

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



- CONNECTOR DESIGN CONVERTS INPUT SIGNAL TO A STANDARD 2-WIRE, 4-20 mA OUTPUT
- PROVIDES "OPEN SENSOR WIRE" SIGNAL INDICATION
- ENCAPSULATED HOUSING
- TRANSMITS OUTPUT LONG DISTANCES
- 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 converts the millivolt output of a thermocouple, across a specified temperature range, and retransmits it as a standard 2-wire 4-20 mA linear analog output. The TMPTR also provides a 2-wire 4-20 mA output by converting the resistive change of a 100Ω, 0.00385 RTD sensor and transmitting it as a 4-20 mA output.

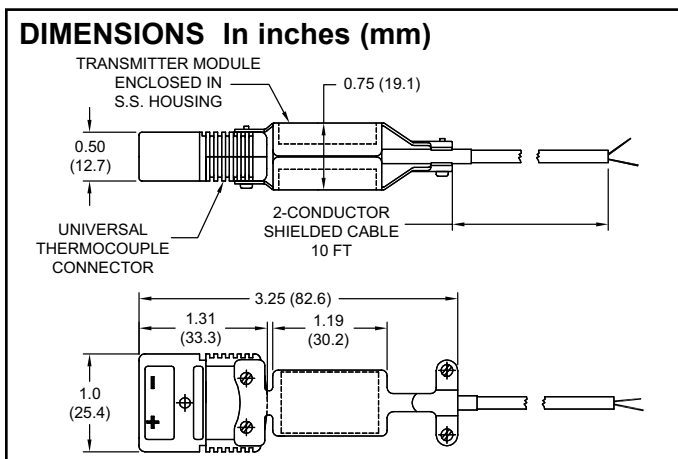
SPECIFICATIONS

TMPT SPECIFICATIONS

1. SUPPLY VOLTAGE: 9 to 24 VDC @ 30 mA
2. OUTPUT: 4 to 20 mA
3. OPEN SENSOR INDICATION: Output > 20 mA
4. MAX LOOP LOAD: $(\Omega) = (V \text{ supply} - 9 \text{ V})/0.02 \text{ A}$
5. RESPONSE TIME: 120 msec (0 to 63% FS)
6. 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)
7. OUTPUT STABILITY/TEMP. DRIFT: $\pm 0.015 \text{ mA}/^{\circ}\text{C}$
8. REPEATABILITY: $\pm 0.45 \text{ }^{\circ}\text{F}$ (0.25 °C)
9. TEMPERATURE RANGE: See Ordering Information
10. THERMOCOUPLE JUNCTION: Ungrounded
11. INPUT CONNECTION: Standard size female connector mates with both standard and miniature male connectors.
12. TRANSMITTER OPERATING TEMPERATURE: -40 to 185 °F (-40 to 85 °C)
13. 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 ($\approx 1000\text{ft}$).
 14. WEIGHT: 3.5 oz (100 g)

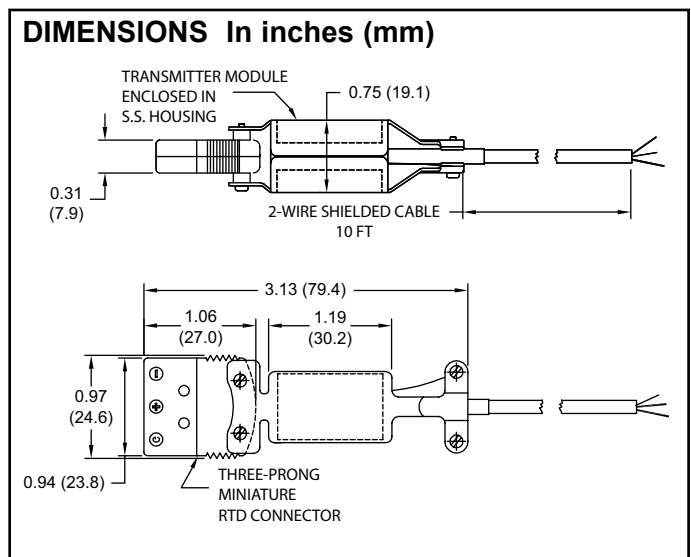


TMPTR SPECIFICATIONS

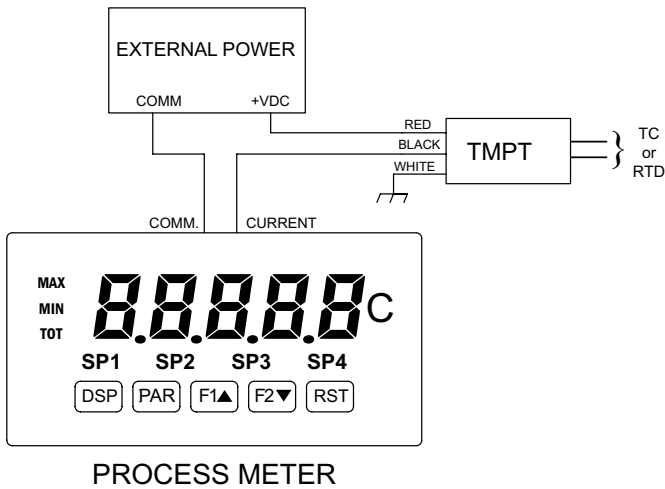
1. SUPPLY VOLTAGE: 9 to 24 VDC @ 30 mA
2. OUTPUT: 4 to 20 mA
3. OPEN SENSOR WIRE INDICATION:
 - Leg 1: Open = 27 mA
 - Leg 2: Open = 2.2 mA
 - Leg 3: Open = 2.2 mA
4. MAX LOOP LOAD: $(\Omega) = (V \text{ supply} - 9 \text{ V})/0.02 \text{ A}$
5. RESPONSE TIME: 120 msec (0 to 63% FS)
6. ACCURACY: $\pm 0.5\%$ of full scale @ 23 °C
7. OUTPUT STABILITY/TEMP. DRIFT: $\pm 0.0022 \text{ mA}/^{\circ}\text{C}$
8. REPEATABILITY: $\pm 0.45 \text{ }^{\circ}\text{F}$ (0.25 °C)
9. TEMPERATURE RANGE: 36 to 1056 °F (2 to 569 °C)
10. INPUT: 3 wire, PT100 ($\alpha = 0.00385$)
11. INPUT CONNECTION: 3 prong miniature connector. Mates with TMPCNM09.
12. TRANSMITTER OPERATING TEMPERATURE: -40 to 185 °F (-40 to 85 °C)
13. 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 ($\approx 1000\text{ft}$).
 14. WEIGHT: 3.7 oz (106 g)



WIRING CONNECTION



ORDERING INFORMATION

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

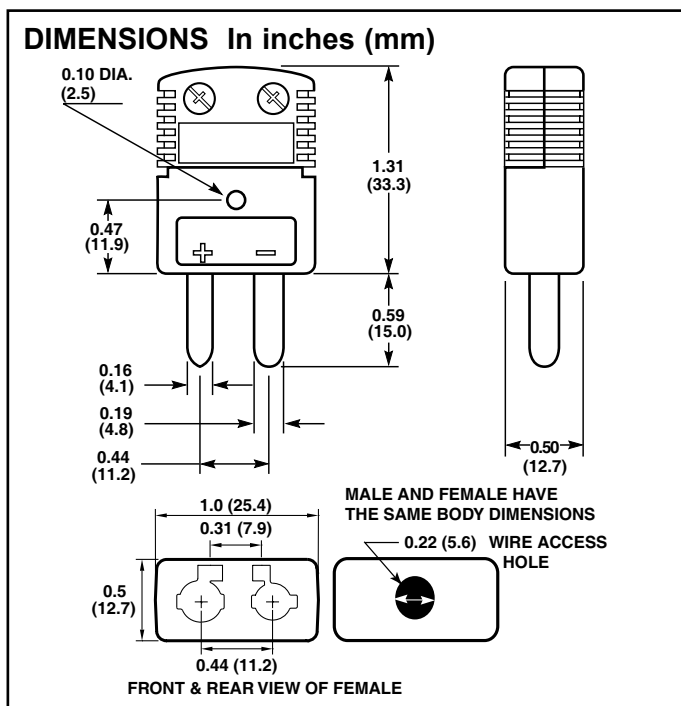
Covered by US and Foreign Patents.

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

- CONNECTOR BODY MATERIAL:** Glass Filled Nylon, for temperature ranges of -29 to 220 °C. (-20 to 428 °F)
- CONNECTOR BODY COLOR:** ANSI color coded
- WIRE GAGE:** Accepts stranded or solid wire up to 14 AWG
- 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

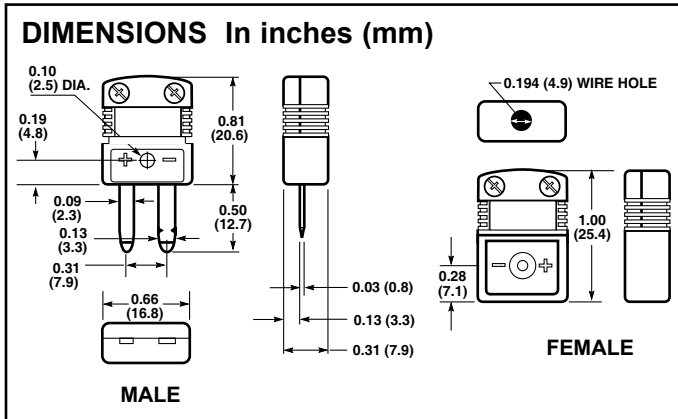
MODEL TMPCN - QUICK DISCONNECT MINIATURE CONNECTORS

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

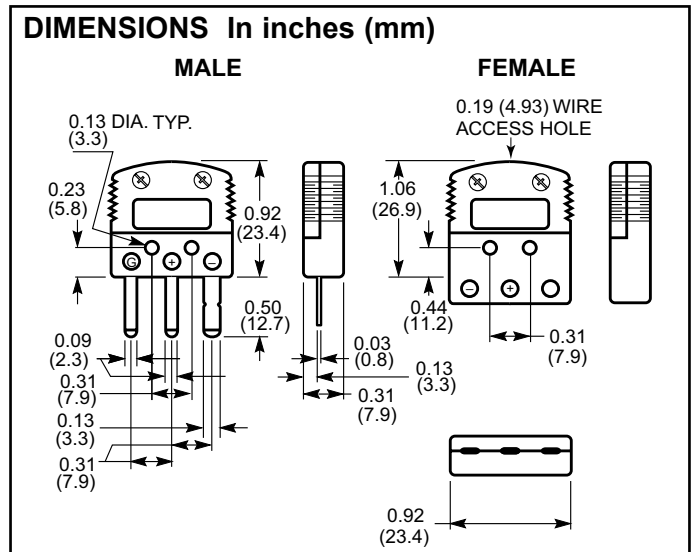
MODEL TMPCN - RTD PROBE CONNECTORS

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

(a) Red Lion Controls Inc. (the "Company") warrants that all Products shall be free from defects in material and workmanship under normal use for the period of time provided in "Statement of Warranty Periods" (available at www.redlion.net) current at the time of shipment of the Products (the "Warranty Period"). **EXCEPT FOR THE ABOVE-STATED WARRANTY, COMPANY MAKES NO WARRANTY WHATSOEVER WITH RESPECT TO THE PRODUCTS, INCLUDING ANY (A) WARRANTY OF MERCHANTABILITY; (B) WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE; OR (C) WARRANTY AGAINST INFRINGEMENT OF INTELLECTUAL PROPERTY RIGHTS OF A THIRD PARTY; WHETHER EXPRESS OR IMPLIED BY LAW, COURSE OF DEALING, COURSE OF PERFORMANCE, USAGE OF TRADE OR OTHERWISE.** Customer shall be responsible for determining that a Product is suitable for Customer's use and that such use complies with any applicable local, state or federal law.

(b) The Company shall not be liable for a breach of the warranty set forth in paragraph (a) if (i) the defect is a result of Customer's failure to store, install, commission or maintain the Product according to specifications; (ii) Customer alters or repairs such Product without the prior written consent of Company.

(c) Subject to paragraph (b), with respect to any such Product during the Warranty Period, Company shall, in its sole discretion, either (i) repair or replace the Product; or (ii) credit or refund the price of Product provided that, if Company so requests, Customer shall, at Company's expense, return such Product to Company.

(d) **THE REMEDIES SET FORTH IN PARAGRAPH (c) SHALL BE THE CUSTOMER'S SOLE AND EXCLUSIVE REMEDY AND COMPANY'S ENTIRE LIABILITY FOR ANY BREACH OF THE LIMITED WARRANTY SET FORTH IN PARAGRAPH (a).**