

### FEATURES

- NEMA 4X Splashproof Enclosure
- 3-1/2 Digit User-Rangeable Display
- Potentiometers from 100 ohms to 100Kohms
- Offset and Expanded Ranges Available
- Input/Output Isolation Standard
- Urethane-Coated Circuit Boards
- AC or DC Power Options

### DESCRIPTION

The Model FDT5800 Potentiometer Input Transmitter provides an isolated DC output proportional to the position of a potentiometer or slidewire wiper. The input range may be 0-100% or any 10% or wider portion of the wiper's travel. Calibration is unaffected by the potentiometer's end-to-end resistance.

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. Model FDT5800 includes a 3-1/2 digit user-rangeable display to provide local process indication in engineering units.

Available 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 of our plug-in transmitters plus our ENCL-1 NEMA-4X enclosure.

### HOW TO ORDER

**Model Number:** FTD5800

**Power:**

Add suffix A (FDT5800A) for AC power, D for DC power. Specify 115Vac, 230Vac, 12Vdc or 24Vdc.

**Input Potentiometer:**

It is *not* necessary to specify the potentiometer's resistance. Just make sure it is not less than 100 ohms nor more than 100Kohms.

**Input Range:**

Specify 0/100%, or any 10% or wider portion of the travel (for example, 60/70%).

**Output Range:**

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

**Display Range:**

Specify display reading at low end and at full scale, including decimal point if required. See "Display Capabilities" specification on back. Note that reverse-acting display is possible – full scale reading downscale from low end. Display may be re-ranged by user.

**Reverse-Acting Transmitter:**

Decreasing output with increasing input. Change last digit of the



model number to 1 (for example, FDT5801A).

**Loop-Powered Output:**

4/20mA "current sink" output stage for connection to devices whose inputs provide 24Vdc loop excitation. Change the last digit of the model number to 2 (for example, FDT5802A).

**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: Counterclockwise (0% travel).
- 2: Wiper.
- 3: Clockwise (100% travel).
- 4: No connection.
- 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

### Input Potentiometer:

May be any resistance between 100 ohms and 100Kohms. Calibration is not affected by the potentiometer's resistance.

### Input Capabilities:

0 to 100% travel, or any 10% or wider portion of the travel (for example, 45 to 55% travel).

### 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.

### Accuracy:

+/-0.1% of span.

### Adjustability:

Zero and span each are adjustable approx. +/-15% of span. When ordered for 0-100% travel, the adjustments are set up so as to allow calibration to any 75% or wider portion of the travel (for example, 0-75% or 25-100%).

### Linearity:

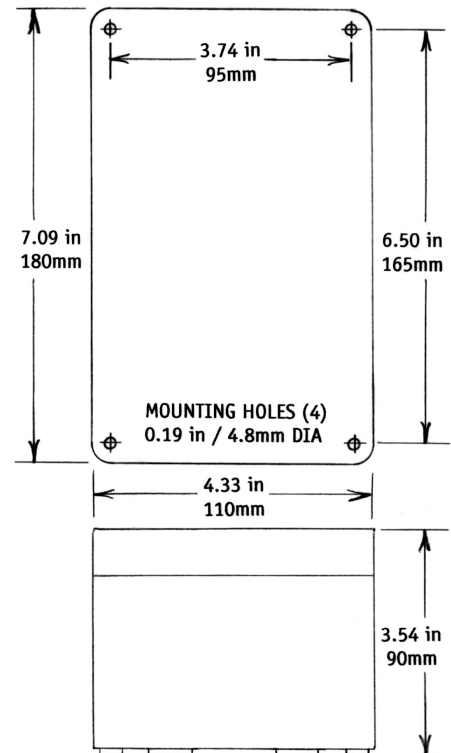
+/-0.05% of span or better.

### Response Time:

Under 100 milliseconds.

### Isolation:

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



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