



DIN-1TSTAT8  
8-Zone Radiant Heat Thermostat, DIN Rail  
Mount

Product Manual  
Crestron Electronics, Inc.

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**Regulatory Model:** DIN-1TSTAT8

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# Overview

The DIN-1TSTAT8 is an 8-zone thermostat designed for use with radiant heating systems. Customized control and scheduling is also possible. The use of remote temperature sensors eliminates the need for a separate thermostat on the wall in each zone.

The DIN-1TSTAT8 is for heat-only applications using radiators or radiant floor heating. It controls the heating valve for each zone via eight SPDT relay control outputs (one per zone). A ninth main valve control output is also provided. Each relay includes normally open and normally closed contacts, and is rated for 1/2 HP at 240VAC, 50/60 Hz.

A Crestron® control system connection allows temperature adjustments on each zone from virtually anywhere by using a Crestron [touch screen](#), [handheld remote](#), [mobile app](#), or [computer](#).

The DIN-1TSTAT8 requires a Crestron control system to function. The heating setpoints for each zone are set by the user through the control system and then stored in memory on the DIN-1TSTAT8. In the event a user setpoint is lost, a failsafe operating mode takes over to keep the space heated at a preset temperature until the user setpoint is restored from the control system.

**NOTE:** A complete system requires custom commissioning by a Crestron authorized installer and programmer. Contact your [Crestron representative](#) for more information

# Specifications

## Contact Rating

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1/2 HP @ 240VAC, 50/60 Hz per zone/channel;

Provides eight SPDT heat zone valve control outputs and one SPDT main valve control output

## Temperature Sensing

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<b>Measurement Range</b>	0° to 43°C (32° to 110°F)
<b>Temperature Tolerance</b>	±0.5°C (±1°F) over full range; +0.1°/-0.4°C (±1°F) at room temperature
<b>Setpoint Range (Heat Only)</b>	3° to 32°C (38° to 90°F)
<b>Temperature Offset</b>	±3°C (±6°F); in steps of 0.1° per temperature sensor input
<b>Failsafe Setpoint</b>	20°C (68°F) factory default setting, user-adjustable from 5° to 20°C (41° to 68°F); the failsafe setpoint is used at install time prior to connection of a control system, and during runtime if the normal setpoint stored in memory gets corrupted; reverts to the normal setpoint once a value is received from the control system
<b>Main Valve Delay</b>	5 minutes factory setting, adjustable from 0 to 5 minutes

## Communications

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<b>Cresnet®</b>	Cresnet secondary mode
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## Connections

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<b>1 - 8</b>	(8 sets of 3) Captive screw terminals; Comprises (8) zone valve control outputs with isolated common (C), normally closed (NC), and normally open (NO) terminals; Each output provides one SPDT relay rated 1/2 HP @ 240VAC, 50/60 Hz
<b>MAIN</b>	(3) Captive screw terminals; Main valve control output with isolated common (C), normally closed (NC), and normally open (NO) terminals; Provides one SPDT relay rated 1/2 HP @ 240VAC, 50/60 Hz
<b>NET</b>	(2) 4-pin detachable terminal blocks; Cresnet secondary port with hardwire parallel pass-through

<b>TEMP SENSE</b>	(8) 2-pin detachable terminal blocks;
<b>1 – 8</b>	Temperature sensor inputs for zones 1 - 8; Each input accepts one sensor, model <a href="#">CHVI-RTS-1G-SM-W</a> , <a href="#">CHVI-RTS-1G-N-W</a> , <a href="#">CHV-RTS</a> , or <a href="#">CHV-RSS</a> (sold separately); Requires a dedicated low-capacitance twisted pair wire per zone (<7 nF per run); Supports wire lengths of 76 m (250 ft) using CAT3 or 152 m (500 ft) using CAT5; Thermostat wire is not recommended, but may be used if necessary at lengths up to 30 m (100 ft);

### Controls and Indicators

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<b>1 – 8</b>	(8) Red LEDs and (8) pushbuttons, each button toggles the corresponding zone output on and off (press and hold 10 seconds for test call), each LED indicates the corresponding zone output is on (flashes with heat call, steady without heat call)
<b>MAIN</b>	(1) Red LED and (1) pushbutton, button toggles the main output on and off when held 10 seconds, LED indicates the main output is on (flashes with heat call, steady without heat call)
<b>SETUP</b>	(1) Recessed pushbutton and (1) red LED for Cresnet TSID (touch-settable ID)
<b>PWR</b>	(1) Green LED, indicates device is powered via Cresnet
<b>NET</b>	(1) Yellow LED, indicates Cresnet communication with the control system
<b>RESET</b>	(1) Recessed pushbutton for hardware reset

### Power

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<b>Cresnet Power Usage</b>	6 W (250 mA @ 24VDC)
<b>Power Consumption</b>	<6 W

### Environmental

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<b>Temperature</b>	-18° to 43°C (0° to 110°F)
<b>Humidity</b>	10% to 90% RH (noncondensing)
<b>Heat Dissipation</b>	20 BTU/hr maximum

*For indoor use only*

### Construction

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<b>Housing</b>	Light gray polycarbonate housing with polycarbonate label overlay, UL94 V-0 rated
<b>Mounting</b>	35 mm DIN EN 60715 rail mount, DIN 43880 form factor for enclosures with 45 mm front panel cutout, occupies 9 DIN module spaces (162 mm)

### Dimensions

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<b>Height</b>	94 mm (3.68 in.)
<b>Width</b>	161 mm (6.33 in.)
<b>Depth</b>	60 mm (2.34 in.)

## Weight

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0.5 kg (1.08 lb)

## Compliance

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### **Regulatory Model: DIN-1TSTAT8**

CE, IC, FCC Part 15 Class B digital device

To search for product certificates, refer to [support.crestron.com/app/certificates](https://support.crestron.com/app/certificates).





# Installation

This section provides the following information:

- [Install the DIN-1TSTAT8](#)
- [Wire the DIN-1TSTAT8](#)
- [Verify System Operation](#)

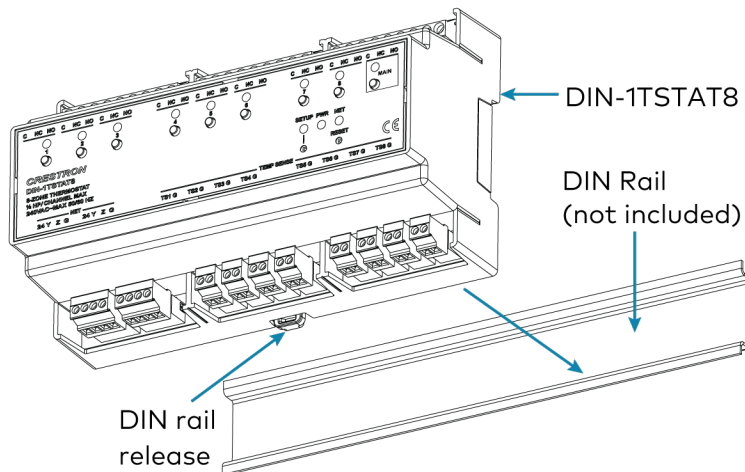
# Install the DIN-1TSTAT8

**NOTE:** Observe the following points when installing the DIN-1TSTAT8.

- Use the DIN-1TSTAT8 in an electrical panel with DIN rail mounting provisions.
- Mount the DIN-1TSTAT8 in a well-ventilated area.
- Do not block venting holes.
- Certain third-party DIN cabinets provide space for an informational label between each DIN rail row. Crestron's [Engraver software](#) (version 4.0 or later) can generate appropriate labels for all Crestron DIN rail products.

## Mount the DIN-1TSTAT8 to the DIN rail

1. Hang the DIN-1TSTAT8 on the top of the DIN rail.
2. Press the bottom toward the DIN rail and snap it into place.



## Remove the DIN-1TSTAT8 from the DIN rail

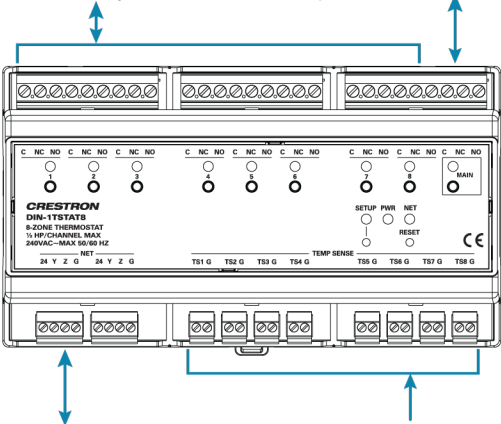
1. Turn off power to the thermostat and the heating system.
2. Remove all connections from the DIN-1TSTAT8.
3. Use a small, flat-head screwdriver to pull the DIN rail release tab down.
4. Tilt the bottom of the DIN-1TSTAT8 away from the bottom of the DIN rail and then remove the thermostat.

# Wire the DIN-1TSTAT8

Make the following connections to the thermostat.

1-8: C (common), NC (normally closed), and NO (normally open) to relays 1-8

MAIN: C (common), NC (normally closed), and NO (normally open) to the main valve



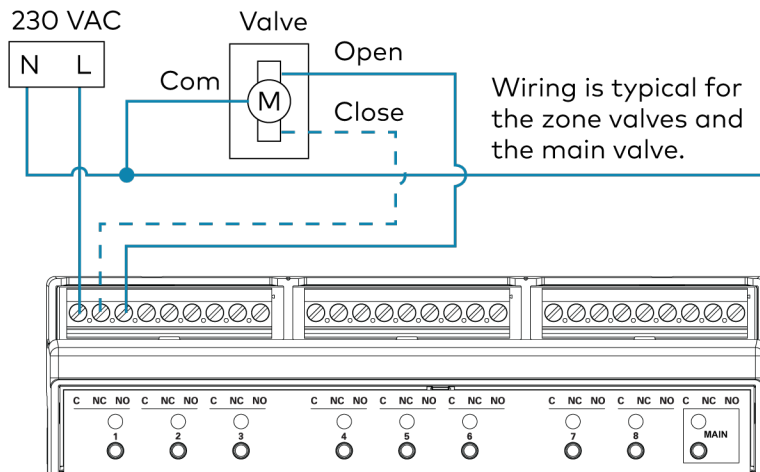
NET: Cresnet control from a control system and to daisy-chained Cresnet device

TEMP SENSE: Temperature sensor (TS) input from remote temperature sensors

## Zone Valve and Main Valve connections (1-8, MAIN)

1. Wire the eight zone valves to the 1-8 terminals on the thermostat. Connect one zone valve per heat zone. Each zone valve must have a corresponding temperature sensor connected.
2. Wire the main control valve to the **MAIN** terminal on the thermostat. Do not connect a zone valve to the **MAIN** port.
  - For 2-wire, normally open valves, connect the **NO** terminal on the thermostat to the **OPEN** terminal on the valve.
  - For 3-wire valves, connect the **NO** terminal on the thermostat to the **OPEN** terminal on the valve and then connect the **NC** terminal on the thermostat to the **CLOSE** terminal on the valve.

For zone valve specifications and wiring, refer to the documentation provided by the valve manufacturer.



## Temperature Sensor Connections (TEMP SENSE)

Wire the eight temperature sensors to the **TEMP SENSE** terminals. Connecting a temperature sensor input enables the use of the corresponding zone valve. Connect one temperature sensor per heat zone. Crestron recommends using CAT3 (up to 76 m (250 ft)) or CAT5 (up to 152 m (500 ft)) network cable. If other wire is used, the total capacitance must be less than 7,000 pF (up to 152 m (500 ft)).

### NOTES:

- When wiring the temperature sensors:
  - Use a separate run of wire for each sensor. If using multi-conductor cable, use only one pair per cable.
  - Do not run temperature sensor lines parallel to any other wiring. Cross cables at right angles.
  - In situations where ordinary two-conductor thermostat wire (18 to 20 gauge) has been installed, it may be used for runs up to 30 m (100 ft). This is not a preferred method of installation.
- The DIN-1TSTAT8 works with the following Crestron temperature sensors:
  - [CHVI-RTS-1G-SM-W](#)
  - [CHVI-RTS-1G-N-W](#)
  - [CHV-RTS](#)
  - [CHV-RSS](#).

## Cresnet Connections (NET)

Wire the Crestron control system, and other daisy-chained Cresnet devices, to the **NET** terminals on the thermostat.

# Verify System Operation

After the thermostat is installed and programmed, enter Test mode to verify that each heating zone is operating correctly. During Test mode, the thermostat performs a heat call on that zone.

To test the zone valve:

**NOTE:** To exit Test mode, press and hold the desired zone button for 10 seconds.

1. Press and hold the 1-8 button for 10 seconds to enter Test mode on the associated zone.
2. Verify that the zone valve operates as expected. The DIN-1TSTAT8 performs a 5-minute heat call on that zone. If the valve is programmed to have a time delay, the delay is initiated and added to the test call for heat. The zone LED flashes for the duration of Test mode. The zone valve, main valve, and DIN-1TSTAT8 return to their previous states when Test mode has been completed

## NOTES:

- The time delay is set per the manufacturers specifications.
- The run-time for Test mode is determined by the time of the delay plus the 5-minute heat call. Test mode can take up to 10 minutes to complete.

# Operation

## Bootup

The DIN-1TSTAT8 turns off all heat zones before starting up.

## Main Valve Delay

When a heat call is made, a delay from 0 to 5 minutes can be set. The default delay is 5 minutes. For information regarding the main valve delay, refer to the documentation provided by the valve manufacturer.

## 1-8 Buttons and LEDs

Press the 1-8 buttons to switch the heat zone on and off.

The 1-8 LED:

- Flashes during a heat call.
- Lights when the heat is enabled, but there is no call for heat.
- Extinguishes when heat is disabled.

## MAIN Button and LED

Press and hold the **MAIN** button for 10 seconds to switch the main valve on and off.

The **MAIN** LED:

- Flashes during a heat call for one or more zone valves.
- Lights when heat is on for one or more zone valves.
- Extinguishes when all zone valves are off.

## Temperature Sensors

The temperature sensors operate as follows:

- The temperature sensor reads the temperature of the room once per second.
- If a temperature sensor is not connected, the corresponding zone valve turns off and stays off until a temperature sensor is connected.
- If a temperature sensor does not send a valid value, or does not function for 10 minutes, the corresponding zone valve turns off and stays off.



## Failsafe Mode

Failsafe mode ensures that an appropriate heat level is maintained in each zone if the stored setpoint becomes corrupt or if no control system is connected. When the thermostat enters Failsafe mode, the temperature setpoint for all zones is set to the failsafe setpoint.

Establish the failsafe setpoint in the control system program. The failsafe setpoint can range from 5 °C (41 °F) to 20 °C (68 °F); the default failsafe setpoint is 20 °C (68 °F). Temperate zones can use a lower failsafe setpoint and cold climates may use a higher value.

The thermostat exits Failsafe mode after it reestablishes communication with the control system or if the stored setpoint is restored. The thermostat resumes normal operation according to its last known state.

# Troubleshooting

The following table provides corrective action for possible trouble situations. If further assistance is required, please contact [Crestron True Blue Support](#).

Trouble	Possible Cause(s)	Corrective Action
The thermostat is not receiving a signal.	There is an improper connection between the sensor and the thermostat.	Check the connection between the sensor and thermostat.
	An incomplete (open) circuit exists in wiring.	Check the connection between the sensor and thermostat.

# Resources

The following resources are provided for the DIN-1TSTAT8.

**NOTE:** You may need to provide your Crestron.com web account credentials when prompted to access some of the following resources.

## Crestron Support and Training

- [Crestron True Blue Support](#)
- [Crestron Resource Library](#)
- [Crestron Online Help \(OLH\)](#)
- [Crestron Training Institute \(CTI\) Portal](#)

## Programmer and Developer Resources

- [help.crestron.com](http://help.crestron.com): Provides help files for Crestron programming tools such as SIMPL, SIMPL#, and Crestron Toolbox™ software
- [developer.crestron.com](http://developer.crestron.com): Provides developer documentation for Crestron APIs, SDKs, and other development tools

## Product Certificates

To search for product certificates, refer to [support.crestron.com/app/certificates](http://support.crestron.com/app/certificates).

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