

300TX Temperature Transmitter

Features

- 4-20mA output, 2 wire
- High immunity to RFI (to EMC1992)
- J, K, N, R, S, T and PT100 ranges
- Reliable
- Fits standard inspection heads
- Easy calibration
- Wide range of SPAN adjustment
- Reversed supply polarity protected
- Upscale sensor break detection

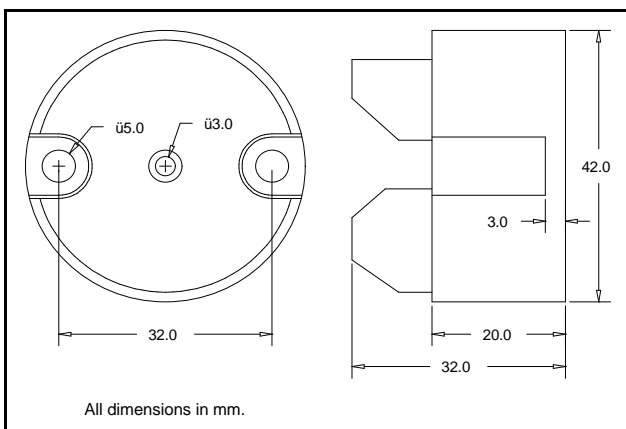
General Description

Transmitters in the 300TX range provide 4-20mA outputs for either thermocouple or PRT100 resistance thermometer inputs and are designed for standard terminal head mounting.

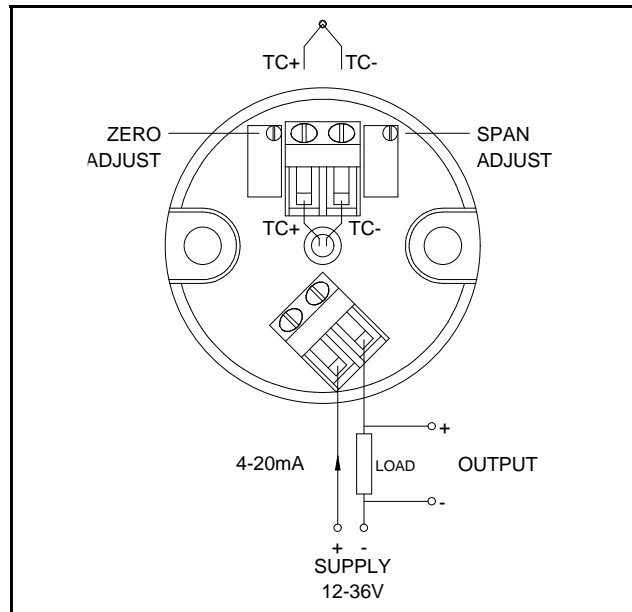
The units offer a wide range of SPAN adjustment and can be easily calibrated, thus reducing the need for holding large stocks for different input scale ranges.

300TX units are protected against the inadvertent inversion of the power supply.

Dimensional Drawing

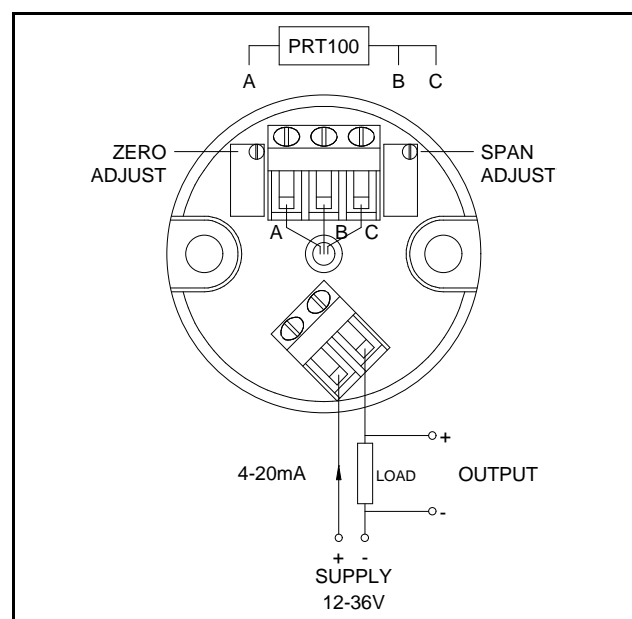


Connection diagram for thermocouple



Thermocouple inputs include accurate automatic cold junction compensation but are not linearised.

Connection diagram for PRT100



Technical Specification

Input: thermocouple	J Iron/Copper-Nickel 0 to 800 °C K Nickel-Chromium/Nickel-Aluminium 0 to 1100 °C N Nicrosil/Nisil 0 to 1300 °C R Platinum-13% Rhodium/Platinum 0 to 1400 °C S Platinum-10% Rhodium/Platinum 0 to 1400 °C T Copper/Copper Nickel -50 to 250 °C
Input: resistance thermometer	PRT100 -50 to 450 °C
Output	Two-wire 4-20 mA, linear with temperature; input and output non-isolated
Supply	12 to 36 V dc, reverse polarity protected
Accuracy	T/C +/- 0.2% of span (linear to mV input) PRT +/- 0.1% of span (linear to temperature input)
Zero drift	+/- 0.01% of span per °C
Span drift	+/- 0.01% of span per °C
Supply voltage effect	+/- 0.03% change of span over 12 to 36 voltage change
Cold junction compensation	Better than 2 °C, over ambient temperature range of 0 to 50 °C; rejection ratio better than 25:1
Sensor open circuit detection and indication	Upscale; output current between 23 and 27 mA
Load capability	(Vs - 12)/0.02 ohm; Vs = 12 to 36 Vdc
Ambient operating temperature	0 to 70 °C
Storage temperature	-20 to 100 °C
Zero adjustment potentiometer	+/-20% of span 25 turns
Span adjustment potentiometer	down to 50% of span for thermocouple input and 30% of span for PRT100 input 25 turns (see note 1)
Mechanics - head mounting	overall diameter = 42.0 mm; overall height = 32.0 mm mounting holes between centres = 32.0 mm

NOTE 1: The transmitter can be easily ranged and calibrated by means of the multi-turn zero and span adjustors in conjunction with either a mV source or standard resistance input.

For example, a type K-thermocouple which has a working temperature range of 0 to 1100 °C can be easily calibrated to operate between 0 to 600 °C, where 4 mA and 20 mA represent 0 and 600 °C respectively.

Ordering Information	
Code:	300TX--00
Input	:
Input	
J 0 to 800 Deg.C	J
K 0 to 1100 Deg.C	K
K 0 to 500 Deg.C	K1
N 0 to 1300 Deg.C	N
R 0 to 1400 Deg.C	R
S 0 to 1400 Deg.C	S
T -50 to 50 Deg.C	T
T 0 to 100 Deg.C	T1
T 0 to 250 Deg.C	T2
PRT100 0 to 450 Deg.C	PRT
PRT100 0 to 200 Deg.C	PRT1
PRT100 0 to 100 Deg.C	PRT2
PRT100 -50 to 50 Deg.C	PRT3
End of code	00

Supplier information
Tactical Controls Limited
Unit 4 Parkland Business Centre
Chartwell Road, Lancing
West Sussex BN15 8UE England
Tel: +44(0)1903 750800 Fax: +44(0)1903 750678
Email: Email@TacticalControls.co.uk