FDT5500

STRAIN GAUGE (BRIDGE) FIELD MOUNT TRANSMITTER

FEATURES

- NEMA 4X Splashproof Enclosure
- 3-1/2 Digit User-Rangeable Display
- Input Spans as low as 0.4mV/V (at 10V excitation)
- Excitation Adjustable from 4 to 12V
- Offset and Nonstandard Ranges Available
- Urethane-Coated Circuit Boards
- AC or DC Power Options

DESCRIPTION

The Model FDT5500 Strain Gauge Transmitter supplies excitation to a strain gauge or other resistance bridge, amplifies the bridge voltage and provides a proportional, isolated DC voltage or current output. A low-drift input amplifier maintains accurate readings under varying ambient conditions. Excitation voltage may be set anywhere between 4 and 12 volts.

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 FDT5500 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). Bridge applications other than strain gauges are possible: contact the factory with your requirements.

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

HOW TO ORDER

Model Number: FDT5500

Power:
Add suffix A (Model FDT5500A) for AC power, D for DC power. Specify 115Vac, 230Vac, 12Vdc or 24Vdc.

Input Range:
Specify range required in millvolts (mV), volts (V) or millivolts per volt (mV/V). For example, with 10V bridge excitation a range of 0/20mV is the same as 0/2 mV/V. See Specifications for input capabilities. Range may be offset.

Bridge Excitation:
User-adjustable. Normally factory-set to 10V. For other settings specify any voltage between 4 and 12Vdc. (Note: 40mA max. load. For 120ohm bridges, specify 4.8V or less.)

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, FDT5501A).

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, FDT5502A).

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: Input plus (bridge output).

2: Input minus (bridge output).

3: Bridge excitation plus.

4: Bridge excitation minus.

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 Capabilities:
4mV (0.4mV/V at 10V excitation) minimum span, 10V (1V/V at 10V excitation) maximum. Offset ranges are allowed. (Input Impedance: 200kohms.)

Excitation Voltage:
Adjustable 4 to 12Vdc. Factory set to 10V unless otherwise specified. 40mA maximum current. (120 ohm bridges limited to 4.8V excitation or less. 350 ohm bridges ok to 12V.)

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 reranged by user.

Accuracy:
+/-0.1% of span or 10 microvolts, whichever is greater.

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

Linearity:
+/-0.05% of span or better.

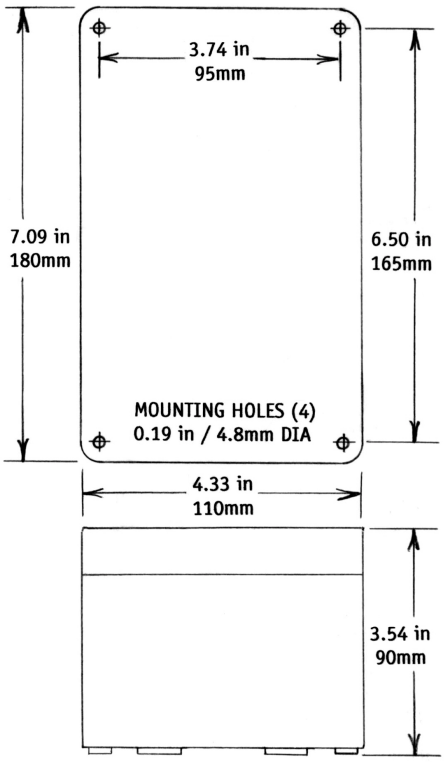
Response Time:
Under 100 milliseconds.

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 1.3 microvolts) 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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