TE150 Modulating 0/2-10 Vdc,
Dual Output LCD Electronic Room Thermostat 24 Vac

Description

Dual output modulating proportional plus integral (P+I) 0/2-10Vdc electronic room thermostat with digital display and set point adjustment. It is suitable for controlling one heating and one cooling, two heating, or two cooling modulating valves 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.

Specifications

Operating voltage:	24Vac, 50/60Hz, +/- 20%
Power consumption:	Maximum 3Va
Control output:	0/2-10VDC, 5mA
Sensing Element:	10K NTC Thermistor internal or external
Optional Remote Sensor:	Use 10KΩ Type 3 NTC thermistor in terminals 7 & 8. Contact Spartan 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
Full Set point range:	40-95°F in 1°F; 5-35°C in 0.5°C resolution
Limited Set point range:	65-75°F in 1°F; 18-24°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

Quality, affordable electronic room thermostat with digital display from Spartan
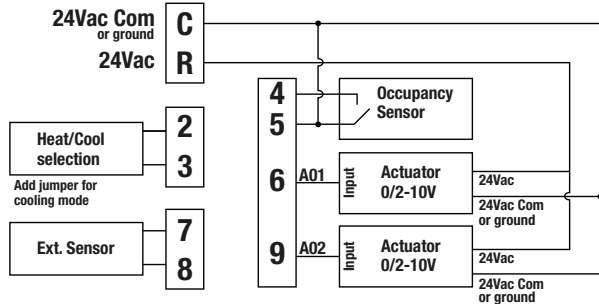
DIP switches

Internal DIP switches selects the following features

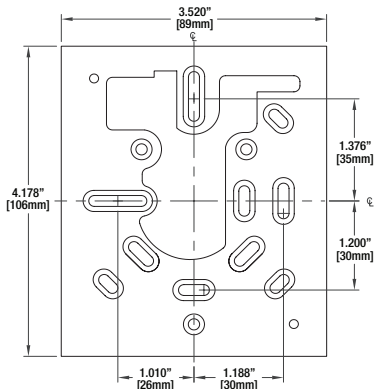| Pole	OFF	ON
1	˚C Scale	˚F Scale
2	EU for RA actuator	US for DA actuator
3	Internal sensor	External sensor
4	0-10Vdc	2-10Vdc
5	Limited set-point range	Full set-point range
6	*Single output A01	Dual output A01, A02
7	Two heating or two cooling outputs	One heating, one cooling output

*N.B. If only single output (A01) is used, DIP switch 6 & 7 <u>must</u> be in off position. Repower the thermostat for any changes to the DIP switch settings to take effect.

Wiring Diagram

- 24Vac Com or ground — **C**
- 24Vac — **R**
- Heat/Cool selection — **2**, **3** — *Add jumper for cooling mode*
- Ext. Sensor — **7**, **8**
- **4**, **5** — Occupancy Sensor
- **6** A01 Input — Actuator 0/2-10V — 24Vac / 24Vac Com or ground
- **9** A02 Input — Actuator 0/2-10V — 24Vac / 24Vac Com or ground

Mounting Dimensions

3.520" [89mm]
4.178" [106mm]
1.376" [35mm]
1.200" [30mm]
1.010" [26mm]
1.188" [30mm]

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 will decrease.

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 will increase.

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 thermometer 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.

3.66 (93,0)
4.25 (108,0)
0.236 (6,0)
1.34 (34,0)
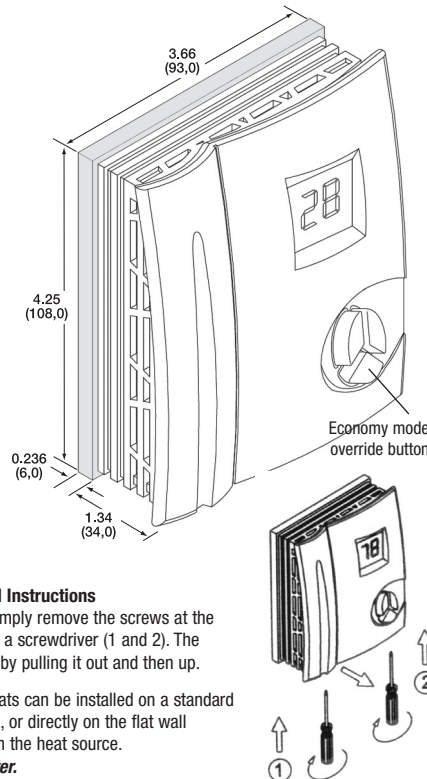
Economy mode override button

TE150 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.*

Spartan Peripheral Devices telephone: (450) 424-6067 • fax: (450) 424-6071 • email: info@spartan-pd.com • website: **www.spartan-pd.com**

TE150Thermostat
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