CTH291 Modulating 0-10 Vdc / 2-10 Vdc, Single Output LCD Electronic Room Thermostat 24 Vac

Description

Single output modulating proportional plus integral (P+I) 0/2-10 Vdc electronic room thermostat with digital display and set point adjustment. Large temperature range -15˚-55˚C or 5 -130˚F makes it versatile for many applications. It is suitable for controlling heating or cooling modulating devices to accurately maintain the room temperature with its P+I control loop. External summer/winter changeover thermostat or a wire jumper can be connected to the room thermostat terminals 2 & 3 to select heating or cooling mode. Economy mode can be implemented by grounding terminal number 4 - hand icon will be displayed. Pressing the hand button for 2 seconds will override to regular mode for a 2 hour period. This thermostat be used with internal sensor for room control applications or with external 10K NTC3 sensor for discharge or return air-duct control applications.

Quality, affordable electronic room thermostat with digital display from Thermolec.

Specifications

Operating voltage: 24Vac, 50/60Hz, +/- 20%
Power consumption: Maximum 3Va
Control output: 0-10VDC / 2-10VDC, 5mA
Sensing Element: 10K NTC Thermistor internal or external
Optional Remote Sensor: Use 10KΩ Type 3 NTC thermistor in terminals 7 & 8. Contact Thermolec for many other types of sensors.
Connection terminals: Use solid wire 22 AWG to 14 AWG
Digital Display: Temperature and set point in ˚C or ˚F, heating, cooling or economy mode symbols
Controllable Temp. range: 5-130°F in 1°F; -15-55°C in 0.5°C resolution
Measurable Temp. range: -4-140°F in 1°F; -20-60°C in 0.5°C resolution
Operating temperature: 32-122 °F or 0-50 °C, < 95% RH
Housing cover/base color: Cover white, base grey
Wall mounting plate: Color white, mounting holes for European and North American standards, fits 2 x 4 electric box
Shipping weight: 0.5Lbs (0.225 Kg)
Agency approval: Conforms to CE/ROHS requirements Class 2 as per UL/CSA

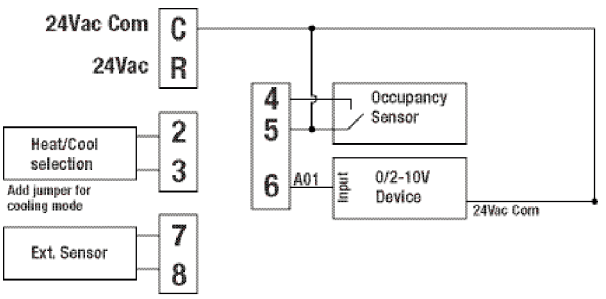
DIP switches

Internal DIP switches selects the following features

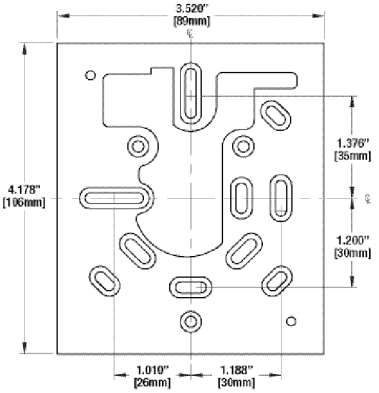
Pole	OFF	ON
1	˚C	˚F
2	RA for NC device	DA for NO device
3	Internal sensor	External sensor
4	0-10V	2-10V
5	Limited set-point range	Full set-point range
6	Room application	Duct application
7	Spare	Spare

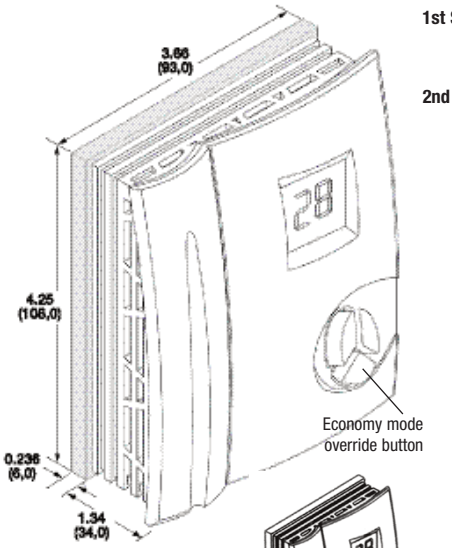
N.B. Repower the thermostat for any changes to the DIP switch settings to take effect.

Wiring Diagram



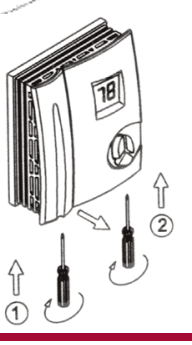
Mounting Dimensions





CTH291 Cover Removal Instructions
To remove the cover simply remove the screws at the bottom of the unit with a screwdriver (1 and 2). The cover then is removed by pulling it out and then up.

Installation: Thermostats can be installed on a standard 20-20 2X4 electric box, or directly on the flat wall surface, and away from the heat source.
Do not expose to water.



To Set Up D.A. /R.A. Action:

1st Step Set up Heating Mode (no jumper) or Cooling Mode (with jumper) on terminal 2-3

2nd Step When set in Heating Mode (no jumper 2-3) and the Switch #2 is in the ON Position, if the set point is higher than the room temperature (call for heat), the output is 0Vdc

When set in Cooling Mode (jumper on 2-3) and the Switch #2 is in the ON Position, if the set point is higher than room temperature (cooling not required), the output is 10Vdc.

Changing the Set Point

To change set point use the increase or decrease keys. LCD display will illuminate after pressing hand key.

When the thermostat is in heating mode a sun will appear in the display. It will flash when there is a demand for heat.

When the thermostat is in cooling mode a snow flake will appear in the display. It will flash when there is a demand for cooling.

Selectable by jumper on terminal 2 and 3

On Power Failure
The set-point will remain in the memory.

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