ADTECH
95 Mt. Read Blvd # 149
Rochester, New York 14611 USA
Phone: 1.585.698.1845
Fax: 1.585.697.0445

www.adtech-inst.com

"Smart Touch™" Linearized Isolated T/C Transmitter DC Powered Model No. TCT 327

The real costs of temperature measurements go far beyond the initial price tag for the transmitter. Cost of ownership, installed cost and ease of maintenance are the measures of value. ADTECH provides this value with all it's transmitters. Our SMART TOUCH™ temperature transmitter will change the way you specify transmitters.

The TCT 327 provides superior dynamic response, which is the measure of how accurately a transmitter can track a dynamically changing process.

In order to track a dynamic process, the transmitter update rate and response time must be fast enough to follow the input.

An update rate of 20 Hz and 67 millisecond response time is standard.

Update rates up to 500 Hz and 2.7 millisecond response time are optionally available.

Our superior dynamic response achieves tighter process control reducing process variability, waste, energy costs and improved product consistency.

The ADTECH SMART TOUCH™ Temperature Transmitter provides the benefits and value of a microprocessor based transmitter, yet the simplicity and intuitive feel of a conventional transmitter. The key to ADTECH's solution is; limit the complexity of the user interface. Make it simple to use, and don't force the user to navigate a complicated setup routine to verify or perform a simple calibration

Whether your system is a DCS, PC or PLC, enhance it with your specific measurement range and move the linearization burden to the transmitter. Why settle for a fixed factory range.

All out temperature transmitters provide the benefit of enhanced resolution by converting your specific process temperature range to a full scale output. PLC, DCS and PC systems are fixed range over the entire range of the sensor leading to measurement degradation.

Our compact package may be DIN, surface or SNAP Track mounted. NEMA 4 and 7 housings with or without process indicators are optionally available.

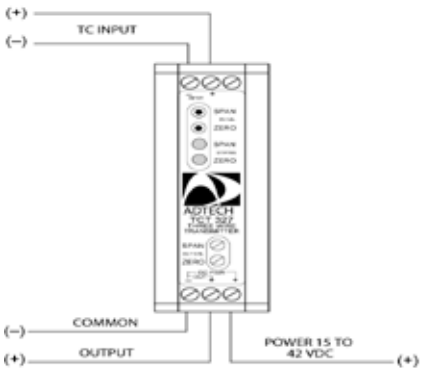
FEATURES

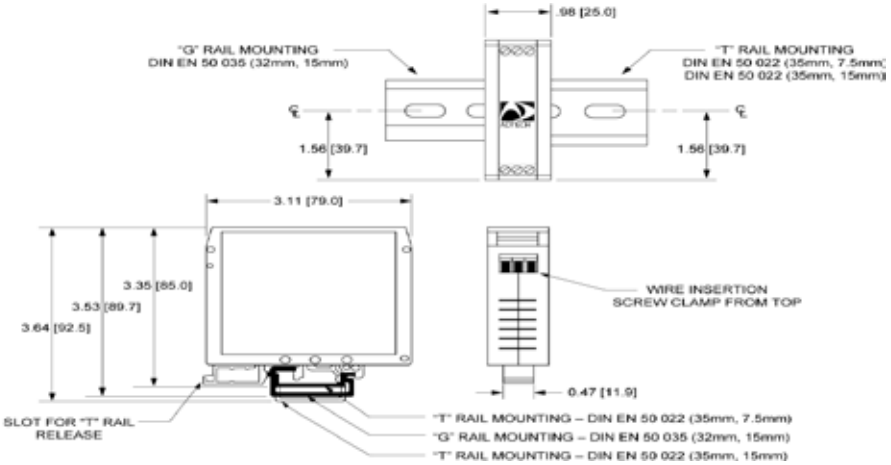
- Thermocouple Temperature Inputs: 11 NIST Standard T/C's (J,K,T,E,N,B,R,S,G,C,D)
- High Accuracy: 16 bit A/D measurement, 12 bit D/A output resolution
- RFI-Resistant
- Fast-Response: Digitizing rates to 500Hz. (Optional)
- Conformance: ±0.1 °C typical conformance error over the entire useful sensor measurement range
- Isolation: 1000 VDC or 600 VAC
- Simple Calibration: Select the input sensor, and simply push zero and span buttons

Benefits:

- Eliminates proprietary handheld or portable P/C's for calibration
- Eliminates the expense of the LCD Display
- Accepts 11 different T/C sensors
- Covers the entire usable sensor range
- Any calibration over any part of the range
- Normalizes your calibration to plant standards

CONNECTIONS / DIMENSIONS





INPUT

Thermocouple Input Signals: MIST Types J,K,T,E,N,B,R,S,G,C,D

OUTPUT

Output Signal: 4-20 mA DC; 0-20 mA DC;
0-1 mA DC; 1-5 VDC; 0-5 VDC; 0-10 VDC
Output Loop Drive Capability

$$R\ (OHM) = \frac{(V\ SUPPLY - 5.0) * 1000}{I\ OUT\ MAX\ (MA)}$$

Iout	4-20 mA or 0-20 mA			
V supply	15	24	36	42
R(ohms)	500	950	1550	1850

PERFORMANCE

Calibrated ACCURACY: ±0.1% of mV input
Independent Linearity: ±0.05% max.,
±0.02% typical
Repeatability: ±0.01% max., ±0.004% typ.
Zero TC: ±0.15 µV / °C
Span TC: ±30 ppm of span max. / C
Load Effect: ±0.005% zero to full load
Output Ripple: 10 mV (p-p) maximum

Temperature Range:
-25° to 185 °F (-31 °C to 85 °C) operating;
-40 ° to 200 °F (-40 °C to 93 °C) storage
Power Supply Effect: ±0.005% of span over operating range
Isolation: Input/Output/Case: 10000 VDC or 600 VAC
Response Time: 67 milliseconds (10 to 90% step response)
Bandwidth: 5.24 Hz, up to 130 Hz optional

T/C Type	Range (°C)	Min A/D Resolution (°C)	Linearization Conformance Error (°C)
J	-210 to 1200	0.12	0.1
K	-200 to 1372	0.16	0.1
T	-200 to 400	0.08	0.1
E	-200 to 1000	0.10	0.1
N	-200 to 1300	0.24	0.1
B	250 to 1820	0.24	0.11
R	-50 to 1768	0.32	0.12
S	-50 to 1768	0.30	0.10
G	0 to 2315	0.8	0.13
C	0 to 2315	0.25	0.10
D	0 to 2320	0.25	0.12

Notes:

1. Cold junction sensor accuracy is 0.5 °C over the operating temperature range.

2. Minimum A/D resolution is the equivalent temperature per bit at the least sensitive portion of the thermocouple range. Typical Values are 0.04 °C in the normal operating range of the thermocouples.

3. Linearization conformance is the error from the NIST tables at a given µV equivalent.

POWER

15-42 VDC at 33 mA max.

MECHANICAL

Electrical classification: General Purpose
Connection: Screw compression type accepts up to 14 AWG
Mounting: DIN - standard
(See other options below)

Controls: 8 position switch, input, zero and span push button switch and status LED; output span and zero trim potentiometers.

OPTIONS

Ordering Information
- Input thermocouple type
- Input temperature range (Degrees "F" or "C")
- Output signal
- Prime power
- Input/output options
- Housing and miscellaneous options

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

Number	Description	Number	Description
H 15D	Explosion Proof: Class 1, Group B,C & D	H 27	NEMA 4 enclosure (up to 3 units)
H 23	Two (2) inch pipe mounting plate & clamps	H 29	T 35 DIN "T" rail two feet long
H 25	Snap Track mounting (specify)	H 30	T 32 DIN "G" rail two feet long
H 26	Surface Mounting (specify)		