



FW MURPHY®
PRODUCTION CONTROLS



Official FW Murphy Distributor
PT. ATAMORA TEHNIK MAKMUR

TDX6

Temperature Scanner/Pyrometer



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.

- Adjustable trip points are continually armed and active during the scanning process
- Uses J or K type thermocouples
- Powered by CD ignition, 24 VDC or 120 VAC
- Rated for Class I, Division 2, Group D hazardous areas
- Start-up time delay
- Easy-to-read digital display

Overview

On the TDX6, 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 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 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.

† 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.

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

Specifications

- **Power Requirements (Operating Voltages):** 120 VAC or 80-250 VDC, CD ignition or 24 VDC
- **Outputs:**
 - Models TDX6-B and TDX6-D: Six isolated Field-Effect Transistor (FET) 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:**
 - FET models: Decreases 3 degrees (F or C)
- **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)

HEAD OFFICE, MARKETING & BUSINESS DEVELOPMENT

Equity Tower, 25th Floor, Suite 25F, SCBD Lot 9,
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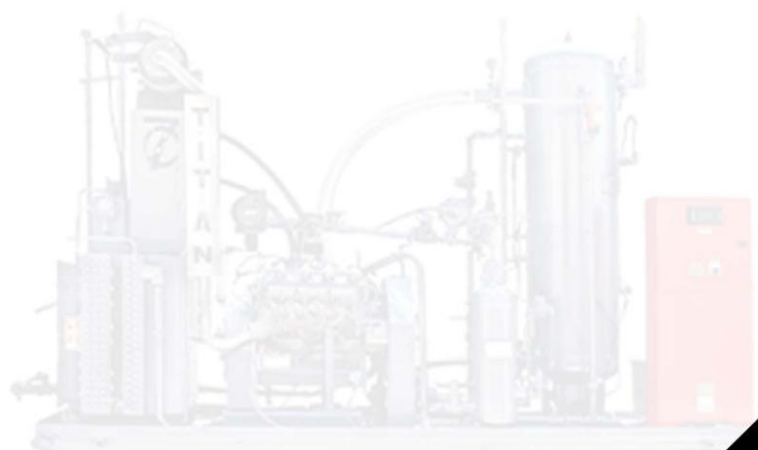


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TDX6

Temperature Scanner/Pyrometer

- 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)



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Temperature Scanner/Pyrometer Model TDX6

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

The TDX6 can interface with other 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.



¹ When used with power requirements described below.

² When used with approved ignition. Contact FW Murphy for details.

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Applications

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

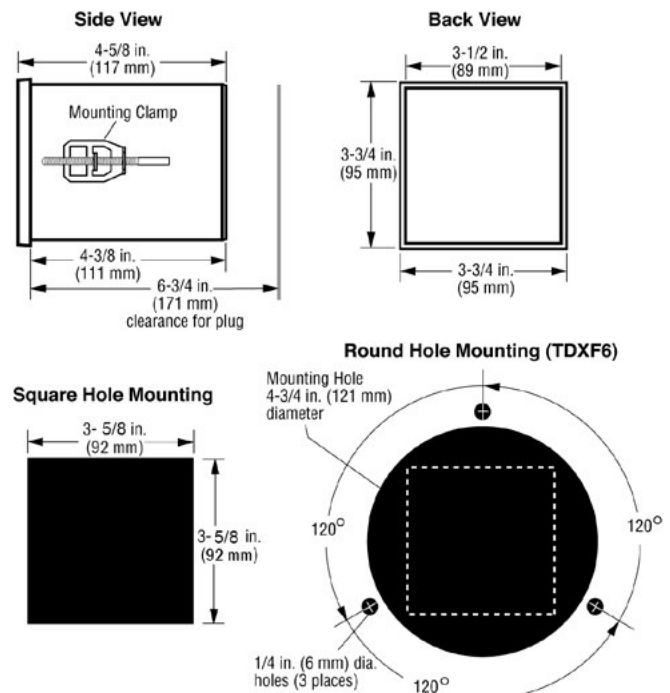
TDX Interface Capabilities

| 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-FW Murphy annunciators—contact factory.

Dimensions



Specifications

Power Requirements (Operating Voltages):

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

Outputs:

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)

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 degrees

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:

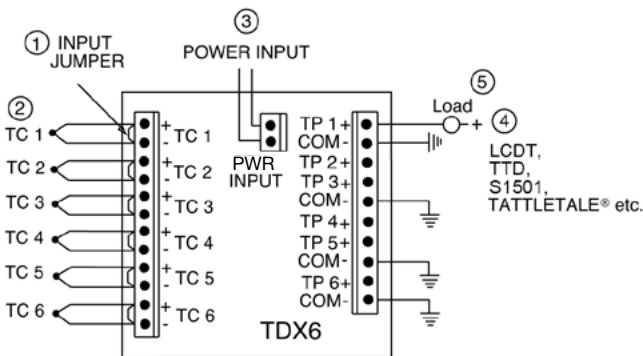
from 400°-2000° F (204°-1076° C) ±1.0% of reading

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.

Typical Wiring Diagram

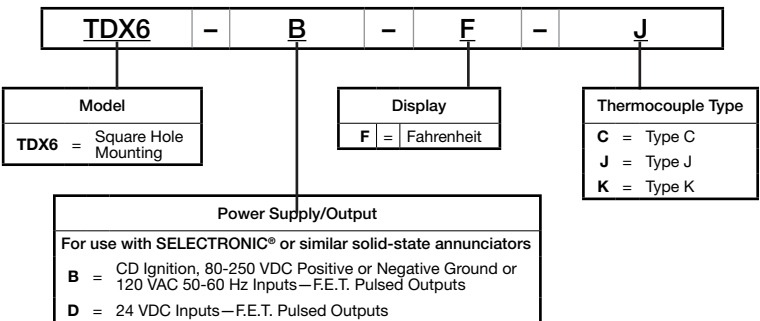


NOTES:

- ① Remove input jumper when the thermocouple is connected to input.
- ② Thermocouple input
- ③ Power input 120 VAC, 80-250 VDC, CD ignition or 24 VDC, positive or negative ground.
- ④ Interfaced components must meet area classification requirements.
- ⑤ 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 FW Murphy for more information.



| Approximate Shipping Weight and Dimensions | | |
|--|-----------------|--|
| Model | Weight | Dimension |
| TDX6 | 2 lb. (0.91 kg) | 5-1/2 x 9 x 6 in. (140 x 229 x 152 mm) |