **Mode/Select** to access the third User Preferences screen.
7. Use the navigation buttons to highlight **Advanced Setup**, and press **Mode/Select** to access the Advanced Setup screen.
8. Use the navigation buttons to highlight **More**, and press **Mode/Select** to access the second Advanced Setup screen.
9. Use the navigation buttons to highlight **More**, and press **Mode/Select** to access the third Advanced Setup screen (FIG. 44).
10. Use the navigation buttons to highlight **Comfort Recovery**, and press **Mode/Select** to toggle the option to Yes.
11. Use the navigation buttons to highlight **Exit**, and press **Mode/Select** to return to the Main screen.

## AxLink Communications Screen



**FIG. 45** AxLink Communications screen

The AxLink Communications screen (FIG. 45) enables you to set the address of the AxLink device with which you want the thermostat to communicate. The AxLink address distinguishes a device on the AxLink bus from all other devices. Valid AxLink addresses are 1-255. Address 0 belongs to the Master. The default setting for the ViewStat Color Communicating Thermostat is 1. Pressing the Up/Down arrow buttons increases or decreases the numeric value in the highlighted box. Pressing the Mode/Select button highlights the next box in the sequence or highlights Enter if pressed while the third box is highlighted. Use Up/Down arrow buttons to move between Enter and Cancel. Press the Mode/Select button while Enter is highlighted to accept the new AxLink address and return to the Advanced Setup screen.

**NOTE:** *The current firmware version of the thermostat appears in the lower right-hand corner of the screen.*

## Switching AxLink Devices

The AxLink Communications screen enables you to set the address of the AxLink device with which you want the thermostat to communicate. The AxLink address distinguishes a device on the AxLink bus from all other devices. Valid AxLink addresses are 1-255. Address 0 belongs to the Master. The default setting for the ViewStat Color Communicating Thermostat is 1. Perform the following steps to switch AxLink devices:

1. From the Main screen, press **Mode/Select** to access the Thermostat Mode screen.

2. Use the navigation buttons to select **Settings**, and press **Mode/Select**. The Settings screen appears.
3. Use the navigation buttons to select **Advanced Settings**. Press **Mode/Select** to access the Security Code screen.
4. Enter the security code, and select Enter to access the User Preferences screen. See the *Entering the Security Code* on page 30 for more information.
5. Use the navigation buttons to highlight **More**, and press **Mode/Select** to access the second User Preferences screen.
6. On the second User Preferences screen, use the navigation buttons to highlight **More**, and press **Mode/Select** to access the third User Preferences screen.
7. Use the navigation buttons to highlight **Advanced Setup**, and press **Mode/Select** to access the Advanced Setup screen.
8. Use the navigation buttons to highlight **More**, and press **Mode/Select** to access the second Advanced Setup screen.
9. Use the navigation buttons to highlight **AxLink Setup**, and press **Mode/Select** to access the AxLink Communications screen (FIG. 46).



**FIG. 46** AxLink Communications screen

10. Use the navigation buttons to scroll through the numbers until you reach the first digit in the code, and press **Mode/Select** to move to the next digit in the code.
11. Repeat the previous step until you have entered the full three-digit code.
12. Press **Mode/Select** while Enter is selected.

**NOTE:** Changing the address of an AxLink device can result in some features on the thermostat to stop working.

## Thermostat Setup

### Thermostat Setup Screen



**FIG. 47** Thermostat Setup screens

The Thermostat Setup screens (FIG. 47) enable you to set temperature differentials between the heating and cooling setpoints. On this screen, you can also set the balance point if you have a single or dual stage heat pump system. You can use the navigation buttons to move through the highlighted options. The Mode/Select button selects the highlighted item. You can then use the navigation buttons to change the setting of the highlighted option.

Pressing Mode/Select again highlights the next available option.

The following table lists the options on the Thermostat Setup screen:

Thermostat Setup Screen Options	
First Stage Diff	Enables you to set the 1st stage temperature differential. Differentials set the tightness of the temperature control to eliminate large temperature swings and prevent the HVAC system from operating too often. Normally the second stage of heat is for auxiliary or emergency heat. <ul style="list-style-type: none"> <li>You can choose from 0.5°F, 1.0°F, and 2.0°F (or 0.25°C, 0.5°C, 1.0°C).</li> <li>The default value is 0.5°F (0.25°C).</li> </ul>
Second Stage Diff	Enables you to set the 2nd stage temperature differential. <ul style="list-style-type: none"> <li>You can choose from 1.0°F, 2.0°F, 3.0°F, 4.0°F, 5.0°F, and 6.0°F (or 0.5°C, 1.0°C, 1.5°C, 2.0°C, 2.5°C, 3.0°C).</li> <li>The default value is 2.0°F (1.0°C).</li> </ul>
Deadband	The Deadband is the temperature difference between the heating and cooling setpoints. The Deadband configuration enforces a minimum separation between the two setpoints which determine when auto changeover between HVAC heating and cooling mode will occur. <ul style="list-style-type: none"> <li>You can choose from 2.0°F, 3.0°F, 4.0°F, and 5.0°F.</li> <li>The default Deadband is 4.0°F.</li> </ul>
Temperature Offset	The temperature offset enables you to customize the temperature shown on the display. You can set the temperature offset between 10 and -10 in 1° increments. Selecting a positive increment decreases the displayed value, while selecting a negative increment increases it. The default temperature offset is 0.
Balance Point	Balance Point configuration enables you to adjust a low or high balance point to limit auxiliary heat pump operation according to the current outdoor temperature. <ul style="list-style-type: none"> <li>The compressor terminals will not be energized when the outdoor temperature is below the balance point.</li> <li>This does not affect Emergency Heat operation.</li> <li>This option is only valid if the thermostat has been configured to operate as a heat pump.</li> <li>The default Balance Point is 30°F.</li> </ul>
Exit	Returns you to the Advanced Setup screen.

### Setting First and Second Stage Differentials

Differentials set the tightness of the temperature control to eliminate large temperature swings and prevent the HVAC system from operating too often. Normally the second stage of heat is for auxiliary or emergency heat.

Perform these steps to set the first and second stage differentials:

- From the Main screen, press **Mode/Select** to access the Thermostat Mode screen.
- Use the navigation buttons to select **Settings**, and press **Mode/Select**. The Settings screen appears.
- Use the navigation buttons to select **Advanced Settings**. Press **Mode/Select** to access the Security Code screen.
- Enter the security code, and select **Enter** to access the User Preferences screen. See the *Entering the Security Code* on page 30 for more information.
- Use the navigation buttons to highlight **More**, and press **Mode/Select** to access the second User Preferences screen.
- On the second User Preferences screen, use the navigation buttons to highlight **More**, and press **Mode/Select** to access the third User Preferences screen.
- Use the navigation buttons to highlight **Advanced Setup**, and press **Mode/Select** to access the Advanced Setup screen.
- Use the navigation buttons to highlight **More**, and press **Mode/Select** to access the second Advanced Setup screen.
- Use the navigation buttons to highlight **Thermostat Setup**, and press **Mode/Select** to access the Thermostat Setup screen (FIG. 48).



FIG. 48 Thermostat Setup screen (1 of 2)

- With First Stage Diff highlighted, press **Mode/Select** to activate it.
- Press **Mode/Select** to indicate the first stage differential.

12. Use the navigation buttons to highlight **Second Stage Diff**, and press **Mode/Select**.
13. Press **Mode/Select** to indicate the second stage differential.

### Setting the Deadband Temperature Difference

The Deadband is the temperature difference between the heating and cooling setpoints. The Deadband configuration enforces a minimum separation between the two setpoints which determine when auto changeover between HVAC heating and cooling mode will occur.

Perform these steps to set the deadband temperature difference:

1. From the Main screen, press **Mode/Select** to access the Thermostat Mode screen.
2. Use the navigation buttons to select **Settings**, and press **Mode/Select**. The Settings screen appears.
3. Use the navigation buttons to select **Advanced Settings**. Press **Mode/Select** to access the Security Code screen.
4. Enter the security code, and select **Enter** to access the User Preferences screen. See the *Entering the Security Code* on page 30 for more information.
5. Use the navigation buttons to highlight **More**, and press **Mode/Select** to access the second User Preferences screen.
6. On the second User Preferences screen, use the navigation buttons to highlight **More**, and press **Mode/Select** to access the third User Preferences screen.
7. Use the navigation buttons to highlight **Advanced Setup**, and press **Mode/Select** to access the Advanced Setup screen.
8. Use the navigation buttons to highlight **More**, and press **Mode/Select** to access the second Advanced Setup screen.
9. Use the navigation buttons to highlight **Thermostat Setup**, and press **Mode/Select** to access the Thermostat Setup screen (FIG. 48).
10. Use the navigation buttons to highlight **Deadband**, and press **Mode/Select**.
11. Press **Mode/Select** to indicate the deadband temperature difference.

### Setting the Temperature Offset

The temperature offset enables you to customize the temperature shown on the display. You can set the temperature offset between 10 and -10 in 1° increments. Selecting a positive increment decreases the displayed value, while selecting a negative increment increases it.

Perform these steps to set the temperature offset:

1. From the Main screen, press **Mode/Select** to access the Thermostat Mode screen.
2. Use the navigation buttons to select **Settings**, and press **Mode/Select**. The Settings screen appears.
3. Use the navigation buttons to select **Advanced Settings**. Press **Mode/Select** to access the Security Code screen.
4. Enter the security code, and select **Enter** to access the User Preferences screen. See the *Entering the Security Code* on page 30 for more information.
5. Use the navigation buttons to highlight **More**, and press **Mode/Select** to access the second User Preferences screen.
6. On the second User Preferences screen, use the navigation buttons to highlight **More**, and press **Mode/Select** to access the third User Preferences screen.
7. Use the navigation buttons to highlight **Advanced Setup**, and press **Mode/Select** to access the Advanced Setup screen.
8. Use the navigation buttons to highlight **More**, and press **Mode/Select** to access the second Advanced Setup screen.
9. Use the navigation buttons to highlight **Thermostat Setup**, and press **Mode/Select** to access the Thermostat Setup screen (FIG. 48).
10. Use the navigation buttons to highlight **Temperature Offset**, and press **Mode/Select**.
11. Press **Mode/Select** to indicate the temperature offset.

### Setting the Balance Point for a Heat Pump System

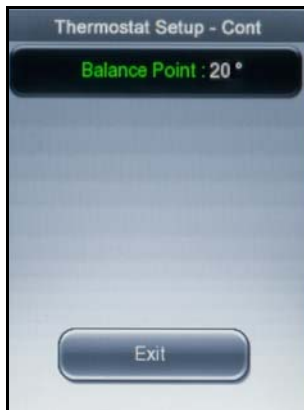
Balance Point configuration enables you to adjust a balance point to limit auxiliary heat pump operation according to the current outdoor temperature. The balance point establishes the outdoor temperature at which time the heat pump turns off and remains off until the outdoor temperature exceeds the balance point again. For example, if the balance point is set to 25 degrees and the outdoor temperature is 25 degrees or less, the heat pump remains off until the temperature exceeds 25 degrees again. The compressor terminals will not be energized when the outdoor temperature is below the balance point.

- This does not affect Emergency Heat operation.
- This option is only valid if the thermostat has been configured to operate as a heat pump.

Perform these steps to set the balance point:

1. From the Main screen, press **Mode/Select** to access the Thermostat Mode screen.
2. Use the navigation buttons to select **Settings**, and press **Mode/Select**. The Settings screen appears.
3. Use the navigation buttons to select **Advanced Settings**. Press **Mode/Select** to access the Security Code screen.
4. Enter the security code, and select **Enter** to access the User Preferences screen. See the *Entering the Security Code* on page 30 for more information.
5. Use the navigation buttons to highlight **More**, and press **Mode/Select** to access the second User Preferences screen.
6. On the second User Preferences screen, use the navigation buttons to highlight **More**, and press **Mode/Select** to access the third User Preferences screen.

7. Use the navigation buttons to highlight **Advanced Setup**, and press **Mode/Select** to access the Advanced Setup screen.
8. Use the navigation buttons to highlight **More**, and press **Mode/Select** to access the second Advanced Setup screen.
9. Use the navigation buttons to highlight **Thermostat Setup**, and press **Mode/Select** to access the Thermostat Setup screen.
10. Use the navigation buttons to highlight **More**, and press **Mode/Select** to access the second Thermostat Setup screen (FIG. 49).



**FIG. 49** Thermostat Setup screen (2 of 2)

11. With Balance Point highlighted, press **Mode/Select** to activate it.
12. Press **Mode/Select** to indicate the balance point.
13. Use the navigation buttons to highlight **Exit**, and press **Mode/Select** to return to the second Advanced Setup screen.

**NOTE:** *The Balance Point option is only available if your thermostat is configured to operate as a heat pump.*

# Programming

## Overview

The ViewStat Color Communicating Thermostat supports the commands listed below. All commands supported by the thermostat are common and expected from all AxLink devices.

## SEND\_COMMANDS

SEND_COMMANDS	
<b>CLOCK</b>	<p>Sets the thermostat's date and time. Includes the current date and time in 24-hour format. Uses the current date and time to compute the current day of the week.</p> <p>Syntax:  <code>SEND_COMMAND 'CLOCK &lt;mm-dd-yy&gt; &lt;hh:mm:ss&gt;'</code></p> <p>Variables:</p> <ul style="list-style-type: none"> <li>dd-mm-yy = 8 bytes with values separated by the character '-'</li> <li>dd = day with values 01-31</li> <li>mm = month with values 01-12</li> <li>yy = year with values 00-99</li> <li>hh:mm:ss = 8 bytes with values separated by the character ':'</li> <li>hh = hours with values 00-23</li> <li>mm = minutes with values 00-59</li> <li>ss = seconds with values 00-59</li> </ul> <p>Example:  <code>SEND_COMMAND 'CLOCK 03-28-07 05:30:07'</code>            Sets the date and time to March 28, 2007 5:30:07 AM.</p>
<b>MESSAGE</b>	<p>Sends a message that appears on the thermostat. Creates a pop-up screen with a message written in text. The user can exit the message screen by pressing Mode/Select.</p> <p>Syntax:  <code>SEND_COMMAND 'MESSAGE &lt;DISP CLEAR&gt; "&lt;TEXT&gt;"'</code></p> <p>Variables:</p> <ul style="list-style-type: none"> <li>DISP = Indicates a message should be displayed with TEXT</li> <li>CLEAR = Indicates the message should be cleared from the screen and thermostat operation returns to normal</li> <li>TEXT = a string with the contents of the message</li> </ul> <p>Examples:  <code>SEND_COMMAND 'MESSAGE DISP "Welcome to the Plaza Hotel"'</code>  <code>SEND_COMMAND 'MESSAGE CLEAR'</code></p>
<b>RESET</b>	<p>Cycles power to the device so the user does not have to be physically present to reboot the device.</p> <p>Syntax:  <code>SEND_COMMAND 'RESET'</code></p>
<b>SLEEP</b>	<p>Activates screen saver mode. Sets the display to inactive brightness.</p> <p>Syntax:  <code>SEND_COMMAND 'SLEEP'</code></p>
<b>VER</b>	<p>Requests firmware version. Sent by the Master to request the thermostat's firmware version. The thermostat responds to the Master with a command in the form of 'vX.XX' (e.g. v1.02).</p> <p>Syntax:  <code>SEND_COMMAND 'VER'</code></p> <p>Example:  <code>SEND_COMMAND 'VER'</code>            Master requests version number of the device.  <code>SEND_COMMAND 'v1.02'</code>            Device response with version 1.02.</p>
<b>WAKE</b>	<p>Activates the display. Sets the display to active brightness.</p> <p>Syntax:  <code>SEND_COMMAND 'WAKE'</code></p>
<b>ZAP!</b>	<p>Restores the unit to its factory defaults, but does not change its AxLink address.</p> <p>Syntax:  <code>SEND_COMMAND 'ZAP!'</code></p>

**NOTE:** The Color ViewStat thermostat does not support string messages. A command message either does not have a response, or another command responds to it, but it never receives a string response.

## Color ViewStat Thermostat Commands

This section lists commands that are specific to the Color ViewStat Thermostat.

### 5-Day Forecast Commands

The 5-Day Forecast commands, FH, FL, and FK, give the 5-Day Forecast sent in three separate messages, one for each of the following:

- Expected high temperatures, FH
- Expected low temperatures, FL
- Expected weather conditions keywords, FK

The data always starts with the current day's information. Temperatures are reported in the same scale as set on the thermostat, in Fahrenheit or Celsius. The Weather Condition Keywords have been shortened to accommodate for the AxLink 64 character message limit. The Weather Condition Keywords include the following:

Weather Condition Keywords		
• BLZ for Blizzard	• HAZE	• SMOKE
• BLSN for Blowing Snow	• HUMID	• SNOW
• CLEAR	• ICE	• SNOWFL for Snow Flurries
• CLDY for Cloudy	• MCLDY for Mostly Cloudy	• SNOWSW for Snow Showers
• DRZL for Drizzle	• MSUN for Mostly Sunny	• SUN for Sunny
• DUST	• PCLDY for Partly Cloudy	• TSTORM for Thunder Storms
• FAIR	• RAIN	• UNK for Unknown
• FOG	• RAINSW for Rain Showers	• VCOLD for Very Cold
• FZDRZL for Freezing Drizzle	• RAINSN for Rain Snow Mix	• WINDY
• FZRAIN for Freezing Rain	• SLEET	

5-Day Forecast Commands	
<b>FH</b>	<p>Forecasted 5-day high temperatures</p> <p>Syntax: FH &lt;HT1&gt; &lt;HT2&gt; &lt;HT3&gt; &lt;HT4&gt; &lt;HT5&gt;</p> <p>Variable: HTx = The high temperature in degrees expected for day x, where x = 1 is the current day, 2 is the next day, etc.</p> <p>Example: SEND_COMMAND 'FH 78 82 85 84 85'</p> <p>Five-day high temperatures.</p>
<b>FL</b>	<p>Forecasted 5-day low temperature</p> <p>Syntax: FL &lt;LT1&gt; &lt;LT2&gt; &lt;LT3&gt; &lt;LT4&gt; &lt;LT5&gt;</p> <p>Variable: LTx = The low temperature in degrees expected for day x, where x = 1 is the current day, 2 is the next day, etc.</p> <p>Example: SEND_COMMAND 'FL 37 39 40 41 38'</p> <p>Five-day low temperatures.</p>
<b>FK</b>	<p>Forecasted 5-day weather conditions. The current weather condition (KYC) is optional.</p> <p>Syntax: FK &lt;KY1&gt; &lt;KY2&gt; &lt;KY3&gt; &lt;KY4&gt; &lt;KY5&gt; &lt;KYC&gt;</p> <p>Variable: KYx = The weather condition expected for day x, where x = C is the current weather condition, x = 1 is the current day's forecast, 2 is the next day's forecast, etc.</p> <p>Example: SEND_COMMAND 'FK SNOW ICE SNOWSW SNOWFL SLEET'</p> <p>Five-day weather condition forecast.</p> <p>SEND_COMMAND 'FK SNOW ICE SNOWSW SNOWFL SLEET SNOWFL'</p> <p>Five-day weather condition forecast with the current weather condition.</p>



## AxLink Commands

This section contains AxLink commands that are specific to the ViewStat Color Thermostat. For additional AxLink programming commands specific to a particular AxLink device, consult the manual for the AxLink device you are using.

AxLink Commands	
<b>BK</b>	<p>Sets the backlight timeout value and active and inactive brightness.</p> <p>Syntax: BK [T&lt;SEC&gt;] [A&lt;ABVAL&gt;] [I&lt;IBVAL&gt;]</p> <p>Variables: SEC = An integer with a value between 10 and 300 in values evenly divisible by 10. ABVAL = A single character with a value of L, M, or H, where L=Low, M=Medium, and H=High IBVAL = A single character with a value of D or O, where D=Dim and O=Off</p> <p>Example: SEND_COMMAND 'BK T20 IO' Sets the timeout to 20 seconds and Inactive Brightness to OFF. SEND_COMMAND 'BK T10 AL' Sets the timeout to 10 seconds and Active Brightness to ON.</p>
<b>CD</b>	<p>Retrieves and sets the security code configuration.</p> <p>Syntax: CD &lt;Code&gt;</p> <p>Variable: Code = A 4-character integer.</p> <p>Example: SEND_COMMAND 'CD 1988' Changes the security code to 1988.</p>
<b>CF</b>	<p>Displays the current forecast.</p> <p>Syntax: CF F&lt;Temp&gt; W&lt;Direct&gt; S&lt;Speed&gt; H&lt;HRead&gt; D&lt;DewPT&gt;</p> <p>Variables: Temp = The wind chill or heat index that denotes what the temperature feels like outside. The temperature is reported in the same scale as set on the thermostat: Fahrenheit (F) or Celsius (C). Direct = A single character noting the wind direction (N, S, E, or W). Speed = The wind speed in either miles per hour (mph) or kilometers per hour (kph), depending on the temperature scale. HRead = The current percent humidity reading with a range of 0 to 100%. DewPT = The current dew point temperature reported in the same scale as set on the thermostat: F or C.</p> <p>Example: SEND_COMMAND 'CF F40 WN S25 H35 D55' Reports the forecast as Wind Chill: 40F, Wind Direction: North, Wind Speed: 25 mph, Humidity: 35%, Dew Point: 55F.</p>
<b>?EXTERNAL_TEMP</b>	<p>Queries for the temperature measured by the external sensor. If the external temperature sensor is set to Off, the response reports OFF.</p> <p>Syntax: ?EXTERNAL_TEMP</p> <p>Example: SEND_COMMAND '?EXTERNAL_TEMP'</p>
<b>FILTER</b>	<p>Set the number of days for a filter reminder.</p> <p>Syntax: FILTER &lt;days&gt;</p> <p>Variable: days = The number of days until the filter change reminder activates. The range is from 0 to 180.</p> <p>Example: SEND_COMMAND 'FILTER 30'</p>
<b>?FILTER</b>	<p>Queries the number of days before the filter reminder turns on.</p> <p>Syntax: ?FILTER</p> <p>Example: SEND_COMMAND '?FILTER'</p>

<b>AxLink Commands (Cont.)</b>	
<b>FM</b>	<p>Sets or changes the thermostat's scale, date, or time format.</p> <p>Syntax:  <code>FM [S&lt;TSCL&gt;] [D&lt;DFMT&gt;] [T&lt;TFMT&gt;]</code></p> <p>Variable:</p> <p>TSCL = A single character: F for Fahrenheit or C for Celsius  DFMT = A single character: D for DD/MM/YYYY, M for MM/DD/YYYY, or Y for YYYY/MM/DD  TFMT = A single character: 1 for 12-hour or 2 for 24-hour clock.</p> <p>Example:  <code>SEND_COMMAND 'FM SF'</code>  Sets the thermostat scale to Fahrenheit.  <code>SEND_COMMAND 'FM DD T2'</code>  Sets the date format to DD/MM/YYYY and the time format to 24-hour clock.</p>
<b>LK</b>	<p>Configures button lockout settings for temperature, mode, and fan speed</p> <p>You can completely block anyone from using the buttons on the front of the unit to change the hold temperature, mode, or fan speed changes, or restrict them by time. You can also restrict hold temperature changes by range.</p> <ul style="list-style-type: none"> <li>• If you configure a time limit, the hold temperature, mode, or fan speed reverts to the original settings after the set time expires.</li> <li>• If you configure a range, the hold temperature may not be set higher or lower than the set temperature +/- the range.</li> </ul> <p>Syntax:  <code>LK [MR&lt;State&gt;] [MT&lt;Time&gt;] [FR&lt;State&gt;] [FT&lt;Time&gt;] [TR&lt;State&gt;] [TT&lt;Time&gt;] [RR&lt;Range&gt;]</code></p> <p>Variables:</p> <p>State = An integer value, 0 for disable and 1 for enable.  Time = An integer representing the number of minutes a change is enabled.  Range = An integer representing the number of degrees a temperature is allowed to be changed. Degrees are in the same scale as set on the thermostat.</p> <p>MR = Mode Restriction, State=1: disable all changes to Mode. State=0: restrictions to Mode determined by MT (Mode Time Restriction).  MT = Time Restriction placed on changes to TSTAT Mode  FR = Fan Speed Restriction, State=1: disable all changes to Fan Speed. State=0: restrictions to Fan Speed determined by FT (Fan Speed Time Restriction).  FT = Time Restriction placed on changes to Fan Speed  TR = Temperature Restriction, State=1: disable all changes to Temperature Heat and Cool Setpoints. State=0: restrictions to Temperature Heat and Cool Setpoints determined by TT (Temperature Time Restriction), and TR (Temperature Range Restriction).  TT = Time Restriction placed on changes to Temperature  RR = Range Restriction placed on changes to Temperature</p> <p>Examples:  <code>SEND_COMMAND 'LK MR1 TR3'</code>  Configures the lockout to completely block changes to Mode and restrict changes to the temperature setting to ±3 degrees.  <code>SEND_COMMAND 'LK TT90 FT90'</code>  Configures the lockout to allow changes to the temperature and fan speed for 90 minutes before reverting to the original settings.</p>

<b>AxLink Commands (Cont.)</b>	
<b>MD</b>	<p>Sets or changes the thermostat's mode. Supported thermostat modes include Program, Vacation, or Hold Temperature.</p> <ul style="list-style-type: none"> <li>• Vacation mode includes the heat, cool, humidify, and dehumidify setpoints to maintain, and the duration of the Vacation mode in days and hours.</li> <li>• Hold Temperature mode includes the specified heat and cool setpoints to maintain.</li> </ul> <p>Temperatures in the message are in the same temperature scale as set on the thermostat: F or C.</p> <p>Syntax:  MD M&lt;Mode&gt; [H&lt;HSP&gt; C&lt;CSP&gt; U&lt;HUSP&gt; D&lt;DUSP&gt; Y&lt;Days&gt; R&lt;Hours&gt;]</p> <p>Variables:</p> <p>Mode = P, V, H, or PH for Program, Vacation, Hold, or Permanent Hold. If you are setting Hold mode, you must establish settings for HSP and CSP. If you are setting Vacation mode, you must establish settings for all variables.</p> <p>HSP = The heat setpoint to maintain in degrees in the scale set on the thermostat.</p> <p>CSP = The cool setpoint to maintain in degrees in the scale set on the thermostat.</p> <p>HUSP = The humidify setpoint to maintain in % RH.</p> <p>DUSP = The dehumidify setpoint to maintain in % RH.</p> <p>Days = The number of days to maintain Vacation mode.</p> <p>Hours = The number of hours to maintain Vacation mode.</p> <p>Examples:</p> <pre>SEND_COMMAND 'MD MP'</pre> <p>Sets the mode to Program.</p> <pre>SEND_COMMAND 'MD MV H60 C85 U40 D65 Y3 R6'</pre> <p>Sets the mode to Vacation with settings of heat setpoint: 60F, cool setpoint: 85F, humidify setpoint: 40%, and dehumidify setpoint: 65% for 3 days and 6 hours. The thermostat calculates the end time by retrieving the current time and adding the days and hours from the command to it.</p> <pre>SEND_COMMAND 'MD MH H72 C75'</pre> <p>Sets the mode to Hold with settings of heat setpoint 72F and cool setpoint 75F.</p>
<b>PG</b>	<p>Sets the 7-day program. The Master sends the ?PG command to request the value of a program configuration setpoint.</p> <p>Syntax:  PG D&lt;Day&gt; SP&lt;DaySP&gt; HT&lt;HeatSP&gt; C&lt;CoolSP&gt; HM&lt;HSP&gt; DM&lt;DSP&gt; T&lt;Time&gt;</p> <p>Variables:</p> <p>Day = Day of the week. An integer with a value of 0-6 where 0 = Sunday, 1 = Monday, etc.</p> <p>DaySP = Time of day for a setpoint. An integer with a value of 1-4 where 1 = Wake, 2 = Leave, 3 = Return, and 4 = Sleep.</p> <p>HeatSP = Heat setpoint for this day and setpoint. An integer with a value in degrees reported in the set temperature scale, F or C.</p> <p>CoolSP = Cool setpoint for this day and setpoint. An integer with a value in degrees reported in the set temperature scale, F or C.</p> <p>HSP = Humidify setpoint for this day and setpoint with a range of 0-100.</p> <p>DSP = Dehumidify setpoint for this day and setpoint with a range of 0-100.</p> <p>Time = The hour and minutes using a 24-hour clock for the start time of each setpoint</p> <p>Example:</p> <pre>SEND_COMMAND 'PG D0 SP3 HT68 C72 HM30 DM50 T1900'</pre> <p>Sunday night setpoint, heat setpoint: 68F, cool setpoint: 72F, humidify setpoint: 30% RH, dehumidify setpoint: 50% RH, 7:00PM start time.</p> <pre>SEND_COMMAND '?PG D4 SP1'</pre> <p>The Master requesting the program configuration for the Thursday Wake setpoint.</p>
<b>PRESSURE</b>	<p>Sets the current barometric pressure.</p> <p>Syntax:  SEND_COMMAND 'PRESSURE &lt;VAL&gt;'</p> <p>Variable:</p> <p>VAL = The barometric pressure. This value should correspond to the currently used unit of measure.</p> <p>Examples:</p> <pre>SEND_COMMAND 'PRESSURE 29.85'</pre>
<b>?SERIAL</b>	<p>Retrieves the 16-byte serial number set on the thermostat. The Master sends the ?SERIAL command to request the thermostat's serial number.</p> <p>Syntax:  ?SERIAL</p> <p>Example:</p> <pre>SEND_COMMAND '?SERIAL'</pre> <p>The Master requesting the thermostat's serial number.</p> <pre>SEND_COMMAND 'SERIAL 1234567890123456'</pre> <p>The thermostat returns the serial number 1234567890123456.</p>

AxLink Commands (Cont.)	
<b>SP</b>	<p>Sets or changes the humidify and dehumidify set points.</p> <p>Syntax:  <code>SP H&lt;HSP&gt; D&lt;DSP&gt;</code></p> <p>Variable:  HSP = The new humidify setpoint with a range of 0 to 100.  DSP = The new dehumidify setpoint with a range of 0 to 100.</p> <p>Example:  <code>SEND_COMMAND 'SP H75 D20'</code>  Sets the humidify setpoint to 75% and the dehumidify setpoint to 20% RH.</p>
<b>ST</b>	<p>Queries for the thermostat system configuration. When received the thermostat reports its configured humidify and dehumidify set points, thermostat mode, and temperature scale.</p> <p>Syntax:  <code>SEND_COMMAND 'ST'</code></p> <p>Example:  <code>SEND_COMMAND 'ST'</code>  Master requests device status.  <code>SEND_COMMAND 'SP H30 D50'</code>  <code>SEND_COMMAND 'MD MP'</code>  <code>SEND_COMMAND 'FM SF'</code>  Device responds with humidify set point 30, dehumidify set point 50, mode program, and temperature scale Fahrenheit.</p>

## AxLink Channels

Each AxLink device contains 255 channels numbered 1-255. The AxLink Channels for the thermostat are defined in the table below. The Type column indicates who initiates the channel change. The Master directs the thermostat to change its state through channels with type CMD. The thermostat informs the Master of state changes through channels with type FDBK. Some channels can be used for both CMD and FDBK.

AxLink Channels			
Channel	Type	Function	Description
1-138		Not Used	
139	CMD	Weather Alert	A Weather Alert is active while the channel is ON. To clear an active Weather Alert set the channel to OFF.
140	CMD	Increment Cool Set Point	Increases the cool set point by one step per pulse while the channel is active (ON).
141	CMD	Decrement Cool Set Point	Decreases the cool set point by one step per pulse while the channel is active (ON).
142		Not Used	
143	CMD	Increment Heat Set Point	Increases the heat set point by one step per pulse while the channel is active (ON).
144	CMD	Decrement Heat Set Point	Decreases the heat set point by one step per pulse while the channel is active (ON).
145-147		Not Used	
148	CMD	Increment Humidify Set Point	Continue to increment the humidify set point while the channel is active, ON, as if the increment button were being pushed.
149	CMD	Decrement Humidify Set Point	Continue to decrement the humidify set point while the channel is active, ON, as if the decrement button were being pushed.
150	CMD	Increment Dehumidify Set Point	Continue to increment the dehumidify set point while the channel is active, ON, as if the increment button were being pushed.
151	CMD	Decrement Dehumidify Set Point	Continue to decrement the dehumidify set point while the channel is active, ON, as if the decrement button were being pushed.
152-159		Not Used	
160	FDBK	Filter Change Reminder	Channel ON: Filter Change active Channel OFF: Filter Change inactive
161-208		Not Used	
209	CMD/FDBK	Fan Speed Low	Set the Fan Speed to Low when the channel is ON.
210	CMD/FDBK	Fan Speed Medium	Set the Fan Speed to Medium when the channel is ON.
211	CMD/FDBK	Fan Speed High	Set the Fan Speed to High when the channel is ON.
212	CMD/FDBK	Lock Out State	Source ? Master: Set the Lock Out Mode : TStat: FDBK, Lock Out Mode Changed Channel ON: Lock Out Mode Enabled, Channel OFF: Lock Out Mode Disabled.
213		Not Used	

<b>AxLink Channels (Cont.)</b>			
<b>Channel</b>	<b>Type</b>	<b>Function</b>	<b>Description</b>
214	CMD/FDBK	Fan State On	Set the Fan state to On while the channel is ON.
215	CMD/FDBK	Fan State Auto	Set the Fan state to Auto while the channel is ON.
216	FDBK	Fan Status	Feedback, Fan Status changed, Fan status is controlled by the TSTAT. Channel ON: Fan is On, Channel OFF: Fan is Off.
217-218		Not Used	
219	CMD/FDBK	HVAC State Auto	Set the HVAC state to auto while the channel is active, ON.
220	CMD/FDBK	HVAC State Cool	Set the HVAC state to cool while the channel is active, ON.
221	CMD/FDBK	HVAC State Heat	Set the HVAC state to heat while the channel is active, ON.
222	CMD/FDBK	HVAC State Off	Set the HVAC state to off while the channel is active, ON.
223	CMD/FDBK	HVAC State Emergency Heat	Set the HVAC state to Emergency Heat while the channel is active, ON.
224	FDBK	HVAC Cool Status	Feedback, HVAC Cool Status changed Channel ON: A/C is On, Channel OFF: A/C is Off.
225	FDBK	HVAC Heat Status	Feedback, HVAC Heat Status changed Channel ON: Heat is On, Channel OFF: Heat is Off.
226		Not Used	
227	FDBK	HVAC Emergency Heat Status	Feedback, HVAC Emergency Heat Status changed Channel ON: Emergency Heat is On, Channel OFF: Emergency Heat is Off.
228	CMD/FDBK	Humidify State Auto	Set the humidify state to auto while the channel is active, ON.
229	CMD/FDBK	Humidify State Dehumidify	Set the humidify state to dehumidify while the channel is active, ON.
230	CMD/FDBK	Humidify State Humidify	Set the humidify state to humidify while the channel is active, ON.
231	CMD/FDBK	Humidify State Off	Set the humidify state to off while the channel is active, ON.
232	FDBK	Dehumidify Status	Feedback, Dehumidify Status changed Channel ON: Dehumidifier is On, Channel OFF: Dehumidifier is Off.
233	FDBK	Humidify Status	Feedback, Humidify Status changed Channel ON: Humidifier is On, Channel OFF: Humidifier is Off.
234-239		Not Used	
240	FDBK	Reversing valve (cool) relay	Provides feedback from relay O.
241	FDBK	Reversing valve (heat) relay	Provides feedback from relay B.
242	FDBK	1st stage compressor relay	Provides feedback from relay Y1.
243	FDBK	2nd stage compressor relay	Provides feedback from relay Y2.
244	FDBK	1st stage heat relay. Also the heat pump relay for heat pump systems.	Provides feedback from relay W1.
245	FDBK	2nd stage heat relay	Provides feedback from relay W2.
246	FDBK	Dehumidify relay	Provides feedback from relay DEH.
247	FDBK	Humidify relay	Provides feedback from relay HUM.
248	FDBK	Fan relay 1	Provides feedback from relay G1.
249	FDBK	Fan relay 2	Provides feedback from relay G2.
250	FDBK	Fan relay 3	Provides feedback from relay G3.
251-255		Not Used	

## AxLink Levels

Each AxLink device contains 8 levels numbered 1-8. Levels are a means of applying a value to a physical element on the device.

When a device is online for the first time, the Master assumes the device is at the default level status with all levels set to 0. However, the thermostat may not be in this default state and needs to tell the Master the value of any non-zero level. After a 'LEVON' command is received from the Master, the thermostat sends a level update for any levels that are non-zero.

If the level represents a temperature, then the level value is equivalent to the degree reading plus 120. The temperature reading is reported in the set temperature scale, F or C. For example, if the temperature scale is F and the temperature reading is -10 then the level value would be 110. If the temperature scale is C and the temperature reading is 25 then the level value would be 145.

If the level represents a humidity reading, then the level value is equivalent to the humidity reading. The valid range of a level associated with a humidity reading is 0-100. Therefore, levels with values between 0-100 are valid representing humidity readings of 0% to 100%, and level values from 101-255 are invalid.

In the Level table below, the *Type* column denotes who initiates the level change. The Master directs the thermostat to change its state through Level of type CMD. The thermostat informs the Master of state changes through Levels of type FDBK.

AxLink Levels			
Level	Type	Function	Description
1	FDBK	Indoor Temperature	The current indoor temperature reading from the thermostat sensors. Level value is equivalent to the degree reading plus 120.
2	FDBK	Indoor Humidity	The current indoor humidity reading from the thermostat sensors. Valid level values are 0-100% relative humidity.
3	CMD/FDBK	Current Heat Set Point	The current heat set point from the thermostat sensors. Level value is equivalent to the degree reading plus 120.
4	CMD/FDBK	Current Cool Set Point	The current cool set point from the thermostat sensors. Level value is equivalent to the degree reading plus 120.
5	CMD	Outdoor Temperature	The current outdoor temperature reading from the Master or an outdoor sensor connected to the thermostat. Level value is equivalent to the degree reading plus 120.
6	CMD	Barometric Pressure	The current outdoor barometric pressure reading from the Master. Value is in inches or centimeters, depending on temperature scale.
7	CMD	High Forecast Temperature	The current high temperature forecast from the Master. Level value is equivalent to the degree reading plus 120.
8	CMD	Low Forecast Temperature	The current low temperature forecast from the Master. Level value is equivalent to the degree reading plus 120.

## Weather Duet Module

A weather Duet Module communicates with the AMX i!-Weather internet service to gather the current forecast. The Duet Module retrieves current weather conditions and forecasts from the AMX i!-Weather service and displays the current weather information on the thermostat.

With each thermostat, you receive a certificate for a three-year subscription to the i!-Weather service. While you receive one subscription service per thermostat, you only need to use one subscription per Master, even if you have multiple thermostats connected to the Master.

**NOTE:** *Subscriptions are not stackable. If you are using multiple thermostats on a single Master, you cannot use the subscription on one of the additional thermostats once the subscription on the first thermostat expires.*

Follow these steps to download, install, and configure the Weather Duet Module.

**NOTE:** *If you use static IP addressing for your master, you must supply an address for a DNS server for i!-Weather to be able to contact the AMX weather server.*

1. Open a web browser, and access the InConcert® section on [www.amx.com](http://www.amx.com), located under Partners on the main page.
2. Locate the i!-Weather Duet Module and download the *AMX\_iWeather\_Comm\_dr1\_0\_0.jar* file (FIG. 50).

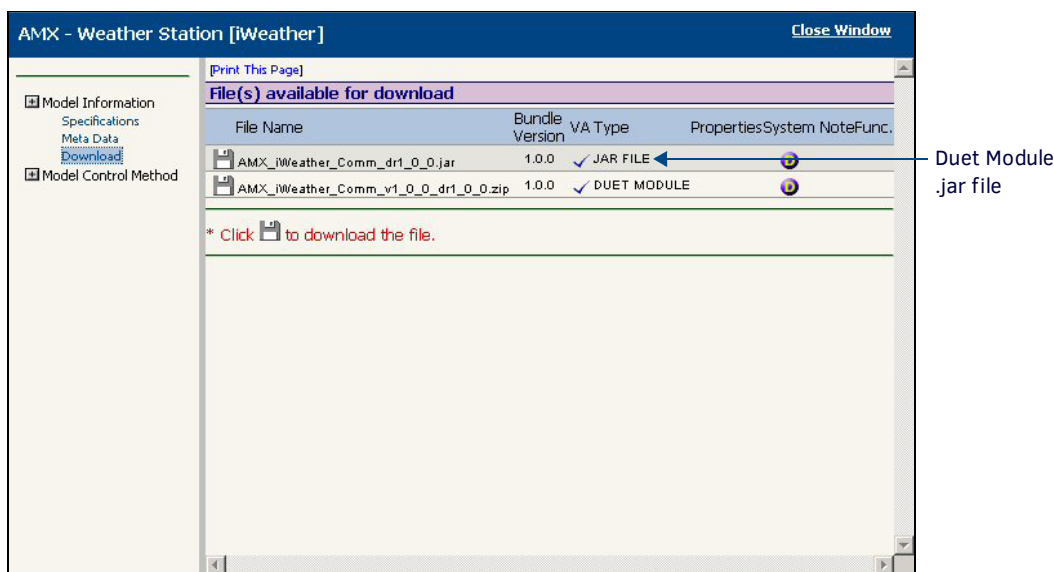


FIG. 50 InConcert window

- Copy the `AMX_iWeather_Comm_dr1_0_0.jar` file into the same project folder as the `AMX_ENV-VST-C_Comm_dr1_0_0.jar` file on the NetLinX Master.
- Add the `AMX_iWeather_Comm_dr1_0_0.jar` file name to the thermostat's project files in the NetLinX Studio Workspace, so it will be downloaded with the thermostat files.
- Define virtual device and real (IP) device numbers for the Weather module, and place a `DEFINE_MODULE` statement for the module into the thermostat's NetLinX program. FIG. 51 displays sample code using the `DEFINE_MODULE` statement. (For more information, consult the *NetLinX Programming Language Reference Guide*.) These statements appear as commented lines in the thermostat's `Main.axs` file.

```
// Define your communications module here:
DEFINE_MODULE 'AMX_ENV-VST-C_Comm_dr1_0_0' comm(vdvHVAC, dvHVAC)
DEFINE_MODULE 'AMX_iWeather_Comm_dr1_0_0' comm(vdvWeather, dvWeather)
// Add this module if you want to display weather on your touch panels:
DEFINE_MODULE 'iWeatherUI' iWeatherUImodule(vdvWEATHER, dvTPArray1)
```

FIG. 51 Define Module code

The Weather module starts, and the thermostat module automatically finds and uses it. No additional NetLinX code is required.

### i!-Weather Setup Pages

The i!-Weather application enables you to retrieve and display current weather with 5-day forecasting from AMX's weather provider on your touch panel.

The Main page (FIG. 52) displays the following current weather content:

- City name for current weather
- Current Heat Index
- Current Temperature
- Current Wind Chill
- Wind Direction
- Current Humidity
- Wind Speed
- Current Dew Point
- Current Conditions
- Current Barometric Pressure

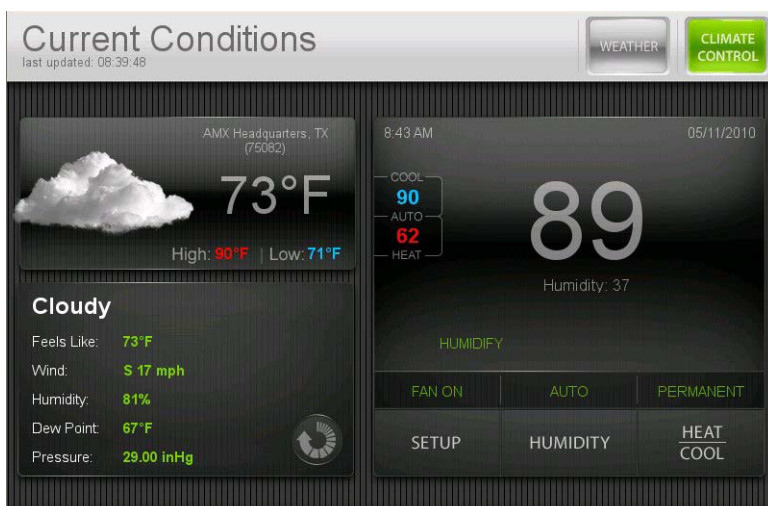


FIG. 52 il-Weather Main page

### Changing the Date and Time

You can adjust the date and time and check the status of your network connection by pressing **Setup** on the Main page.



FIG. 53 Setup screen

To change the date and time:

1. Press **Setup** on the Main screen to access the Setup screen (FIG. 53).
2. Press the **Date/Time** tab. The Set Date & Time pop-up screen appears (FIG. 54).



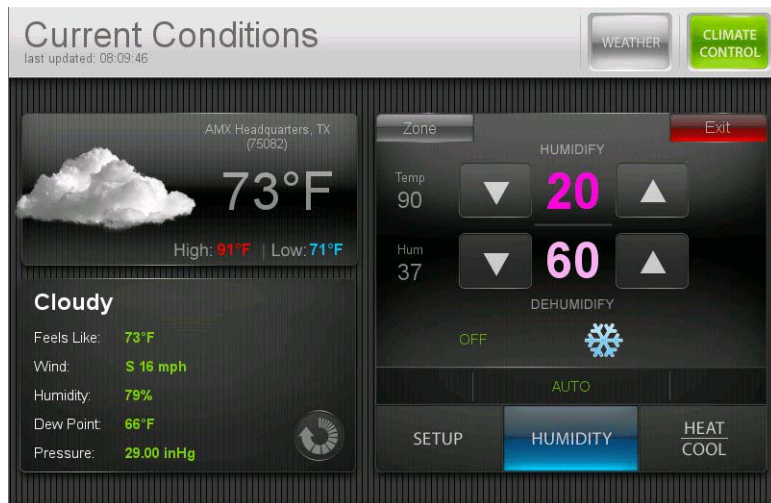
FIG. 54 Set Date & Time pop-up screen

3. Use the buttons that appear to change the date and time.
4. Press **Accept** to return to the Setup screen.



## Changing the Humidity Settings

You can adjust the humidity settings by pressing **Humidity** on the Main page.



**FIG. 55** Humidity screen

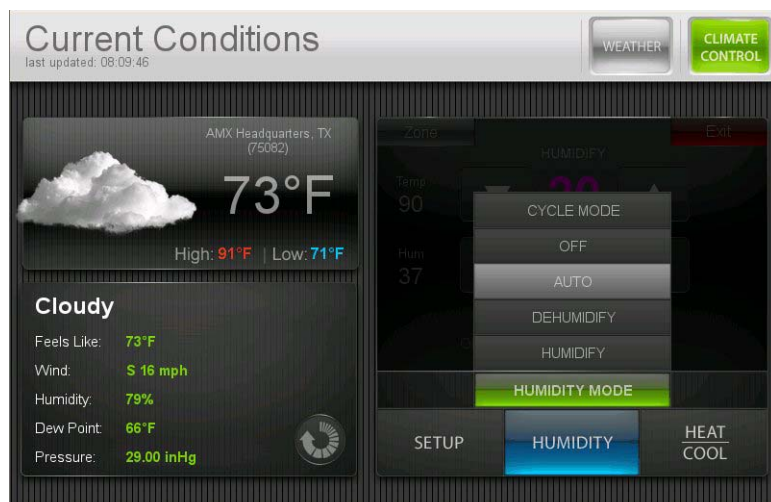
To change the humidity settings:

1. Press **Humidity** on the Main screen to access the Humidity screen (FIG. 55).
2. Use the up-and-down arrows to change the humidify and dehumidify settings.
3. Press **Exit** to return to the Main screen.

## Changing the Humidity Mode

You can change the humidity mode by accessing the Humidity menu from the Humidity screen.

The menu appears directly above the Humidity button and is labelled with the current humidity setting (FIG. 56).



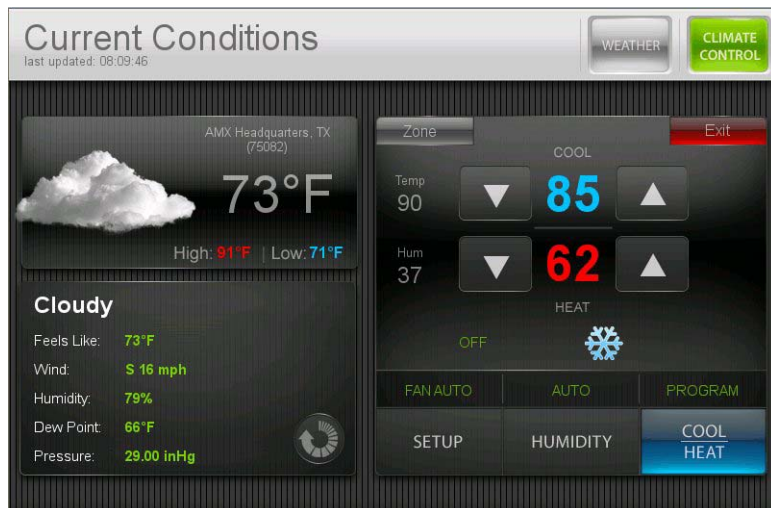
**FIG. 56** Humidity menu

To change the Humidity mode:

1. Press **Humidity** on the Main screen to access the Humidity screen (FIG. 55).
2. Press the current humidity mode to open the Humidity menu.
3. Select the mode you want. The menu closes once you make a selection.

## Changing the Heat and Cool Settings

You can adjust the humidity settings by pressing **Heat|Cool** on the Main page.



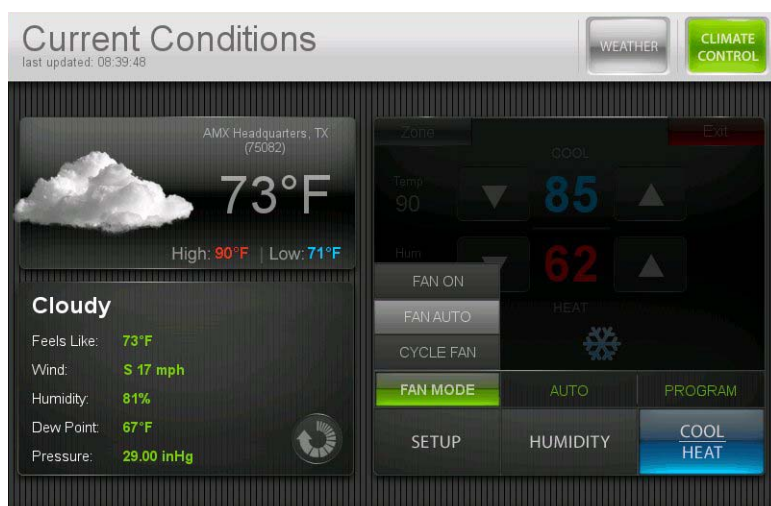
**FIG. 57** Heat|Cool screen

To change the heat and cool settings:

1. Press **Humidity** on the Main screen to access the Humidity screen (FIG. 57).
2. Use the up-and-down arrows to change the cool and heat settings.
3. Press **Exit** to return to the Main screen.

## Changing the Fan Mode

You can change the fan mode by accessing the Fan Mode menu from the Heat|Cool screen. The menu appears directly above the Setup button and is labeled with the current fan mode setting (FIG. 58).



**FIG. 58** Fan Mode menu

To change the Fan mode:

1. Press **Heat|Cool** on the Main screen to access the Heat|Cool screen (FIG. 55).
2. Press the current fan mode to open the Fan Mode menu.
3. Select the mode you want. The menu closes once you make a selection.

## Changing the HVAC Mode

You can change the HVAC mode by accessing the HVAC Mode menu from the Heat|Cool screen. The menu appears directly above the Humidity button and is labeled with the current HVAC Mode setting (FIG. 59).

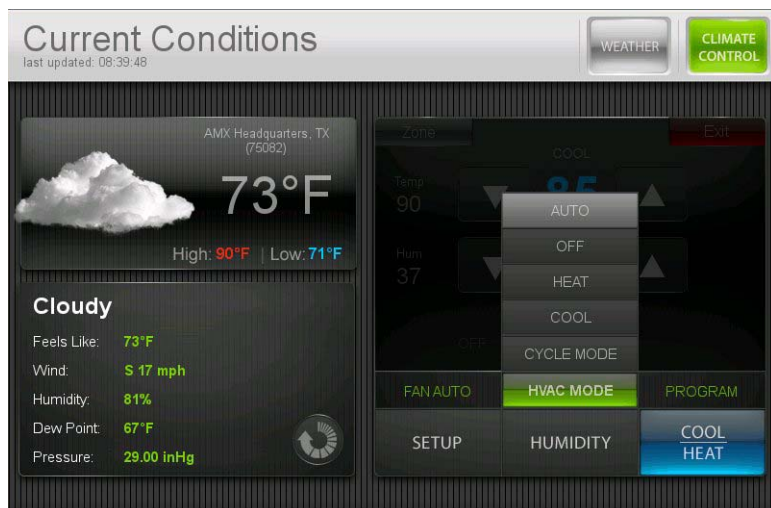


FIG. 59 HVAC Mode menu

To change the Fan mode:

1. Press **Heat|Cool** on the Main screen to access the Heat|Cool screen (FIG. 55).
2. Press the current fan mode to open the HVAC Mode menu.
3. Select the mode you want. The menu closes once you make a selection.

## Changing the Hold Mode

You can change the hold mode by accessing the Hold Mode menu from the Heat|Cool screen. The menu appears directly above the Heat|Cool button and is labeled with the current Hold Mode setting (FIG. 60).

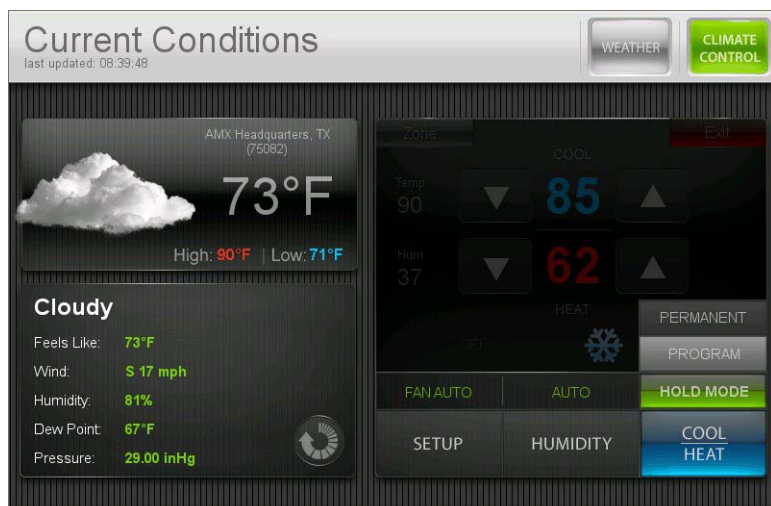


FIG. 60 Hold Mode menu

To change the Hold mode:

1. Press **Heat|Cool** on the Main screen to access the Heat|Cool screen (FIG. 55).
2. Press the current fan mode to open the Hold Mode menu.
3. Select the mode you want. The menu closes once you make a selection.

You can access the Settings screen by pressing **Weather** on the Main page, then pressing the Settings tab.



FIG. 61 Settings screen

### Entering Location by Zip Code

To enter a location by Zip code:

1. Press **Weather** on the Main page to navigate to the Settings screen (FIG. 61).
2. Press **ZIP**. A pop-up screen opens.
3. Enter the 5-digit zip code.
4. Press **Done**.

Pressing Done returns you to the Select Location page and displays the corresponding city at the top of the page.

### Entering Location by Station ID

To enter a location by Station ID:

1. Press **Weather** on the Main page to navigate to the Settings screen (FIG. 61).
2. Press **Station**. A pop-up screen opens.
3. Enter the 4-character Station ID.
4. Press **Done**.

### Changing Temperature Units

The i!-Weather application uses the same temperature units that your thermostat uses. Changing the temperature units in the i!-Weather application does not change the temperature units on the thermostat, it changes the reported temperature scale in the i!-Weather application. To change temperature units:

1. Press **Weather** on the Main page to navigate to the Settings screen (FIG. 61).
2. In the Temperature Units area, press **°F** for Fahrenheit or **°C** for Celsius. Next time a weather refresh occurs the units will be updated.

### Changing Wind Speed Units

To change wind speed units:

1. Press **Weather** on the Main page to navigate to the Settings screen (FIG. 61).
2. In the Wind Units area, press **MPH** (Miles per hour), **KPH** (Kilometers per hour), or **Knots**. Next time a weather refresh occurs the units will be updated.

### Changing Pressure Units

To change pressure units:

1. Press **Weather** on the Main page to navigate to the Settings screen (FIG. 61).
2. In the Pressure Units area, press **inHg** (Inches of Mercury), **mmHg** (Millimeters of Mercury), or **Millibars**. Next time a weather refresh occurs the units will be updated.

### Auto Refresh Interval Select

To select an auto refresh interval:

1. Press **Weather** on the Main page to navigate to the Settings screen (FIG. 61).
2. In the Refresh Interval area, select the desired auto refresh time interval.

**NOTE:** *Auto Refresh refreshes weather data for the current weather location.*

You can access the Wind screen by pressing **Weather** on the Main page, then pressing the Wind tab.



FIG. 62 Wind screen

You can access the 5-Day Forecast screen by pressing **Weather** on the Main page, then pressing the Forecast tab (FIG. 63).



FIG. 63 5-Day Forecast screen



© 2016 Harman. All rights reserved. NetLinx, AMX, AV FOR AN IT WORLD, HARMAN, and their respective logos are registered trademarks of HARMAN. Oracle, Java and any other company or brand name referenced may be trademarks/registered trademarks of their respective companies. AMX does not assume responsibility for errors or omissions. AMX also reserves the right to alter specifications without prior notice at any time. The AMX Warranty and Return Policy and related documents can be viewed/downloaded at [www.amx.com](http://www.amx.com).  
**3000 RESEARCH DRIVE, RICHARDSON, TX 75082 AMX.com | 800.222.0193 | 469.624.8000 | +1.469.624.7400 | fax 469.624.7153**  
**AMX (UK) LTD, AMX by HARMAN - Unit C, Auster Road, Clifton Moor, York, YO30 4GD United Kingdom • +44 1904-343-100 • [www.amx.com/eu/](http://www.amx.com/eu/)**

Last Revised:  
2/03/2016