

Two-Wire Transmitters

TX70 Series
Starts at
\$425

The TX70 Series 2-wire transmitters for thermocouples and RTD's feature dip switch selection for input type and range. With the thermocouple models, the user may select from J, K or T input with one model, or E, R or S with another. All models feature 80% zero and span adjustability within any user-selected input range. Models are available with any desired input, with either a 4 to 20 mA or 10 to 50 mA output signal. To scale the unit in the field, calibration equipment is required.

Ranging Example:

In the 0 to 500°C range for a Type K thermocouple and a minimum span of 100°C, the user may select any 100° span within that 0 to 500°C range, such as 14 to 114°C or 379 to 479°C.

Specifications

Maximum Lead Wire Effect: < 0.25/μV per Ω of thermocouple resistance; 1% of span error with up to 40 Ω per lead for RTD

Output Span: 4 to 20 mA or 10 to 50 mA, switch selectable

Minimum Output Current: 3.3 mA, typical

Max Output Current: 24 mA (20 mA range), 58 mA (50 mA range)

Supply Voltage Range: 4 to 20 mA: 12 to 80 Vdc; 10 to 50 mA: 12 to 60 Vdc

Burnout Protection: Upscale

Max Change in Supply Voltage Effect: 0.05% of span

Max Change in Load Effect: 0.05% of span

Stability: Zero-within 0.02% of span/°C or 2μV, whichever is greater; span-within 0.01% of span/°C

Accuracy: 0.5%, including linearity, hysteresis, stability

Zero and Span Adjustability: 80% of selected range

Repeatability: 0.05% of span

Response Time: 400 ms, max

Output Ripple: Less than 0.1% of span, rms

RFI Effect: Error less than 1% of span; 5 W, 470 MHz at 3"

Isolation: 600 Vdc or peak ac max, input to output

Operating Ambient Temperature: -40 to 80°C (-40 to 176°F)

Excitation Current, RTD: 1 mA, typical

Load: max load = $(V_S - 12)/0.02$ for 20 mA range; $(V_S - 12)/0.05$ for 50 mA range



Additional power supplies available, please see page N-50 for details.



Optional power supply, Model U24Y101, \$139, shown smaller than actual size. See page N-50 for details.

MOST POPULAR MODEL HIGHLIGHTED!

To Order (Specify Model Number)

Model No.	Price	Description
TX71	\$463	J, K, T input; isolated
TX73	463	E, R, S input; isolated
TX75	425	RTD input; isolated

Notes: The TX70 series requires thermocouple or RTD input simulation to scale the output for a particular temperature range. To order unit scaled by OMEGA order **TX-SCALED**, \$45, and specify (1) input type, (2) low end of range, (3) high end of range (specify C or F). Thermocouple model output proportional to mV output of thermocouple. Not linearized to temperature.

Ordering Example: TX71 isolated transmitter, **TX-SCALED**, scaling charge, calibrated for Type J thermocouple with range of 100 to 400°C, \$463 + 46 = \$509. **OCW-3 OMEGACARE™** extends standard 1-year warranty to a total of 4 years (\$115), \$463 + 115 = \$578.

Accessories

Model No.	Price	Description
HEP-TX71-(*)	\$633	TX71 in explosion resistant housing with ¼" OD, 12" long, (K, J, T) ungrounded thermocouple probe with ½ NPT, TX70-RM
HEP-TX73-E	633	TX73 in explosion resistant housing with ¼" OD, 12" long, (E) ungrounded thermocouple probe with ½ NPT, TX70-RM
HEP-TX75	655	TX75 in explosion resistant housing with ¼" OD, 12" long, 100 Ω platinum RTD probe, TX70-RM

(*) Add thermocouple Type J, K, or T.

Ordering Example: HEP-TX71-J, TX71 explosion resistant housing and 12" ungrounded thermocouple, ¼" OD, J Type probe with ½ NPT, **TX-SCALED**, for J, 0 to 300°C, \$633 + 45 = \$678.

Options (Additional Protection Heads available on page B-7)

Model No.	Price	Description
HEP-TX70*	\$85	Explosion resistant head
TX70-RM	50	Mounting ring
TX-SCALED	45	Scaling charge

* Requires mounting ring, **TX70-RM**.

Model No.	Input Type	Maximum Range °F	Min. Span	Maximum Range °C	Min. Span
TX71	J	0 to 900°F 0 to 1400°F -350 to 1100°F	200°F 300°F 350°F	0 to 500°C 0 to 760°C -200 to 600°C	100°C 150°C 200°C
	K	0 to 900°F 0 to 1900°F 0 to 2500°F -450 to 900°F	200°F 400°F 500°F 400°F	0 to 500°C 0 to 1000°C 0 to 1370°C -270 to 500°C	100°C 200°C 300°C 200°C
	T	0 to 750°F -450 to 750°F	150°F 350°F	0 to 400°C -270 to 400°C	100°C 200°C
TX73	E	0 to 300°F 0 to 600°F 0 to 950°F 0 to 1800°F -450 to 0°F -340 to 300°F -450 to 650°F -450 to 1550°F	60°F 120°F 200°F 400°F 160°F 200°F 350°F 550°F	0 to 150°C 0 to 300°C 0 to 500°C 0 to 1000°C -270 to 0°C -270 to 150°C -270 to 350°C -270 to 850°C	30°C 60°C 100°C 200°C 100°C 150°C 200°C 300°C
	R/S	0 to 1700°F 0 to 3200°F	400°F 750°F	0 to 950°C 0 to 1760°C	220°C 450°C
TX75	RTD	0 to 1000°F 0 to 500°F 30 to 130°F*	200°F 100°F 20°F	0 to 600°C 0 to 300°C 0 to 50°C*	120°C 60°C 10°C

* Max Zero at 25°C (75°F)



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