

FEATURES

- NEMA 4X Splashproof Enclosure
- 3-1/2 Digit User-Rangeable Display
- Available for all RTD Types
- Linearizes Platinum RTDs
- 3-Wire Lead Compensation Standard
- Urethane-Coated Circuit Boards
- AC or DC Power Options

DESCRIPTION

FDT5400 Series RTD Input Transmitters provide an isolated DC output proportional to temperature as measured by a resistance thermometer (RTD). Model FDT5400 specifically designates 100 ohm platinum RTD input; additional model numbers are reserved for other RTD types.

Standard three-wire input circuitry compensates for lead wire resistance; a 4-wire input option is available. Platinum RTDs are linearized to provide true temperature indication. (Other types may or may not be; contact us to discuss your specific requirements.) A low-drift input amplifier helps assure accurate readings under varying ambient conditions.

A rugged NEMA 4X splashproof, corrosion-resistant housing protects the transmitter in outdoor and industrial environments. The circuit boards are urethane coated for protection against condensation and contaminants. FDT5400 Series transmitters include a 3-1/2 digit user-rangeable display to provide local process indication in degrees or other engineering units.

Options include AC and DC power choices and reverse-acting transmitter (decreasing output with increasing input).

For field mount transmitters without a display, select any plug-in style transmitter plus our ENCL-1 NEMA-4X enclosure.

HOW TO ORDER

Model Numbers:

Specify Model FDT5400 for use with 100 ohm platinum RTDs. Other model numbers will be assigned upon request for other RTD types. Contact factory for non-RTD resistance inputs.

Power:

Add suffix A (FDT5400A) for AC power, D for DC power. Specify 115Vac, 230Vac, 12Vdc or 24Vdc.

RTD Type:

Model FDT5400: 100 ohm platinum. Others as determined by assigned model number.

Input Range:

Specify any range allowed by "Input Capabilities" spec (back).

Output Range:

Specify any DC voltage or current range allowed by "Output Capabilities" spec (see back).

4-Wire RTD:

Specify Option 4W.

Display Range:

If not otherwise specified, the display will be calibrated in degrees per your input range. Other calibrations are possible; see "Display Capabilities" specification on back.

Reverse-Acting Transmitter:

Decreasing output with increas-



ing input. Change last digit of the model number to 1 (for example, FDT5401A).

Loop-Powered Output:

4/20mA "current sink" output stage for connection to devices whose inputs provide 24Vdc loop excitation. Change last digit of the model number to 2 (for example, FDT5402A).

Conduit Connection:

Standard: A single 1/2 inch NPT conduit fitting (glass-fiber reinforced nylon) is provided at the bottom of the housing. Other options are possible, including no fitting at all. Contact factory.

INSTALLATION

FDT5000 Series transmitters provide four mounting holes, 0.19 inch/4.8 mm diameter, beneath the cover screws. Remove the cover, mount the transmitter with four screws (#10 or smaller) and reinstall the cover for a NEMA-4X splashproof seal.

ELECTRICAL CONNECTIONS

Connections are made to 8 terminals within the enclosure:

- 1: RTD.
- 2: RTD (same end of RTD as terminal 1). If connecting to a 2-wire RTD, jumper terminals 1 and 2.
- 3: RTD (opposite end)
- 4: Standard - no connection.
Option 4W - 4th wire of RTD (same end as terminal 3).
- 5: Output plus.
- 6: Output minus.
- 7: Power (AC or, if DC power option, DC plus).
- 8: Power (AC or, if DC power option, DC minus).

SPECIFICATIONS

RTD Type:

Any RTD from 10 to 2,000 ohms. (Model FDT5400 for 100 ohm platinum, other models FDT54x0 for other types. Contact factory. Specify RTD type, resistance & slope.)

Input Connection:

3-wire connection is standard. Specify Option 4W for 4-wire RTD.

Input Capabilities:

Minimum span 10 deg. C (18 deg. F) or 1 ohm, whichever is greater. Any range up to maximum covered by RTD. Offset ranges are allowed.

Voltage Output Capabilities:

1 volt minimum output span, -10 to +15V absolute limit. Offset ranges are allowed. Maximum output load, 10mA (1Kohm at 10V output).

Current Output Capabilities:

1mA minimum output span, 0 to +25mA absolute limit. Positive offsets are allowed, negative outputs are not. Output drive capability, 24V (1,200 ohms max. at 20mA output).

Display Capabilities:

Low end and full scale readings may be anywhere between -1999 and +1999 counts. A fixed decimal point may be added in any position. Minimum span (full scale minus low end) is 10 counts. Reverse-acting display is possible (full scale reading downscale from low end). Display may be re-ranged by user. (Display is normally calibrated in degrees per the input range. If other settings are desired, please specify on your order.)

Endpoint Accuracy:

+/-0.1% of span or 0.02 ohms, whichever is greater.

Adjustability:

Zero and span each are adjustable approx. +/-15% of span.

Linearity:

Platinum RTDs are linearized. Copper is inherently linear.

Contact factory for information on others.

Response Time:

Under 100 milliseconds.

Isolation:

3-way (Power/Input/Output) 1,500Vac rms (2,100V peak).

Operating Temperature:

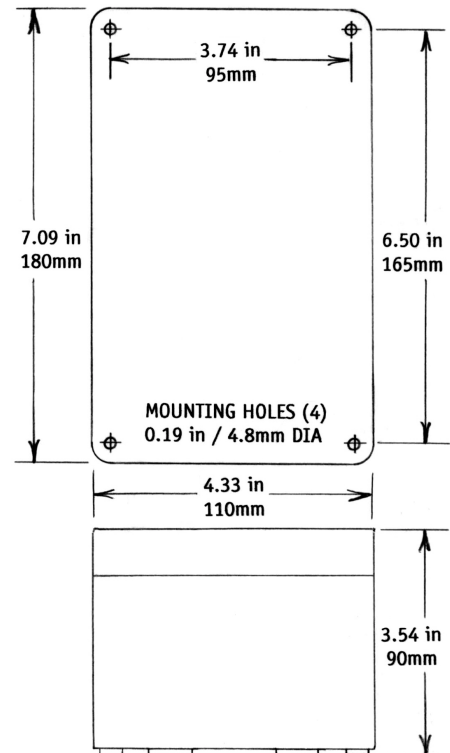
-10 to +60°C (14 to 140°F).

Temperature Stability:

+/- (0.02% of span plus 0.002°C) per °C, or better.

Power Requirements:

AC, 115 or 230Vrms, 50/60Hz, 2.5V-A. DC, 12 or 24V, 2.5W.



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