

Ultra-Miniature Temperature

Transmitters Thermocouple or RTD (Pt100)

TX93A/TX94A



Actual size.

- ✓ $\pm 0.1\%$ FS Accuracy
- ✓ 4 to 20 mA DC Output
- ✓ Only 35.6 mm (1.4") Dia
- ✓ Upscale Break Protection
- ✓ J, K, T, or E Thermocouple Input
- ✓ 100 Ω Platinum RTD Input

OMEGA™ ultra-miniature temperature transmitters convert millivolt inputs from thermocouples or resistance from RTDs into 4 to 20 mA outputs. Transmitters are available in color-coded enclosures covering the four most popular thermocouple Types (J, K, T, and E) as well as 3-wire 100 Ω Platinum RTDs.

Featuring state-of-the-art integrated circuits and electronic design, these ultra-compact transmitters have a diameter of only 35.6 mm (1.40") and are designed to fit inside many compact thermowell protection heads, such as the OMEGA NB2. OMEGA also provides complete thermocouple and RTD assemblies.

TX93A and TX94A transmitters can eliminate long runs of costly field wiring in a variety of applications.

A stable 4 to 20 mA output signal is produced proportional to the transmitter's specific input type and calibrated temperature range (see Range Code table, right). Adjustability of $\pm 25\%$ for zero and span is provided to facilitate some rangeability. The transmitted signal eliminates noise pickup, voltage drops, and multiple cold junction errors, and it requires only a twisted pair of copper wires for loop connections.

Specifications

Output Range: 4 to 20 mA dc

Zero and Span Adjustment Range: $\pm 25\%$

Accuracy: $\pm 0.1\%$ FS (includes effects of linearity, hysteresis and repeatability)

Frequency Response: 3 dB @ 3Hz

Ambient Temp. Range: -25 to 85°C (-13 to 185°F)

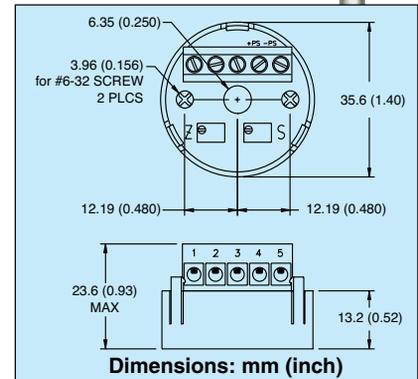
Storage Temp. Range: -65 to 125°C (-85 to 257°F)

Supply Voltage: 8 to 35 Vdc;
24 Vdc recommended

Max Loop Resistance: $\frac{V_s - 8V}{0.020 A}$

Dimensions: 23.6 H x 35.6 mm D (0.93 x 1.40")
(height includes terminal strip)

Weight: 15 g (0.53 oz), 25 g (0.8 oz)
if epoxy-potted



To Order

Model No.	Description
TX93A-(*)	Thermocouple transmitter (J, K, T or E)
TX93A-(*)-P	Thermocouple transmitter, fully epoxy-potted electronics for extreme environments
TX94A-(*)	RTD transmitter (100 Ω Pt, alpha = 0.00385)
TX94A-(*)-P	RTD transmitter, fully epoxy-potted electronics for extreme environments
NB2TX93A-(*)	TX93A mounted into a NB2 aluminum protection head, with 12" ungrounded probe (J, K, T, E), 304 SS sheath, 1/4" diameter
PRTX94A-(*)	TX94A mounted into a PR14 miniature aluminum protection head, with 12" sheath length, 1/4" probe diameter
-FS	Special factory scaling

* Insert range code from chart below.

Range Codes

TX93A				TX94A	Range °C (°F)
J	K	T	E	RTD	
J1			E1	1	-40 to 49 (-40 to 120)
J2	K2	T2	E2	2	-18 to 93 (0 to 200)
J3	K3	T3	E3	3	-18 to 149 (0 to 300)
J4	K4	T4	E4	4	-18 to 260 (0 to 500)
J5	K5	T5	E5	5	-18 to 399 (0 to 750)
J6	K6		E6	6	-18 to 538 (0 to 1000)

Notes: (1) Thermocouple models, output proportional to mV output of thermocouple. Not linearized to temperature. (2) Non-isolated unit for use with ungrounded probes. (3) Each unit supplied with complete operator's manual.

Ordering Example: TX93A-J4, Type J, transmitter with -18 to 260°C (0 to 500°F) range. NB1TXA-J8, specifies a Type J transmitter assembly, with 0 to 150°C range.