

# CHV-THSTAT

## Heating/Cooling and Humidity Thermostat

The CHV-THSTAT is a versatile heating and cooling thermostat with integrated humidistat designed for one and two stage control of forced air, radiant, and heat pump HVAC systems. Although functional as a standalone thermostat, the CHV-THSTAT delivers greatly enhanced functionality as part of a complete Crestron Home® automation system. Available in white, black, or almond, the stylish wall mount design is a complement to any décor.

The large backlit LCD display, navigable using four simple pushbuttons, provides easy access to indoor and outdoor temperature and humidity readings, setpoint adjustments, system mode and fan status indicators, and setup menus. Climate control features include separate heating, cooling, and humidity setpoints with optional automatic changeover between heating and cooling modes. Adjustable anticipators prevent overshooting the set temperature, and continuous fan operation can be selected when needed for increased circulation.

Multiple Crestron thermostats may be networked via Cresnet to a PAC2, PAC2M, or other 2-Series control system, enabling global temperature and humidity adjustment from any thermostat. Automation functions such as lighting, motorized blinds, or lawn sprinklers can be accessed through two custom remote function pages, and customized text messages can be sent to the LCD display to provide maintenance reminders and other alerts.

Its connection to the control system also enables full control and scheduling of the CHV-THSTAT from touchpanels and computers throughout the home, and supports extensive flexibility for integration with other devices and systems. In the event that communication with the control system is disrupted for any reason, the CHV-THSTAT will remain operable to control the HVAC system.

Optional remote temperature and humidity sensors can be connected to the CHV-THSTAT for enhanced flexibility and optimized performance. Climate can be regulated according to an average of multiple sensors, or the built-in sensors can be disabled entirely to allow the CHV-THSTAT to be installed out of view. Outdoor climate can also be monitored, enabling outdoor low-temperature compensation to prevent condensation on windows during cold weather. The CHV-THSTAT accepts up to four remote temperature sensors, two remote temp/humidity sensors, or a combination of one temp/humidity and two temperature sensors.

### SPECIFICATIONS

#### Measurement Range

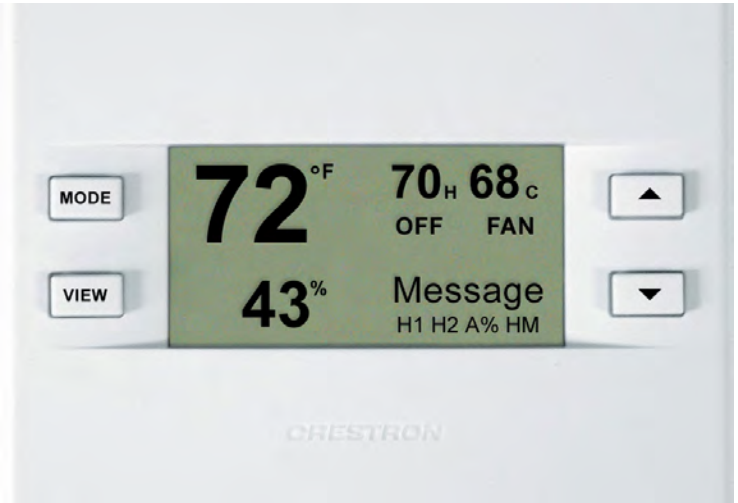
Indoor Temperature: 0° to 110°F (-18° to 43°C)  
Outdoor Temperature: -40° to 170° F (-40° to 77° C)\*  
Humidity: 0% to 100% RH

#### Temperature Tolerance

Over Full Range: ±1°F (±0.5°C)  
At Room Temperatures: ±1°F (+0.1/-0.4°C)

#### Humidity Tolerance

±5%



#### Setpoint Range

Auto Setpoint: 38° to 99°F (3° to 37°C)  
Heat only Setpoint: 38° to 89°F (3° to 32°C)  
Cool only Setpoint: 59° to 99°F (15° to 37°C)  
Humidity Setpoint: 5% to 70% RH

#### Relay Rating

1 Amp @ 40 Volts DC or 24 Volts AC (nominal)

#### Power Requirements

24V: 2 Watts (0.083 Amps) @ 24 Volts AC, supplied by heating or cooling system  
Cresnet Power Usage: <1 Watts (<0.05 Amps @ 24 Volts DC), required for Cresnet communication only

#### Buttons

**MODE:** Accesses user controls - system mode, fan mode, humidifier, Crestron system, and global update  
**VIEW:** Accesses humidity reading, outdoor temperature reading\*, system messages, and remote functions  
**UP:** Selects user modes and increments selection in setup modes  
**DOWN:** Selects user modes and decrements selection in setup modes

#### Display

**Type:** Transflective LCD, backlit  
**Size:** 2.75 in (6.99 cm)  
**Resolution:** 128 x 64  
**Viewing Angle:** ±50° horizontal (@0° vertical), ±50° vertical (@0° horizontal)  
Displays current indoor temperature and relative humidity, outdoor temperature and relative humidity\*, setpoints, activity, function, Cresnet system information, internal relay status, setup menus, and control system messages.

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## Connectors

**HVAC:** (2) 9-position terminal blocks comprising the following:

Power Connections (Required):

**24 (C):** 24 VAC common terminal supplies remote 24 VAC power to thermostat;

**24 (R):** 24 VAC reference terminal - Can be connected to RH or RC by P4 jumper setting, or tied directly to power source

HVAC Control Connections (System Dependent):

**HUM:** Energized to RHU during humidity call;

**RHU:** Reference for humidifier;

**RH:** Reference Heat – Used for calls to heating system;

**RC:** Reference Cool – Used for calls to cooling system;

**G:** Fan – Energized to RC during call for fan;

**YY1:** Compressor (stage one) – Energized to RC when compressor (or first stage) is run;

**Y2:** Compressor (stage two) – Energized to RC on two-stage systems on call for second stage;

**O:** Changeover control – Energized to RC during cooling modes;

**B:** Energized to RC during non-cooling modes;

**W/W1:** Heat (single stage)/heat (stage one) – Energized to RH during a call for heat in heat/cool systems or aux heat in heat pump systems;

**W2:** Heat (stage two) - Energized to RH during a call for second stage heat in heat/cool systems

Remote Sensing Connections (Optional):

**RSR:** Remote Sensor Returns – Common sensor terminal;

**RS1:** Remote Sensor terminal – Connect the sensor from RS1 to RSR;

**RS2:** Remote Sensor terminal - Connect the sensor from RS2 to RSR

**NETWORK:** (1) 4-position terminal block;

Cresnet slave port, connects to Cresnet control network

## Enclosure

Injection-molded plastic, surface-mountable to the front of a horizontally oriented 1-gang electrical box

## Dimensions

**Height:** 3.75 in (9.50 cm)

**Width:** 5.00 in (12.70 cm)

**Depth:** 1.04 in (2.63 cm)

## Weight

5.80 oz (165 g)

*\* Outdoor temperature/humidity sensing requires additional remote sensors, sold separately.*

## Available Models

**CHV-THSTATA:** Heating, Cooling and Relative Humidity Thermostat, Almond Faceplate

**CHV-THSTATB:** Heating, Cooling and Relative Humidity Thermostat, Black Faceplate

**CHV-THSTATW:** Heating, Cooling and Relative Humidity Thermostat, White Faceplate

## Available Accessories

**CHV-RSS:** Remote Slab Sensor and Outdoor Temperature Sensor

**CHV-RTHS:** Remote Temperature and Humidity Sensor

**CHV-RTS:** Remote Temperature Sensor

**CRESNET-HP-NP-TL-SP1000:** Cresnet® "High-Power" Control Cable, non-plenum, teal, 1000 ft spool

**CRESNET-HP-NP-TL-SP500:** Cresnet® "High-Power" Control Cable, non-plenum, teal, 500 ft spool

**CRESNET-NP-BK-B500:** Cresnet® Control Cable, non-plenum, black, 500 ft box

**CRESNET-NP-OR-B500:** Cresnet® Control Cable, non-plenum, orange, 500 ft box

**CRESNET-NP-TL-B250:** Cresnet® Control Cable, non-plenum, teal, 250 ft

**CRESNET-NP-TL-SP1000:** Cresnet® Control Cable, non-plenum, teal, 1000 ft spool

**CRESNET-NP-TL-SP500:** Cresnet® Control Cable, non-plenum, teal, 500 ft spool

**CRESNET-NP-YL-B500:** Cresnet® Control Cable, non-plenum, yellow, 500 ft box

**CRESNET-P-BK-SP500:** Cresnet® Control Cable, plenum, black, 500 ft spool

**CRESNET-P-OR-SP500:** Cresnet® Control Cable, plenum, orange, 500 ft

spool

**CRESNET-P-TL-SP1000:** Cresnet® Control Cable, plenum, teal, 1000 ft spool

**CRESNET-P-TL-SP500:** Cresnet® Control Cable, plenum, teal, 500 ft spool

**CRESNET-P-YL-SP500:** Cresnet® Control Cable, plenum, yellow, 500 ft spool