

# ADTECH

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## ISOLATED THERMOCOUPLE TRANSMITTER MODEL NO. TCT 26

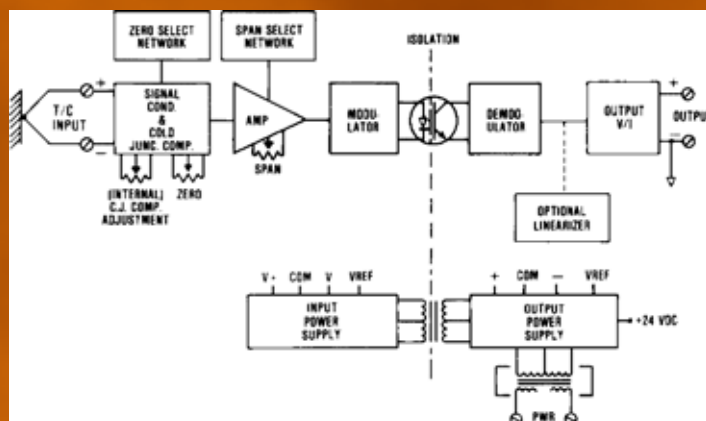
THE ADTECH MODEL TCT 26 ISOLATED THERMOCOUPLE TRANSMITTER PROVIDES HIGH ACCURACY CONVERSION OF THERMOCOUPLE SIGNALS TO A STANDARD PROCESS SIGNAL SUCH AS 4-20 MA DC, 1-5 VDC, OR ZERO-BASED OUTPUTS. IT UTILIZES DIGITAL PROCESSING WITH OPTICAL ISOLATION FOR IMPROVED LINEARITY, STABILITY, AND RESPONSE. THE TCT 26 PROVIDES SUPERIOR PERFORMANCE, HIGH ISOLATION LEVELS, HIGH COMMON MODE REJECTION, HIGH INPUT IMPEDANCE, HIGH ACCURACY, AND TEMPERATURE STABILITY.

DIFFERENTIAL TEMPERATURE MEASUREMENT IS PERFORMED WITH THE MVT 26 TRANSMITTER.

FEATURES INCLUDE 600 VAC / 1,000 VDC ISOLATION WITH A COMMON MODE REJECTION OF 140 DB AT 60 HZ. IT ALSO HAS A MAXIMUM OF 10 MV P/P OUTPUT RIPPLE TO DIRECTLY DRIVE INTO A COMPUTER SYSTEM, PLC, OR DISTRIBUTED CONTROL SYSTEM.

A UNIQUE OPTION TO THE TCT 26 IS THE MULTIPLE BREAKPOINT LINEARIZED OUTPUT. TYPICAL THERMOCOUPLES CAN BE AS MUCH AS 6% NON-LINEAR DEPENDING ON THE SPAN. THE OPTION ALLOWS CONFORMITY TO ACTUAL TEMPERATURE INPUT OF  $\pm 0.25\%$  OF SPAN TRIMMED BY MEANS OF FIVE POTENTIOMETERS.

ZERO AND SPAN CONTROLS ARE PROVIDED BY TWO INFINITE RESOLUTION POTENTIOMETERS. THE COLD JUNCTION COMPENSATION IS ALSO FIELD ADJUSTABLE TO ACCEPT OTHER THERMOCOUPLES.



### TYPICAL APPLICATIONS

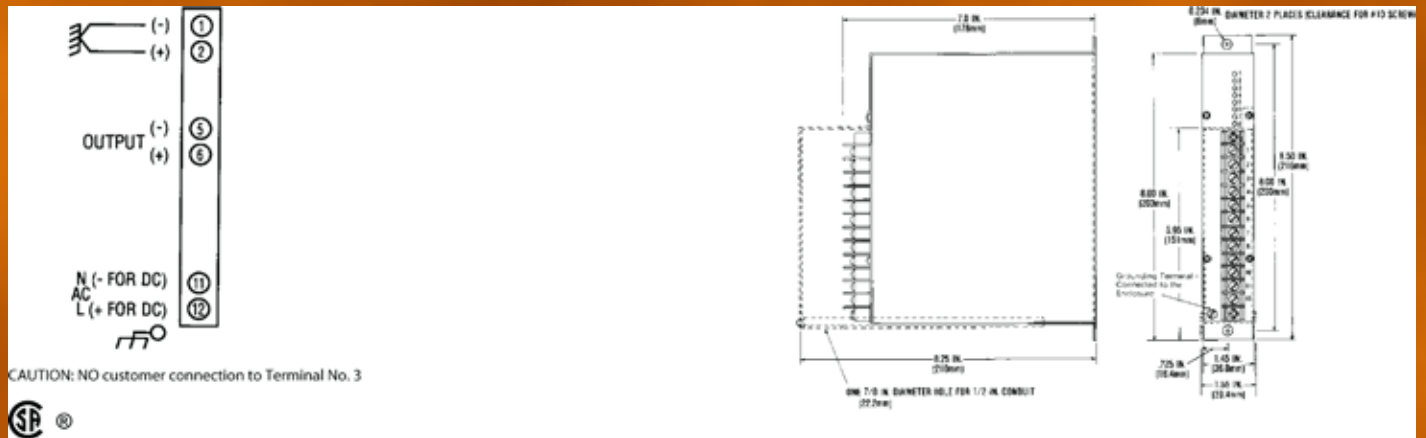
- PROCESS OR MACHINERY TEMPERATURE MEASUREMENT/ INTERFACE TO PROCESS CONTROLLER ALARMS OR COMPUTERS
- THERMOCOUPLE TO PROCESS SIGNAL CONVERSION
- TEMPERATURE MONITORING
- FOR INPUT/OUTPUT ISOLATION AND HIGH COMMON MODE REJECTION REQUIREMENTS
- THERMOCOUPLE LINEARIZATION

### FEATURES

- DIRECT THERMOCOUPLE INPUTS: ISA TYPES B, E, J, K, N, R, S, & T
- T/C LINEARIZATION: OPTIONAL
- INPUT SPANS: 3 mV TO 80 mV
- ZERO SUPPRESSION: -10 TO +80 mV
- HIGH INPUT IMPEDANCE: 10 MEGOHMS MINIMUM
- REPEATABILITY:  $\pm 0.02\%$  OF SPAN-TYPICAL
- ISOLATION: 600 VAC/ 1,000 VDC INPUT TO OUTPUT; 1,500 VAC POWER
- DC PROCESS SIGNAL OUTPUT: CURRENT AND VOLTAGE
- HIGH ACCURACY:  $\pm 0.1\%$  OF SPAN



# CONNECTIONS / DIMENSIONS



## INPUT/OUTPUT

## PERFORMANCE

## POWER

## MECHANICAL

INPUT SIGNALS	OUTPUT SIGNALS / OUTPUT DRIVE (RL)		
THERMOCOUPLE: ALL STANDARD ISA CALIBRATION (B, E, J, K, N, R, S, T) 3 mV TO 80 mV SPANS (Z IN GREATER THAN 10 MEGOHMS) ZERO SUPPRESSION: -10 mV TO +80 mV	SIGNAL	AC POWER(RL)	DC POWER(RL)
UPSCALE/DOWNSCALE BURNOUT PROTECTION: STANDARD ( 100 NA NOMINAL). UPSCALE PROVIDED UNLESS OTHERWISE SPECIFIED.	4-20 mA DC	0-1,000 OHMS MAX.	0-900 OHMS MAX.
	10-50 mA DC	0-400 OHMS MAX.	0-350 OHMS MAX.
	0-1 mA DC	0-20,000 OHMS MAX.	0-18,000 OHMS MAX.
	1-5 VDC	100K OHMS MIN.	100K OHMS MIN.
	0-10 VDC	200K OHMS MIN.	200K OHMS MIN.

CALIBRATED ACCURACY: $\pm 0.1\%$ LINEARITY: $\pm 0.1\%$ MAXIMUM, $\pm 0.04\%$ TYPICAL REPEATABILITY: $\pm 0.05\%$ MAXIMUM TEMPERATURE STABILITY: $\pm 0.01\%$ / °F MAX. $\pm 0.004\%$ / °F TYPICAL	TEMPERATURE RANGE: 0° TO 140 °F (-18° TO 60°C) OPERATING: -40° TO 185°F (-40° TO 85°C) STORAGE POWER SUPPLY EFFECT: $\pm 0.05\%$ FOR A $\pm 10\%$ POWER VARIATION
LOAD EFFECT: $\pm 0.01\%$ ZERO TO FULL LOAD OUTPUT RIPPLE: 10 mV P/P MAXIMUM RESPONSE TIME: 150 MILLISECONDS	COMMON MODE REJECTION: 140 DB @ 60 HZ ISOLATION: INPUT, OUTPUT, POWER, 600 VAC, 50/60 HZ, 1,000 VDC FOR AC, ISOLATED DC POWERED UNITS COLD JUNCTION COMPENSATION ERROR: $\pm 3^\circ\text{F}$ MAX.

NOTE: ALL ACCURACIES ARE GIVEN AS A PERCENTAGE OF SPAN.

115 VAC: 50/60 HZ, 0.7 PF (STANDARD)	48 VDC: ISOLATED (OPTION P3)
12 VDC: ISOLATED (OPTION P8)	125 VDC: ISOLATED (105-140 VDC) (OPTION P4)
24 VDC: NON-ISOLATED (OPTION P1)	230 VAC: 50/60 HZ, 0.7 PF (OPTION P5)
24 VDC: ISOLATED (OPTION P2)	

NOTE: ALL UNITS 3 WATTS MAXIMUM, AND A  $\pm 10\%$  POWER VARIATION

ELECTRICAL CLASSIFICATION: GENERAL PURPOSE  
 CONNECTION: BARRIER TERMINAL STRIP (3/8" SPACING, NO. 6 SCREWS)  
 CONTROLS: MULTITURN ZERO, SPAN, AND INTERNAL COLD JUNCTION COMPENSATION CONTROLS-STANDARD;  
 FIVE-SEGMENT MULTITURN CONTROLS OPTIONAL  
 MOUNTING: SURFACE MOUNTING STANDARD. SEE HOUSINGS SECTION FOR OPTIONS.  
 WEIGHT: NET UNIT: 2.6 POUNDS (1.18 KILOGRAMS) ; SHIPPING: 3.0 POUNDS (1.36 KILOGRAMS)

## OPTIONS

**Ordering Information**

- Model number
- Input thermocouple type
- Input temperature range (Degrees "F" or "C")
- Output signal
- Prime power with option no.
- Input/output options
- Housing and miscellaneous options

Please refer to the Housing and/or Option Section for more specific and detailed information.

OPTION NUMBER	DESCRIPTION
I 15	LINEARIZATION
O 10	BIPOLAR CURRENT OUTPUT (LARGER THAN $\pm 1$ MA)
O 11	BIPOLAR VOLTAGE OUTPUT TO $\pm 10$ VDC: AT 1 MA, BIPOLAR CURRENT $\pm 1$ MA
O 12	REVERSE CALIBRATION
H 10	THIN-LINE CONDUIT MOUNTING PLATE AND TERMINAL COVER
H 13B, H 14B, H 15B	NEMA 4, 7, AND 12 ENCLOSURES
H 16	PFA 12 HIGH-DENSITY, PLUG-IN ENCLOSURES