

Datasheet

High Accuracy Temperature Transmitter

300TX, PT100, Type K & J



The 300TX is a 4-20mA temperature transmitter which can be housed in a probe terminal head suitable for a DIN standard block. With ranges for thermocouple and Pt100 sensors, the units offer an exceptionally wide range of span adjustment which reduces the need for stockholding different temperature ranges.

A novel feature is the non-interactive span and zero potentiometer action which is time saving and convenient when calibrating or re-scaling

- 4-20mA, 2 wire loop
- Low cost
- High accuracy
- In-head mounting, DIN standard fixing
- Pt100 or thermocouples type J, K
- High reliability
- Non-interactive span & zero pots for calibration
- Permits virtually unlimited length of cable run in low-cost copper
- More expensive thermocouple extension cable not required
- Rugged construction
- Effective input 'noise' rejection
- CE compliant
- RoHS compliant

Ordering Information:

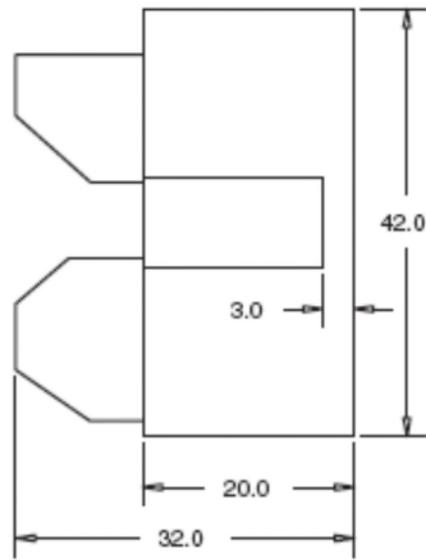
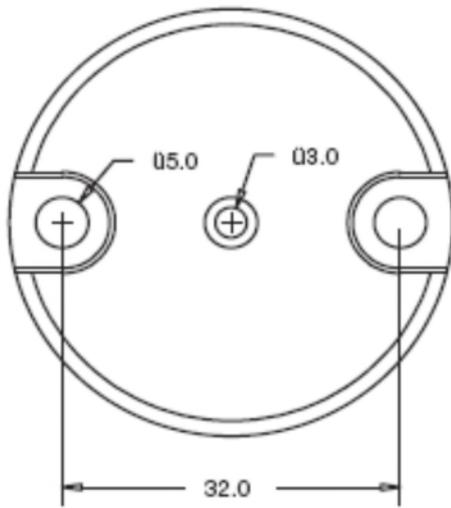
Type	Range	Model	Allied code	RS Order Number
Pt100	0°C to +100°C	300TX	70791957	185-2284
Pt100	0°C to +200°C	300TX		185-2290
K	0°C to +200°C	300TX	70641221	185-2357
K	0°C to +1100°C	300TX	70641222	185-2363
J	0°C to +300°C	300TX	70641220	185-2341

Specification:

Ranges Thermocouple to IEC 584	Type J 0-300°C Type K 0-200°C Type K 0-1100°C
PT100 to IEC751, 3 wire	0 to 100°C 0 to 200°C (Junctions/ sensors must be insulated from sheath)
Output	4-20mA loop powered, max 30mA. Directly proportional to mV input for thermocouples. Directly proportional to temperature for Pt100.
Loop supply	12-36V dc; reverse connection protected.
Accuracy	Thermocouple ranges $\pm 0.2\%$ of span (linear to mV input) Pt100 ranges $\pm 0.1\%$ of span (linear to temperature input)
Zero drift	$\pm 0.02\%$ of span per °C
Span drift	$\pm 0.02\%$ of span per °C
Supply voltage effect	$\pm 0.03\%$ 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 & indication	Upscale; output current between 23 and 27 mA. Separate, independent alarms should be used if required for process safety.
Load capability	$(V_s - 12)/0.02$ Ohm; $V_s = 12$ to 36Vdc
Ambient operating Temperature	0 to 70 °C
Storage temperature	-20 to 100 °C
Zero adjustment potentiometer	$\pm 20\%$ 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)

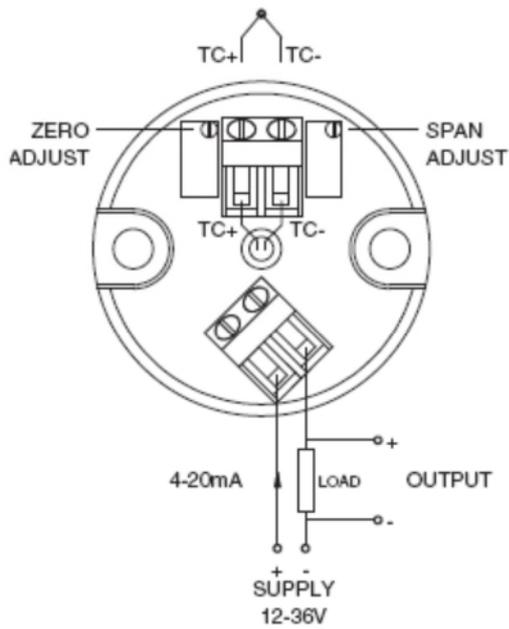
Note 1: The transmitter can be easily ranged and calibrated by means of the multi-turn zero and span adjusters in conjunction with either a mV source or standard resistance input. For example, a type K-thermocouple which has a working temperature range of 0 to 1100°C can be easily calibrated to operate between 0 to 600°C, where 4mA and 20mA represent 0 and 600°C respectively.

Mechanical: Head mounting, dia.42mm, height 32mm, 2 mounting holes 32mm between centres



All dimensions in mm.

Thermocouple



Pt100

