



# Temperature Assemblies

## Temperature Transmitter with Sensor

### Thermocouple • Model TC701

## Temperature Transmitters

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### Application

Industrial temperature assembly includes sensor, protection head and analog transmitter. Designed for installation directly into tanks, piping or ovens, the TX701 features 1/2" NPT fitting welded to a stainless steel stem. Factory calibrated to provide a 4-20 milliamp 2-wire current output. The current output virtually eliminates electrical interference from line noise and provides for signal transmission over long distances using standard wire. This design eliminates the need for long runs of expensive thermocouple wire or extension wire.

The TR701 measures the temperature using a platinum 100 ohm RTD sensor. The RTD provides a higher accuracy measurement of temperature, the transmitter output of the TR701 output is linearized to temperature.

The TC701 measures the temperature with a type K (nickel-chromium/nickel-aluminum) thermocouple. The thermocouple is more suited to rugged applications such as temperature measurement in high vibration areas (diesel engines, compressors & pumps). The analog output from the transmitter is linear to the microvolt output of the thermocouple.

### Accuracy

TC701

K Thermocouple  $\pm 3.96^\circ\text{F}$  or 0.75% of measurement, whichever is greater.  
Cold Junction Compensation: 1.8 °F

### Ranges

TC701

0-250°F, 0-500°F, 0-750°F, 0-1000°F, 0-1200°F



## Standard TC701 Features

### Sensor

TC701 Type: K Thermocouple

### Stem Material

316Ti Stainless Steel

### Standard Stem Lengths

4", 6", 9", & 12"

### Stem Diameter

0.25"

### Protection Head

Material: Aluminum

Process Connection: 1/2" NPT male

Electrical Connection: 1/2" NPT female

Weatherproof: NEMA 4

### Temperature Transmitter T21

(Optional transmitters available on request)

### T21 Output

4-20mA

### T21 Power Requirements

14- 30 Vdc

### T21 Transmitter Environmental

Ambient Temperature: -40°F to 185°F (-40°C to 85°C)

Humidity: 0-95% non-condensing

Vibration: 10 Hz to 2 KHz, 5g per DIN IEC 68 2-6

**ATE TC701**  
(ATE70)

## Specifications

### TC701 Thermocouple Assembly

#### Standard Ranges :

0.. 250°F, 0.. 500°F, 0.. 750°F, 0.. 1000°F, 0.. 1200°F

#### Output

4-20mA

#### Sensor

Type K (nickel-chromium/nickel-aluminum)

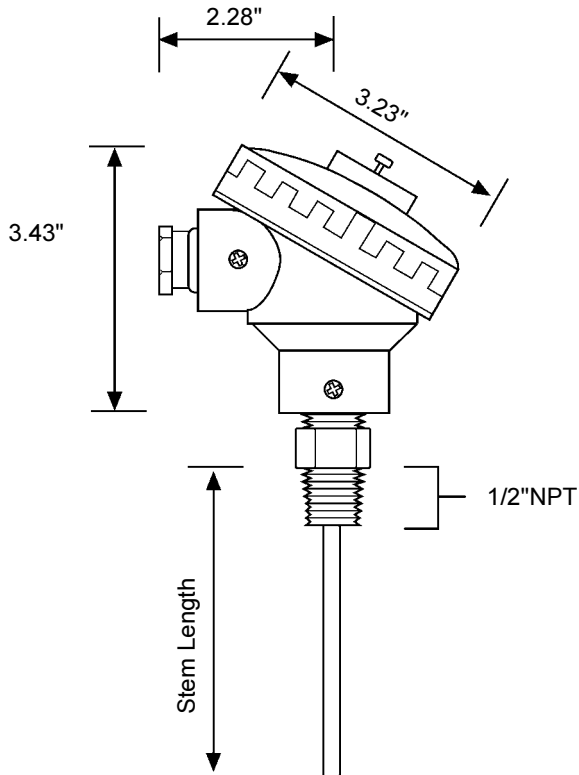
#### Configuration

Ungrounded

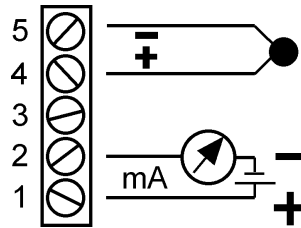
#### Dimensions

All dimensions in "inches" unless otherwise noted.

Approx. weight = 1 lb. (0.45) kg



TC701 Wiring  
Connect power (14 to 30Vdc) to  
Terminals 1 & 2



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**Total Performance™**

#### Ordering Information:

State computer part number (if available) / type number / size / range / connection size and location / options required.

Specifications given in this price list represent the state of engineering at the time of printing. Modifications may take place and the specified materials may change without prior notice

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