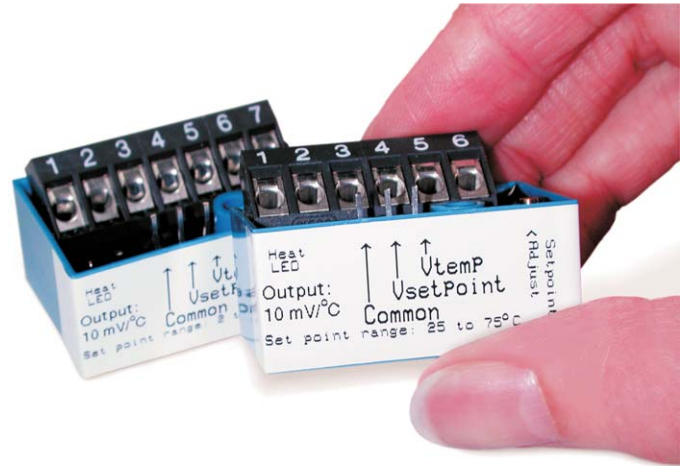


CT325 Miniature DC Controller

- ◆ Simple setup with voltage output pins for process and setpoint temperatures
- ◆ Tight control with $\pm 0.5^{\circ}\text{C}$ (1°F) deadband!
- ◆ Miniature package $1 \times 1 \times 1.5"$ ($25 \times 25 \times 37$ mm)
- ◆ Solid state on/off control with adjustable setpoint
- ◆ Uses standard 100Ω or 1000Ω platinum RTD or $50 \text{ k}\Omega$ thermistor sensor input
- ◆ Single DC power source provides power to the controller and heater up to 240 watts
- ◆ 3-wire RTD connection cancels lead resistance



The CT325 Miniature DC Temperature Controller is designed for use with Minco Thermofoil™ heaters and RTD or thermistor sensors. It offers inexpensive on/off temperature control of your process or equipment with accuracy many times better than bimetal thermostats.

Simply adjust the setpoint by connecting a standard voltmeter to the setpoint terminal and monitoring the 0.010 volt/ $^{\circ}\text{C}$ output while adjusting the trim potentiometer. A second test point shows the actual temperature.

Operating from your 4.75 to 60 volt DC power supply, the controller can switch up to 4 amps power to the heater. A bright LED indicates when power is applied to the heater.

The entire unit is epoxy filled for moisture resistance, with a through-hole for a mounting bolt. A terminal block provides the power input, sensor input and heater output connections.

Specifications

Input: 100Ω or 1000Ω platinum RTD, $0.00385 \Omega/\Omega/^{\circ}\text{C}$, 2 or 3-leads, or $50 \text{ k}\Omega$ NTC thermistor, 2-lead.

Setpoint range:

2 to 100°C (36 to 212°F) for platinum RTD input.
 2 to 200°C (36 to 392°F) for platinum RTD input.
 25 to 75°C (77 to 167°F) for thermistor input.
 Consult factory for other ranges.

Setpoint stability: 0.02% of span/ $^{\circ}\text{C}$.

Vtemp signal: $0.010 \text{ V}/^{\circ}\text{C}$ over specified range.

Platinum RTD sensor		Thermistor sensor	
2°C	0.02 V	25°C	0.25 V
50°C	0.50 V	50°C	0.50 V
100°C	1.00 V	75°C	0.75 V
200°C	2.00 V		

Accuracy: $\pm 1\%$ of full scale $\pm 2\%$ of full scale
 Linearity: 0.1% of span 2% of span

Deadband: 0.5°C .

Input power: 4.75 to 60 VDC .

Output: Open drain, 4 amps max. DC.

Leadwire compensation (3-wire RTD):

$\pm 0.06^{\circ}\text{C}/\Omega$ for 100Ω or 1000Ω platinum up to 25Ω per leg.

Fault protection: Heater disabled on RTD short or thermistor open. No heater protection; external fuse recommended.

Operating ambient temperature range:

-40 to 70°C (-40 to 158°F).

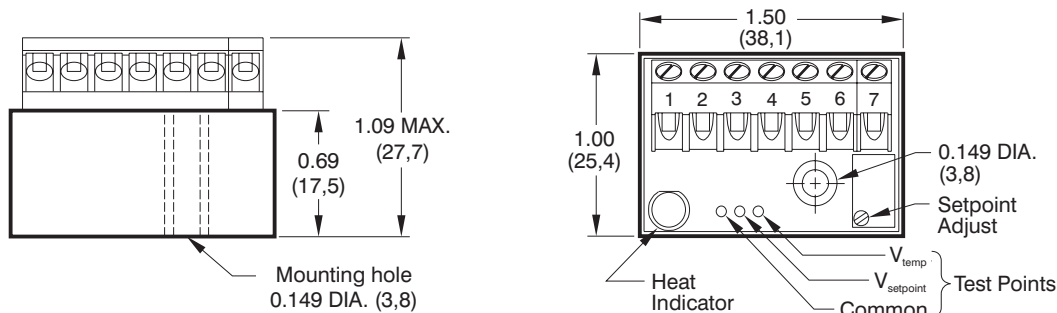
Relative humidity: 0 to 95% non-condensing.

Physical: Polycarbonate case, epoxy sealed. 1 oz. (28g).

Connections: Terminal block for wires AWG 22 to AWG 14.

Mounting: Mounting hole for #6 screw through or #8 thread forming screw.

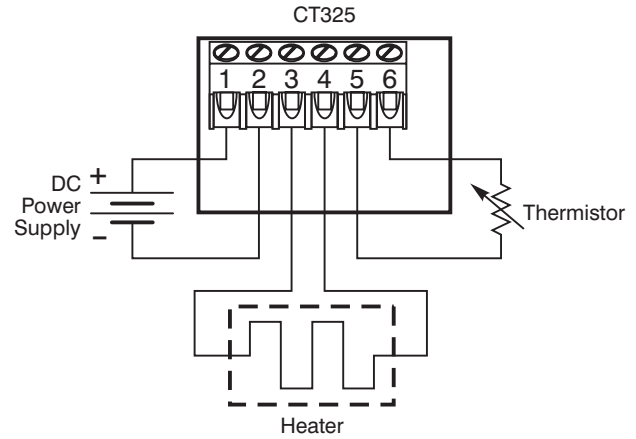
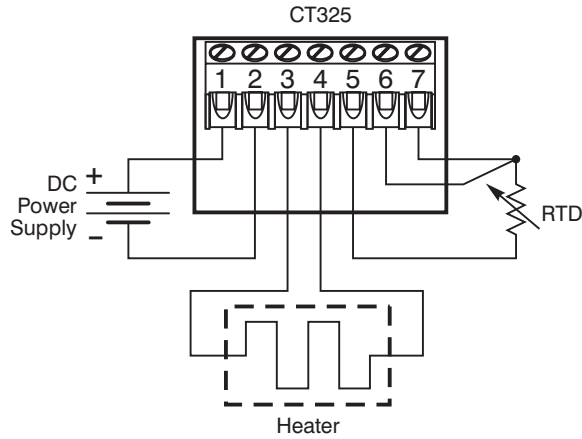
Dimensions



Dimensions are in inches (mm)

CT325 Miniature DC Controller

Wiring diagrams



How to order

CT325	Model number: CT325
PD	Sensor type: PD = 100 Ω platinum RTD PF = 1000 Ω platinum RTD TF = 50 kΩ thermistor
1	Power supply: 1 = 4.75 to 10 VDC 2 = 7.5 to 60 VDC
B	Temperature range: A = 25 to 75°C (TF sensor type only) B = 2 to 100°C (PD or PF sensor type only) C = 2 to 200°C (PD or PF sensor type only)
5	Deadband: 5 = 0.5°C
CT325PD1B5 ← Sample part number	

Custom design options

Minco can customize the design of the CT325 for special applications. Specific temperature ranges, other sensor options, and special packaging are possible for volume OEM applications. Proportional controllers are available in a slightly larger package.

AC powered heaters

The CT325 can provide the control signal to an external solid state relay (page K-9) to switch AC power. Use 15 VDC as the control voltage.

