

## MODELS TMPT AND TMPTR - THERMOCOUPLE OR RTD CONNECTOR WITH BUILT IN 4-20 mA TEMPERATURE TRANSMITTER



- HIGH ACCURACY, REPEATABILITY AND STABILITY
- CONNECTOR DESIGN CONVERTS INPUT SIGNAL TO A STANDARD 2-WIRE, 4-20 mA OUTPUT
- PROVIDES "OPEN SENSOR WIRE" SIGNAL INDICATION
- ENCAPSULATED HOUSING
- COMPENSATES FOR LONG LEAD WIRES
- FACTORY CALIBRATED, NO ADJUSTMENTS REQUIRED
- MODELS FOR J, K, T (UNGROUND) THERMOCOUPLES AND 100 OHM, 0.00385 3-WIRE RTD'S

### GENERAL DESCRIPTION

The model TMPT's internal circuitry conditions the non-linear millivolt output of a thermocouple, across a specified temperature range, and retransmits it as a standard 2-wire 4-20 mA analog output. The TMPTR also provides a 2-wire 4-20 mA output by conditioning the resistive change of a 100Ω, 0.00385 RTD sensor and transmitting it as a 4-20 mA output.

### SPECIFICATIONS

#### TMPT SPECIFICATIONS

1. **SUPPLY VOLTAGE:** 9 to 24 VDC @ 30 mA
2. **OUTPUT:** 4 to 20 mA
3. **TEMPERATURE RANGE:** See Ordering Information
4. **ACCURACY:**  $\pm 0.5\%$  of full scale millivolt input @ 23° C plus the non-linearity of the thermocouple type (note that the TMPT does not compensate for thermocouple non-linearity)
5. **TEMPERATURE COEFFICIENT:**  $\pm 0.002$  mA/°C
6. **MAX LOOP LOAD:**  $(\Omega) = (V \text{ supply} - 9 \text{ V})/0.02 \text{ A}$
7. **TRANSMITTER OPERATING TEMPERATURE:** -40° to 85°C
8. **AGENCY APPROVAL:** CE
9. **RESPONSE TIME:** 120 msec (0 to 63% FS)
10. **THERMOCOUPLE JUNCTION:** Ungrounded
11. **INPUT CONNECTION:** Standard size female connector mates with both standard and miniature male connectors.
12. **CABLE CONNECTIONS:** 10 foot 2-wire shielded cable

| WIRE COLOR CODE | FUNCTION |
|-----------------|----------|
| RED             | +VDC     |
| BLACK           | OUTPUT   |
| WHITE           | SHIELD   |

\* Max cable run is determined by max loop load and wire resistance ( $\approx 1000\text{ft}$ ).

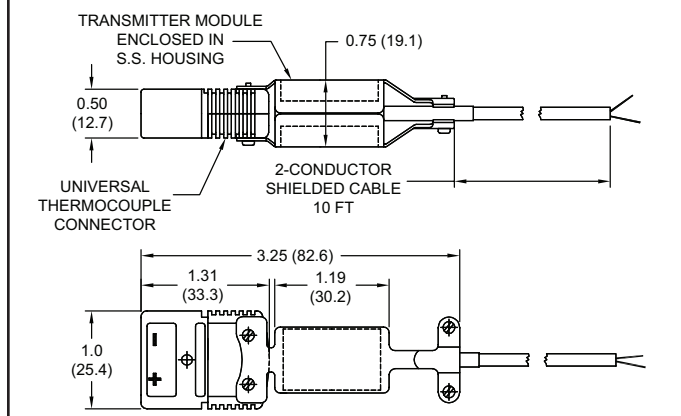
#### TMPTR SPECIFICATIONS

1. **SUPPLY VOLTAGE:** 9 to 24 VDC @ 30 mA
2. **OUTPUT:** 4 to 20 mA
3. **TEMPERATURE RANGE:** 2 – 569° C (36 – 1056° F)
4. **INPUT:** 3 wire, PT100 ( $\alpha = 0.00385$ )
5. **OPEN SENSOR WIRE INDICATION:**
  - Leg 1: Open = 27 mA
  - Leg 2: Open = 2.2 mA
  - Leg 3: Open = 2.2 mA
6. **INPUT CONNECTION:** 3 prong miniature connector mates with TMPCNM09
7. **CABLE CONNECTIONS:** 10 foot 2-wire shielded cable

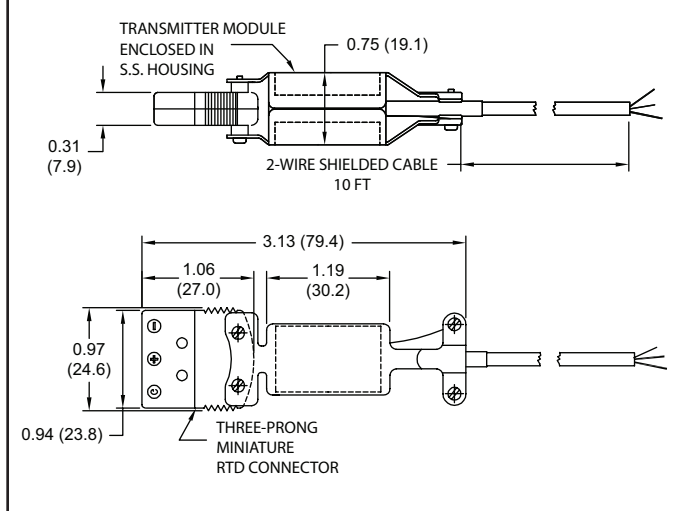
| WIRE COLOR CODE | FUNCTION |
|-----------------|----------|
| RED             | +VDC     |
| BLACK           | OUTPUT   |
| WHITE           | SHIELD   |

\* Max cable run is determined by max loop load and wire resistance ( $\approx 1000\text{ft}$ ).

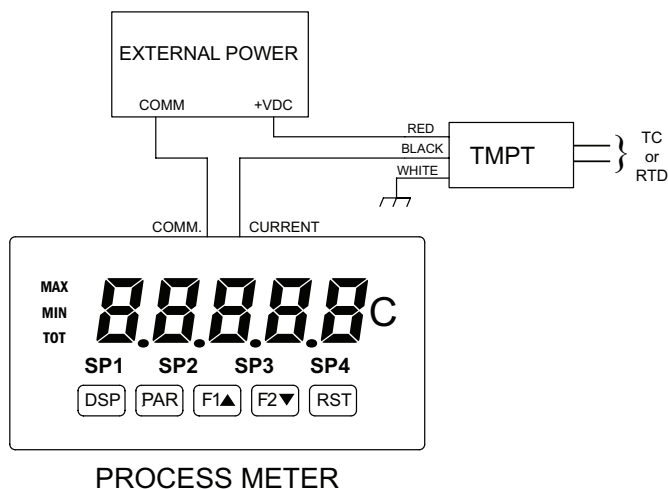
### DIMENSIONS In inches (mm)



### DIMENSIONS In inches (mm)



## WIRING CONNECTION



## ORDERING INFORMATION

| MODEL NO. | DESCRIPTION                           | TC ANSI TYPE | TEMPERATURE RANGE                | PART NUMBER |
|-----------|---------------------------------------|--------------|----------------------------------|-------------|
| TMPT      | TC TRANSMITTER WITH FEMALE CONNECTOR  | K            | -18 to 1093 °C<br>(0 to 2000 °F) | TMPTRN01    |
|           |                                       | K            | -18 to 538 °C<br>(0 to 1000 °F)  | TMPTRN02    |
|           |                                       | T            | -18 to 121 °C<br>(0 to 250 °F)   | TMPTRN03    |
|           |                                       | T            | -18 to 399 °C<br>(0 to 750 °F)   | TMPTRN04    |
|           |                                       | J            | -18 to 121 °C<br>(0 to 250 °F)   | TMPTRN05    |
|           |                                       | J            | -18 to 538 °C<br>(0 to 1000 °F)  | TMPTRN06    |
| TMPTR     | RTD TRANSMITTER WITH FEMALE CONNECTOR | -            | 2 to 569 °C<br>(36 to 1056 °F)   | TMPTRN07    |

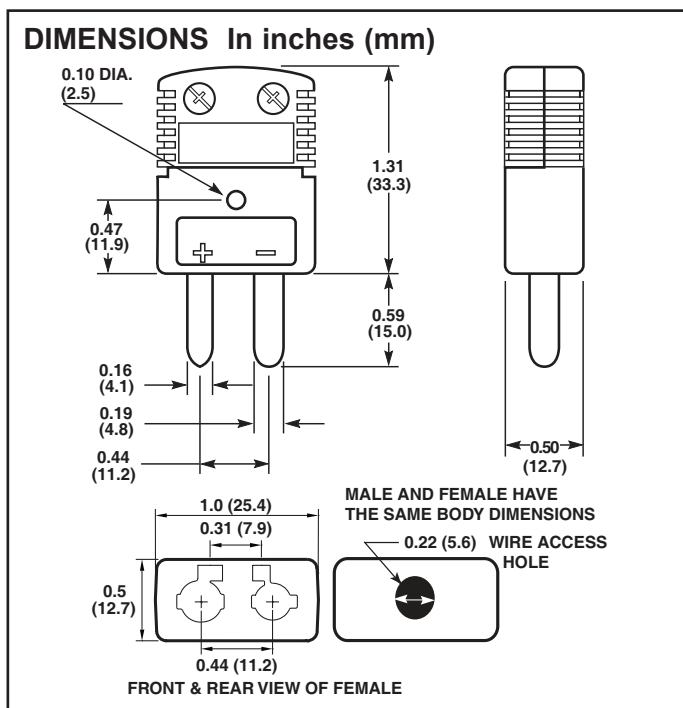
Covered by US and Foreign Patents.

## ACCESSORIES

## MODEL TMPCN - QUICK DISCONNECT STANDARD CONNECTORS

### GENERAL DESCRIPTION

Standard Connectors are for use with the Standard Quick Disconnect TC Probes. They are available in both male and female termination, and include a "write on label" for easy identification. The female standard connector is a universal connector, meaning it can be used to terminate male versions of both the standard and miniature connector.



### SPECIFICATIONS

1. **CONNECTOR BODY MATERIAL:** Glass Filled Nylon, for temperature ranges of -29 to 220° C. (-20 to 428 °F)
2. **CONNECTOR BODY COLOR:** ANSI color coded
3. **WIRE GAGE:** Accepts stranded or solid wire up to 14 AWG
4. **WIRE TERMINATION:** Combination Phillips/Slot Screws

## ORDERING INFORMATION

| DESCRIPTION        | TYPE | TERMINATION | PART NUMBER |
|--------------------|------|-------------|-------------|
| STANDARD CONNECTOR | K    | MALE        | TMPCNS01    |
|                    |      | FEMALE      | TMPCNS02    |
|                    | T    | MALE        | TMPCNS03    |
|                    |      | FEMALE      | TMPCNS04    |
|                    | E    | MALE        | TMPCNS05    |
|                    |      | FEMALE      | TMPCNS06    |
|                    | J    | MALE        | TMPCNS07    |
|                    |      | FEMALE      | TMPCNS08    |

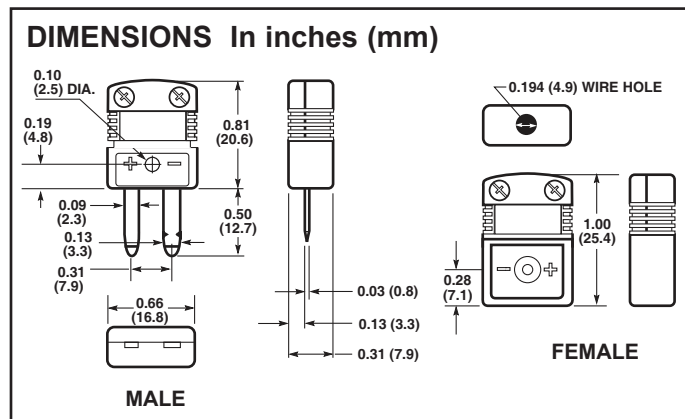
## MODEL TMPCN - QUICK DISCONNECT MINIATURE CONNECTORS

### GENERAL DESCRIPTION

Miniature Connectors are for use with the Miniature Quick Disconnect TC Probes. They are available in both male and female termination, and include a "write on label" for easy identification.

### SPECIFICATIONS

1. **CONNECTOR BODY MATERIAL:** Glass Filled Nylon, for temperature ranges of -29 to 220° C. (-20 to 428 °F)
2. **CONNECTOR BODY COLOR:** ANSI color coded
3. **WIRE GAGE:** Accepts stranded or solid wire up to 20 AWG
4. **WIRE TERMINATION:** Combination Phillips/Slot Screws



### ORDERING INFORMATION

| DESCRIPTION         | TYPE | TERMINATION | PART NUMBER |
|---------------------|------|-------------|-------------|
| MINIATURE CONNECTOR | K    | MALE        | TMPCNM01    |
|                     |      | FEMALE      | TMPCNM02    |
|                     | T    | MALE        | TMPCNM03    |
|                     |      | FEMALE      | TMPCNM04    |
|                     | E    | MALE        | TMPCNM05    |
|                     |      | FEMALE      | TMPCNM06    |
|                     | J    | MALE        | TMPCNM07    |
|                     |      | FEMALE      | TMPCNM08    |

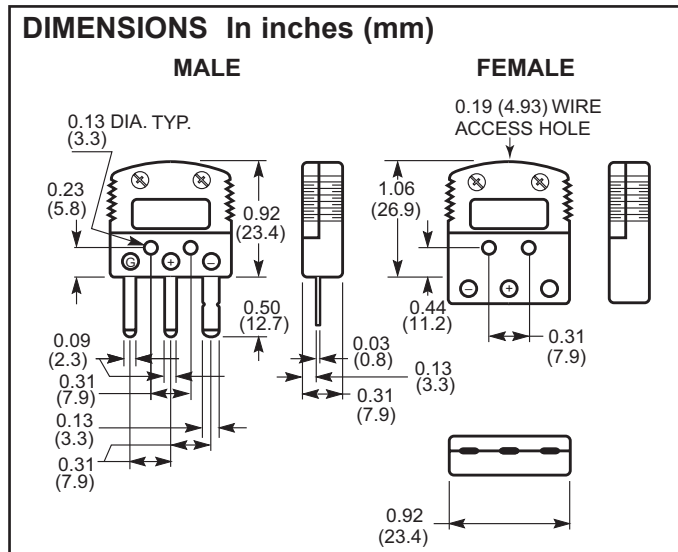
## MODEL TMPCN - RTD PROBE CONNECTORS

### GENERAL DESCRIPTION

RTD Mini Connectors are for use with RTD probes. They are miniature size, and are available in both male and female termination.

### SPECIFICATIONS

1. **CONNECTOR BODY MATERIAL:** Glass Filled Nylon, for temperature ranges of -29 to 220 °C.
2. **CONNECTOR BODY COLOR:** White
3. **WIRE GAGE:** Accepts stranded or solid wire up to 20 AWG
4. **WIRE TERMINATION:** Combination Phillips/Slot Screws
5. **CONNECTOR ENDS:** Copper



### ORDERING INFORMATION

| MODEL NO. | DESCRIPTION                    | TYPE | TERMINATION | PART NUMBER |
|-----------|--------------------------------|------|-------------|-------------|
| TMPCN     | RTD Miniature Male Connector   | U    | Male        | TMPCNM09    |
|           | RTD Miniature Female Connector | U    | Female      | TMPCNM10    |

### **LIMITED WARRANTY**

The Company warrants the products it manufactures against defects in materials and workmanship for a period limited to two years from the date of shipment, provided the products have been stored, handled, installed, and used under proper conditions. The Company's liability under this limited warranty shall extend only to the repair or replacement of a defective product, at The Company's option. The Company disclaims all liability for any affirmation, promise or representation with respect to the products.

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