

THERMOCOUPLE

2 Wire (4-20 MA)

Temperature Transmitter Systems

2 Year Transmitter Warranty

Temperature Transmitter Features:

- Fits into a waterproof screw cap Connection Head. Eliminates the requirements for separate junction box and mounting.
- Available for Thermocouple type calibration J, K, E, and T.
- RFI and EMI protected.
- Available with spring load thermocouple assemblies.



ARI Industries Inc

BULLETIN 6.3



Thermocouple Temperature Transmitter Assemblies (2-Wire 4-20MA)

STYLE TX-57

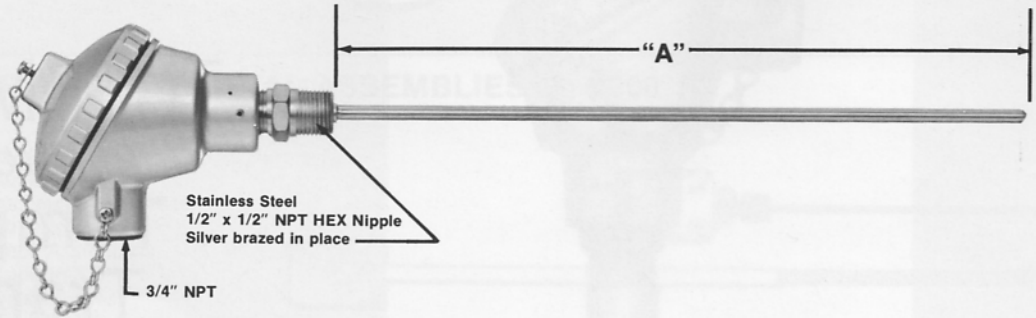
"CA" Aluminum
Connection Head

STYLE TX-457

"CI" Cast Iron
Connection Head

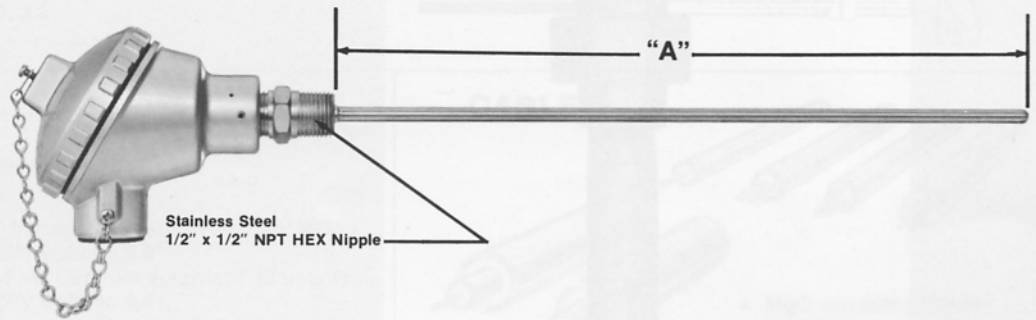
Note: TXSL-57
TXSL-457

For Spring Loaded
Fitting



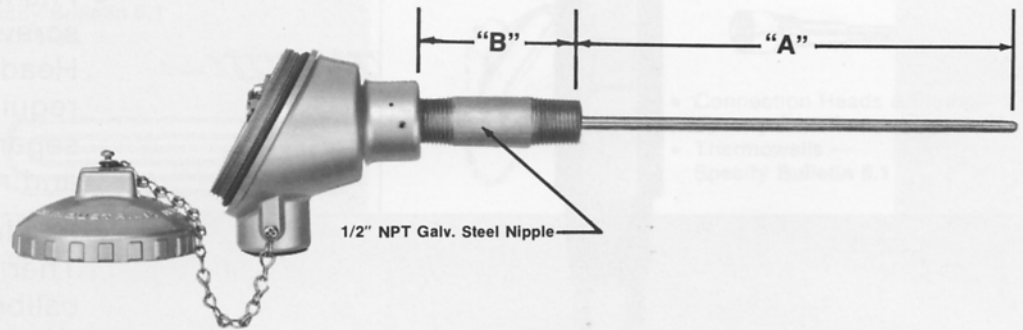
STYLE TX-50824

Spring Loaded
Connection Head
Assembly



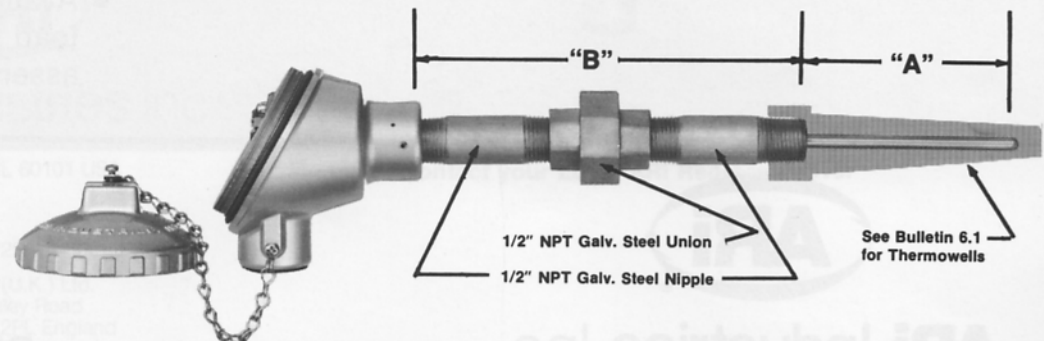
STYLE TX-50867

Spring Loaded
Connection Head
Assembly



STYLE TX-50829

Spring Loaded
Connection Head
Assembly



Thermocouple Temperature Transmitter

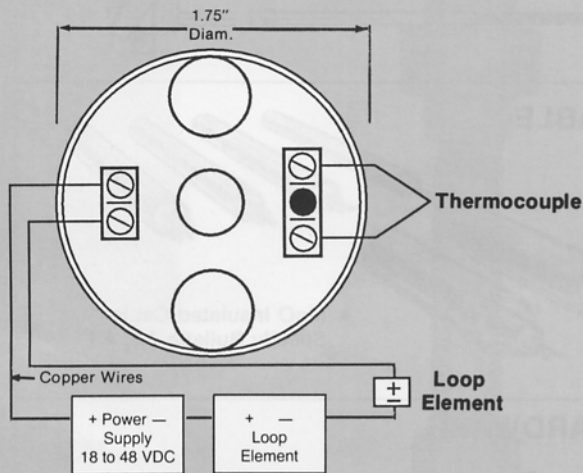


Part No. 47075

SPECIFICATIONS:

Output	4-20mA
Min. current	2.5mA
Max. current	28mA
Supply voltage	9-36 V DC
Supply voltage variation effect	Less than 0.001% for 1 volt change
Self heating effect	Less than 0.2% at max. power
Calibration inaccuracy	Less than 0.1% of input span
Linearity	Better than 0.03% of span
Trim stability	Better than 0.05%
Input adjustability	Zero — $\pm 45\%$ of span Span — $\pm 35\%$ of span
Temperature stability (drift)	Zero — better than 0.01% 1°C Span — better than 0.01% 1°C
Operating temp	-20 +70°C
Ambient storage temperature	-40 \pm 100°C
Minimum operating range span	50°C
Dimensions	1.7 inch (43mm) diameter x 1.17 inch (40mm) high
Mounting	Inside ARi Aluminum or Cast Iron Connection Head

INSTALLATION WIRING



HOW TO ORDER Temperature Transmitter:

Specify Part No. of Temperature Transmitter and indicate temperature span.

Example: Calibration K to produce 4-20MA over temperature span of 0 to 1000°F

Part No. is: **47075-K-0 to 1000°F**

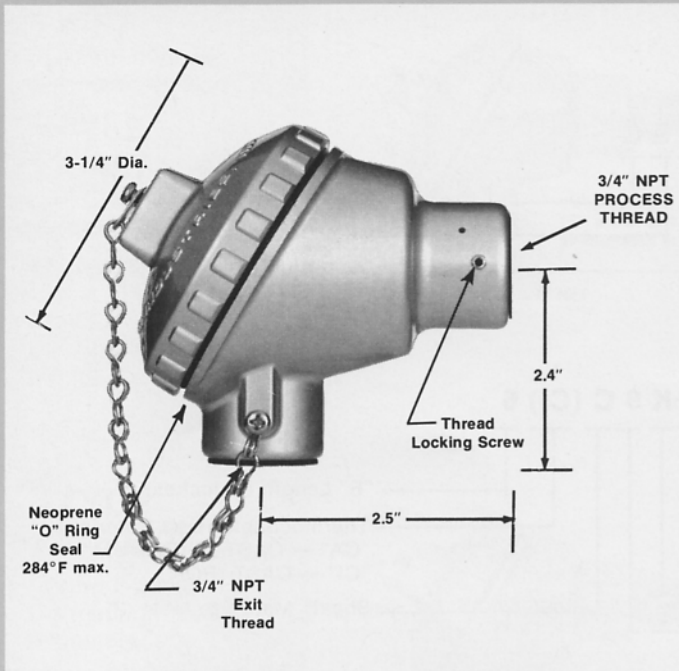
RANGE CHART

TYPE	Calib. Symbol	Range °F
Iron/Constantan	J	32-1400°F
Chromel/Alumel ¹	K	32-2000°F
Copper/Constantan	T	32-700°F
Chromel/Constantan	E	32-1600°F

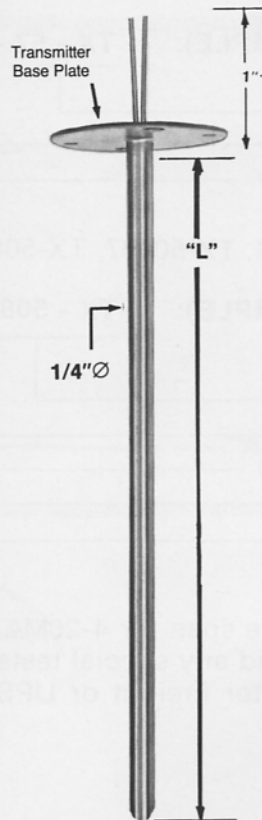
¹Trade Mark of Hoskins Mfg. Co.

Connection Head

Basic Thermocouple Insert

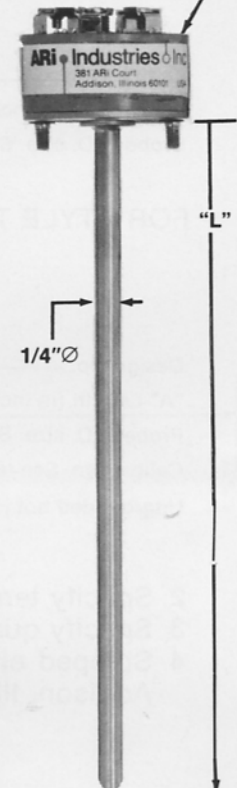


STYLE T-14P



STYLE TX-14

TEMPERATURE TRANSMITTER with Spring Loaded Mounting Screws



PART NUMBER	MATERIAL	NPT THREADS
47003	ALUMINUM	3/4" x 3/4"
47021	CAST IRON	3/4" x 3/4"
47052	ALUMINUM	1/2" x 1/2"

PROGRAMMABLE DIGITAL INDICATOR

with Transmitter Loop Power Supply

MODEL 610 PROGRAMMABLE DIGITAL INDICATOR



Model 610 is a dual purpose Digital Indicator and DC Power Supply that completes the Transmitter System both Zero and Span can be adjusted to match Transmitter temperature ranges with indicating ranges of -199.9 to +199.9 (°C or °F), or -400 to +1999 (°C or °F). Isolated 1 mv/degree analog voltage output or 2 point alarm options are available. Operates from 115V AC Line. Model 610 has resolution of 1°C or 1°F.

PANEL CUTOUT DIMENSIONS: 1.77" high x 3.625" wide x 5" deep

HOW TO ORDER:

THERMOCOUPLE ASSEMBLIES WITH TEMPERATURE TRANSMITTERS IN CONNECTION HEAD

1. Specify Part Number as follows:

FOR STYLE T-14P, TX-14, TX-57, TX-457

(EXAMPLE): TX - 57 - 24 E K 9 C

Design No. _____
 "A" Length (in inches) _____
 Probe O.D. size. See table (1). _____
 Sheath Matl. See table (2).
 Ungrounded hot junction
 Calibration. See table (3).

FOR STYLE TX-50824, TX-50867, TX-50829

(EXAMPLE): TX - 50829 - 6 F K 9 C (CI) 6

Design No. _____
 "A" Length (in inches) _____
 Probe O.D. size. See table (1). _____
 Calibration. See table (3). _____
 Ungrounded hot junction _____
 "B" Length (in inches)
 Thermocouple Head Material
 "CA" — CAST ALUMINUM
 "CI" — CAST IRON
 Sheath Matl. See table (2).

- Specify temperature span for 4-20MA output at 24 VDC.
- Specify quantity and any special tests required.
- Shipped either Motor Freight or UPS depending upon weight and package size. F.O.B. Addison, Illinois.

TABLE 1
Sheath & Wire Diameter

ARI Symbol		D	E	F	I
Sheath Diameter	inch	.125	.188	.250	.375
	m.m.	3.17	4.75	6.35	9.52
Wire Diameter	inch	.025	.036	.045	.072
	m.m.	.64	.91	1.14	1.83

TABLE 2
Sheath Material

ARI Symbol	Sheath Material
B	Inconel 600*
A	AISI 304 ST/ST
C	AISI 316 ST/ST

*Trademark of International Nickel Corp.

TABLE 3
Thermocouple Wire Calibration

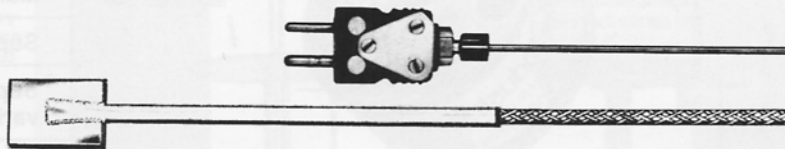
CALIBRATION*	ASTM E-230 SYMBOL	APPROXIMATE SIMILAR CALIBRATIONS
Chromel P-Alumel (1)	K	BS 1827, DIN 43710, NFE 18-001, JIS-C1602
Iron-Constantan	J	BS 1829, NFE 18-001
Chromel P-Constantan (1)	E	----
Copper Constantan	T	BS 1828, DIN 43710, NFE 18-001, JIS-C1602

(1) Registered Trademark of Hoskins Mfg. Co.
 *All calibrations are to standard limits of error.

OTHER **ARI** PRODUCTS

THERMOCOUPLES BASE METAL ASSEMBLIES (to 2000° F)

- Base Metal Assemblies
Specify **Bulletin 1.0**
- Molten Aluminum Assemblies
Specify **Bulletin 1.5**
- Tube Surface Assemblies
Specify **Bulletin 3.0**
- Multipoint Assemblies
Specify **Bulletin 7.3**

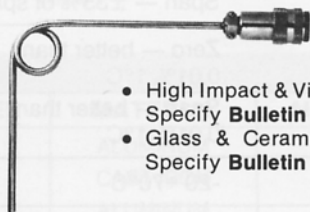


THERMOCOUPLES HIGH TEMPERATURE (2000°-4000° F)

- High Temp Assemblies —
Specify **Bulletin 2.0, 2.2**



RTD



- High Impact & Vibration Resistant RTD's
Specify **Bulletin 8.0**
- Glass & Ceramic Resistant Elements
Specify **Bulletin 8.4**

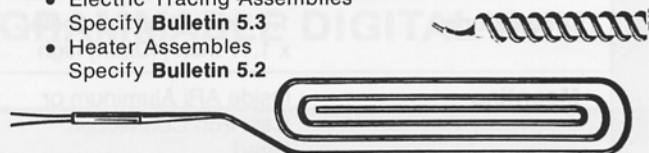
CABLE



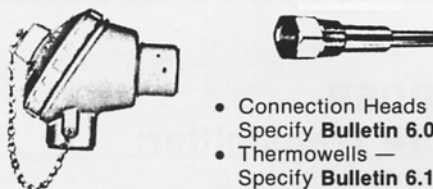
- MgO Insulated Cable
Specify **Bulletin 4.0, 4.1**

ELECTRIC HEATERS & CABLE

- Heater Cable — Specify **Bulletin 5.1**
- Electric Tracing Assemblies
Specify **Bulletin 5.3**
- Heater Assemblies
Specify **Bulletin 5.2**



HARDWARE



- Connection Heads & Fittings
Specify **Bulletin 6.0**
- Thermowells —
Specify **Bulletin 6.1**



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