

Temperature Switchgag[®] Scanner/Pyrometer Model TDX6

The TDX6 is an advanced design six-point temperature scanner and pyrometer. It continually scans up to six thermocouples and sequentially displays the thermocouple number and its reading. Each sensor input has a field settable trip point for alarm, shutdown or control. A read/scan selector allows the operator to set and view each trip point. With the selector in the scan mode, a thermocouple read push button provides a means to manually toggle through the six channels and to lock in on a specific channel. Normal scanning will resume approximately three seconds after releasing the push button. All trip points are continually armed and active during the scanning process.

Type J or K, grounded[†] or ungrounded thermocouples are accommodated. Other types are available upon request.

The TDX6 can interface with other Murphy Selectronic[®] Tattletale[®] annunciators and microcontrollers. It is rated for Class I, Division 2, Group D, hazardous areas* and is available for operation from CD ignition, 120 VAC or 24 VDC.

NOTE: Using grounded thermocouples introduces the risk of odd currents or voltages being imposed on the thermocouple signal which can affect the accuracy of the reading. This is an inherent problem of grounded thermocouples and the reason why we prefer ungrounded thermocouples.

Applications

- Gas Compressor Suction/Discharge Temperature
- Engine/Compressor Jacket Water Temperature
- Process Temperatures
- Generators
- Pumps
- Engine Exhaust Temperature

TDX Interface Capabilities

Models	Power Source	Ratings
LCDT	CD Ign., 120 VAC, 12/24-VDC C	Cl.I, Div.1, Gr.D, Haz. areas*
S1501	120 VAC or 12/24-VDC	Cl.I, Div.1, Gr.D, Haz. areas *
TTD	CD Ignition (neg. grnd), 12/24-VDC	Cl.I, Div.2, Gr.D, Haz. areas †
Tattletale [®]	CD Ign., 120 VAC, 12/24-VDC	Non-Hazardous areas

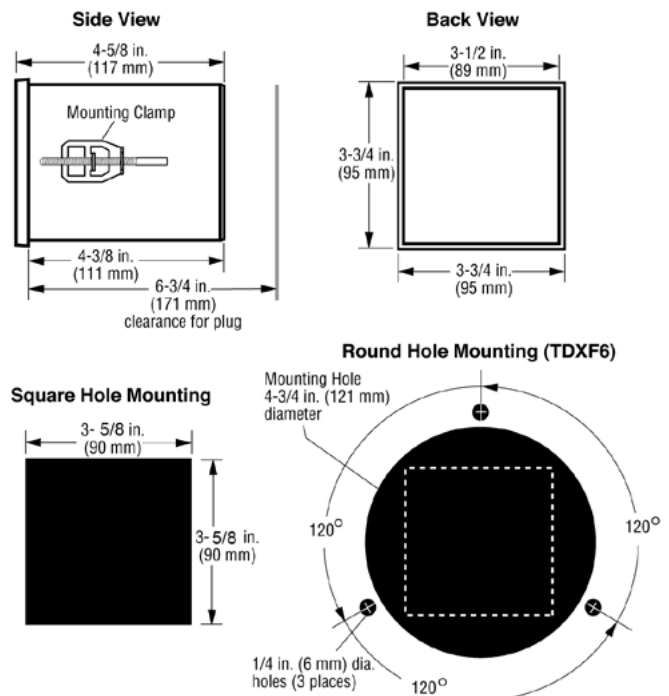
An isolation barrier is needed between the TDX6 and an Annunciator rated for Class I, Division 1, Group D, Hazardous Areas.

PLCs, various non-Murphy annunciators—contact factory.



- 1 When used with power requirements described below.
- 2 When used with approved ignition. Contact Enovation Controls for details.

Dimensions



Specifications

Power Requirements (Operating Voltages):

120 VAC or 80-250 VDC, CD ignition or 24 VDC

Outputs:

Models TDX6-A and TDX6-C: Six isolated Silicon Controlled Rectifier (S.C.R.) outputs; 0.5 A @ 250 VDC; switches on (applies ground) above trip point and switches off (removes ground) when power is switched off.

Models TDX6-B and TDX6-D: Six isolated Field-Effect Transistor (F.E.T.) outputs; 0.1 A @ 250 VDC; switches on (applies ground) above trip point and switches off (removes ground) below trip point.

Operating Temperature: -4° to 158° F (-20° to 70° C)

Storage Temperature: -40° to 300° F (-40° to 150° C)

Case: ABS 1/4 DIN (90 x 90 mm)

Scanning Speed: Complete scan in 30 seconds

Reset Differential:

F.E.T. models: Decreases 3 Degrees (° F or ° C)

S.C.R. models: Turn input power off to reset

Display Update Time: Updates temperature every 0.3 seconds

Start-up Time Delay: Unit is locked out for 10 seconds after ignition voltage is sensed.

Ambient Cold Junction Compensation Range:

2° F from 32° F to 122° F (1° C from 0° C to 50° C)

Measurement Range:

Monitor Range 0-1999° F or ° C (specify ° F or ° C in part number)

Accuracy:

With J-type thermocouple:

from 50°-150° F (10°-66° C) +3° F(+2° C)

from 150°-1200° F (66°-649° C) ±1.0% of reading

With K-type thermocouple:

from 400°-2000° F (204°-1076° C) ±1.0% of reading

Trip Point Accuracy: ±3° F (±2° C) of reading

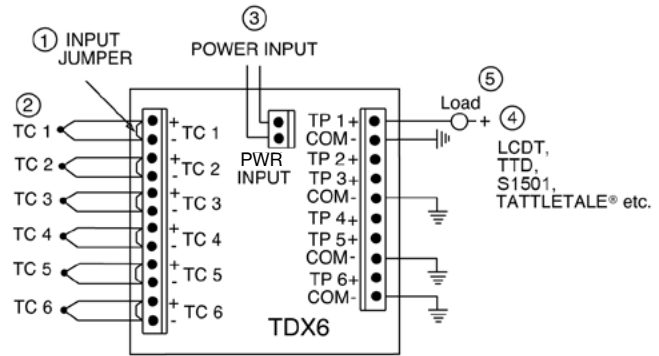
Trip Point Adjustment Range: 0-1999 Degrees

Open Thermocouple Input: A number 1 appears in the display to the right of the channel number and the trip point operates.

Shipping Weight: 2 lb. (0.91 kg)

Shipping Dimensions: 5-1/2 x 9 x 6 in. (140 x 229 x 152 mm)

Typical Wiring Diagram



NOTES:

- Remove input jumper when the thermocouple is connected to input.
- Thermocouple Input
- Power input 120 VAC, 80-250 VDC, CD ignition or 24 VDC, positive or negative ground.
- Interfaced components must meet area classification requirements.
- When using the TDX6 with inductive loads, we recommend installing a suppression diode across all coils.

How to Order

Options listed below. All configurations may not be available. Call your sales representative or Enovation Controls for more information.

