

LOW COST, HIGH ACCURACY, LOW-PROFILE 2 WIRE TEMPERATURE TRANSMITTER

The 300TXL is a compact, slimline 4-20mA temperature transmitter which can be housed in a probe terminal head suitable for a DIN standard block. The overall height is only 23mm allowing it also to be housed in low-profile enclosures. 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 minimal-interaction 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 or surface box mounting, DIN standard fixing
- Compact, only 23mm high
- Pt100 or thermocouples type J, K, N, T, R, S
- High reliability
- Minimal-interaction 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
- Special ranges to order
- CE compliant
- RoHS compliant

Rapid



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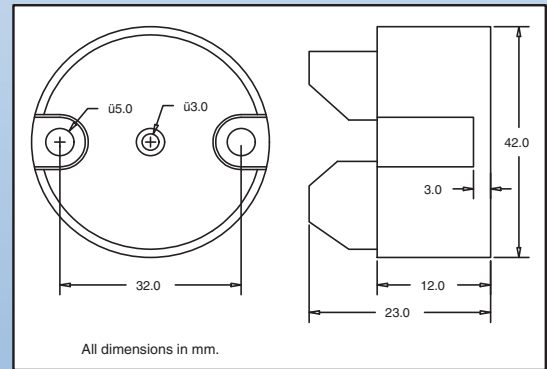
Rapid

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Specification

Ranges	Thermocouple to IEC 584	Type J	0-800°C
		Type K	0-1100°C
		Type K	0-500°C
		Type N	0-1300°C
		Type R	0 to 1400°C
		Type S	0 to 1400°C
		Type T	-50 to 50°C
		Type T	0 to 100°C
		Type T	0 to 250°C
		Pt100 to IEC751,3 wire	
	0 to 200°C		
	0 to 100°C		
	-50 to 50°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		

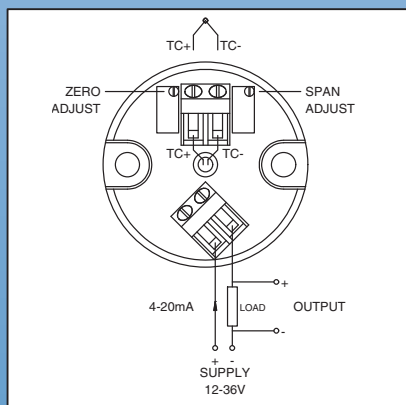
Ambient operating temperature	0 to 70 °C
Storage temperature	-20 to 100 °C
Zero adjustment potentiometer	$\pm 20\%$ of span for thermocouple inputs $\pm 10\%$ of span for Pt100 inputs, 25 turns
Span adjustment potentiometer	down to 50% of span for thermocouple input and 30% of Span for Pt100 input, 25 turns (see note 1&2 below)
Mechanical	Head mounting, dia.42mm, height 23mm, 2 mounting holes 32mm between centres



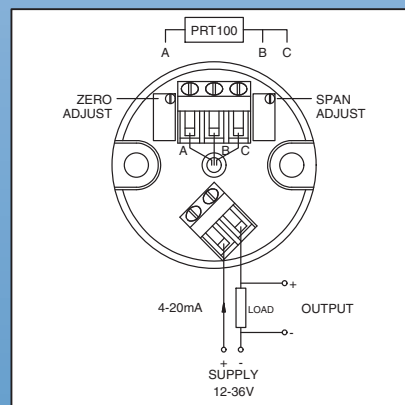
Note 1: The transmitter can be easily ranged and calibrated by means of the multi-turn zero and span adjusters in conjunction with either a mV source or standard resistance input. For example, a type K-thermocouple which has a working temperature range of 0 to 1100°C can be easily calibrated to operate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

Note 2: For span & zero adjustments, the overall numerical span (the range between zero & span values) can not be increased, just re-assigned for 4-20mA.

Thermocouple



Pt100



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Input Type	Range	Manufacturer's Part Number	Rapid Order Code
Pt100	0°C to 100°C	XE-6210-001	61-3277
Pt100	0°C to 200°C	XE-6211-001	61-3278
Pt100	-50°C to 50°C	XE-6216-001	61-3279
Pt100	0°C to 450°C	XE-6217-001	61-3280
J	0°C to 300°C	XE-6212-001	61-3281
J	0°C to 800°C	XE-6218-001	61-3282
K	0°C to 200°C	XE-6213-001	61-3283
K	0°C to 500°C	XE-6215-001	61-3284
K	0°C to 1100°C	XE-6214-001	61-3285