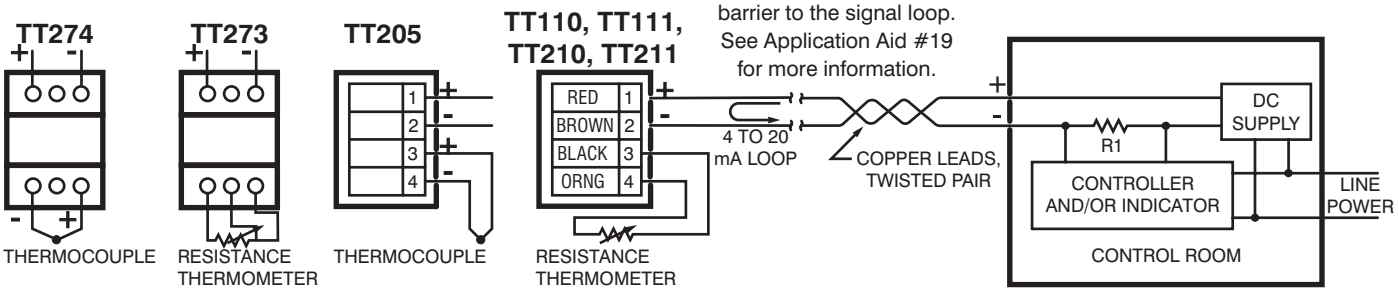
Temptran Wiring Diagrams

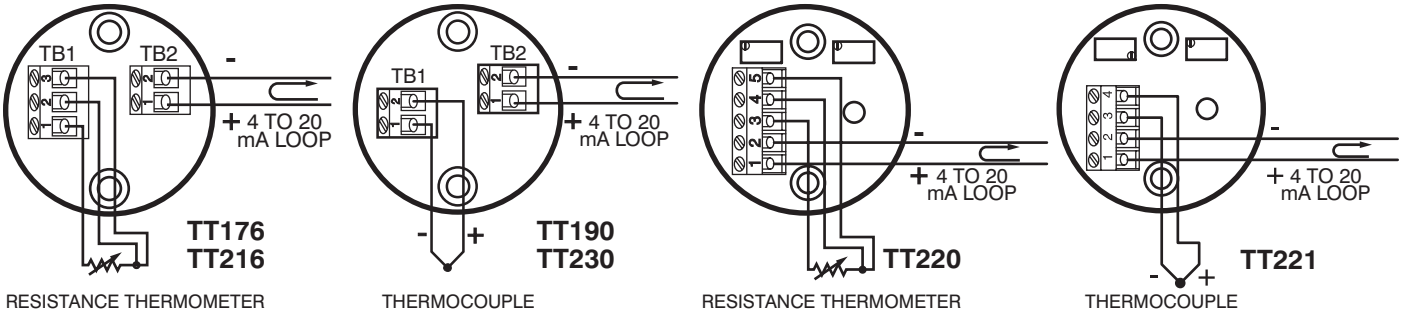
Shown below are schematics of the transmitter signal loop. R1 is a fixed load resistor, typically part of the input instrument, to convert the current signal to voltage. Total resistance of R1, signal wires, and any stray resistances such as contacts, must be less than the maximum allowable resistance for the transmitter. An R1 value of 250 Ω will produce a voltage drop of 1 to 5 VDC from 4 to 20 mA.

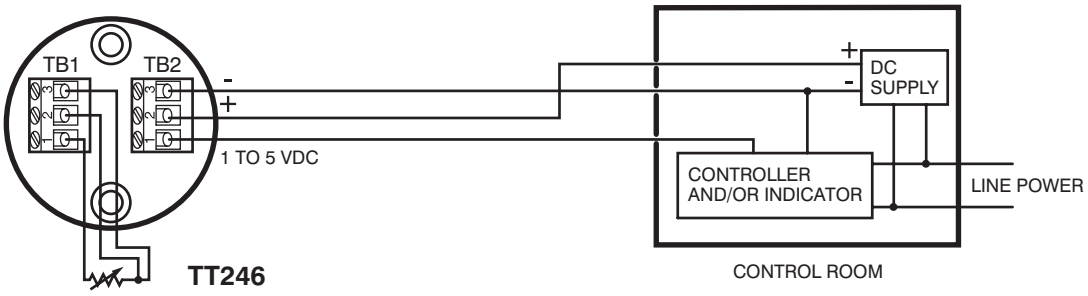
www.minco.com/support

Note: Wiring diagrams, literature and application aids are available at www.minco.com/support

Intrinsically safe installations require the addition of a safety barrier to the signal loop. See Application Aid #19 for more information.



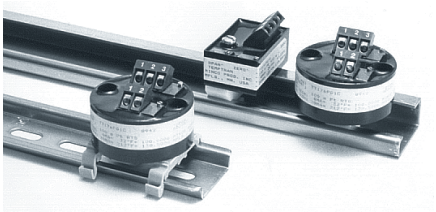




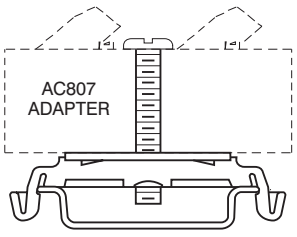
DIN rail mounting

For easy installation in instrument cabinets. Adapters fit all Temptran models. Specify length when ordering rails.

Model	Description
AC805	DIN EN50022 Rail
AC807	Adapter for EN50022



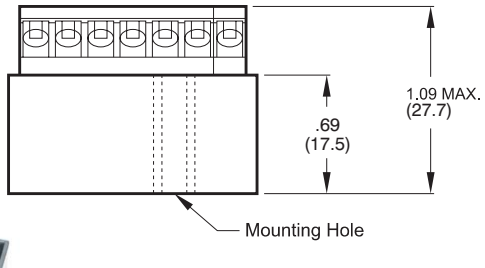
Temptrans mounted to DIN rail.



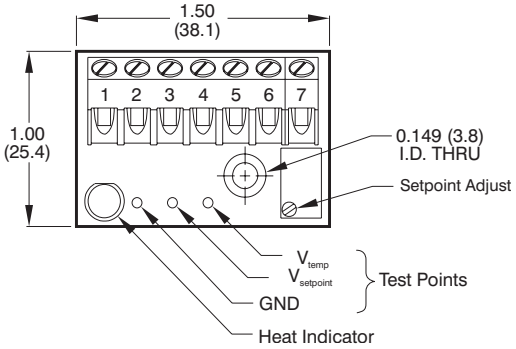
AC805 RAIL

AC781 dual mounting kit

The AC781 mounting kit fits connection head models CH104, CH106, and CH330 on page 4-3. It holds two miniature Temptrans in a single head for use with dual RTDs.



DIMENSIONS IN INCHES (mm)



CT325 Miniature DC Temperature Controller

- Tight control with ±0.1°C (0.2°F) deadband!
- Miniature package 1 × 1 × 1.5"
- Solid state on/off control with adjustable setpoint
- Uses standard 100 Ω or 1000 Ω platinum RTD or 50 kΩ thermistor sensor input
- Single DC power source provides power to the controller and heater up to 240 watts
- Simple setup with voltage output pins for process and setpoint temperatures
- 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.

You can control temperatures up to 200°C (RTD sensor) or 75°C (thermistor). Easily read and adjust the set point temperature using your voltmeter, then monitor the actual signal temperature at the other end.

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.

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.

Specifications

Input: 100 Ω or 1000 Ω platinum RTD, 0.00385 Ω/Ω/°C, 2 or 3-leads, or 50 kΩ NTC thermistor, 2-lead.
Setpoint range: 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/°C.
V_{temp} signal: 0.010 V/°C over specified range.

Platinum RTD sensor

2°C	0.02 V
50°C	0.50 V
100°C	1.00 V
200°C	2.00 V

Accuracy: ±1% of span
Linearity: ±0.1% of span

Thermistor sensor

25°C	0.25 V
50°C	0.50 V
75°C	0.75 V

Accuracy: ±2% of span
Linearity: ±2% of span

Deadband: 0.1°C.
Input power: 4.75 to 60 VDC.
Output: Open drain, 4 amps max. DC.
Leadwire compensation: (3-wire RTD) ±0.06°C/Ω for 100 Ω or 1000 Ω platinum up to 25 Ω per leg.
Fault protection: Heater disabled on RTD short or thermistor open. No heater protection; external fuse is 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 for moisture resistance.
Weight: 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.

Code	Sensor type
PD	100 Ω platinum RTD
PF	1000 Ω platinum RTD
TF	50 kΩ thermistor

How to order:

CT325	**Model number**
PD	**Sensor type from table**
1	**Power supply:** 1 = 4.75 to 10 VDC 2 = 7.5 to 60 VDC
C	**Temperature range:** A = 25 to 75°C (thermistor only) C = 2 to 200°C (RTD only)
1	**Dead band:** 1 = 0.1°C
CT325PD1C1 ← Sample P/N	

⚠ 50kΩ thermistor sensor TS665TF is available on page 10-5.