FDT5600/5610

AC INPUT FIELD MOUNT TRANSMITTERS

FEATURES

- NEMA 4X Splashproof Enclosure
- 3-1/2 Digit User-Rangeable Display
- Inputs from 50mV to 250Vrms, 1mA to 5 Amps
- True-RMS Response Option Available
- Expanded Input Ranges Available
- Urethane-Coated Circuit Boards
- AC or DC Power Options

DESCRIPTION

Model FDT5600 and FDT5610 AC Input Transmitters provide an isolated DC output proportional to an AC voltage or current input. Input/output isolation is standard to guard against shock hazards in power measurements and against ground loop errors. Inputs ranges may be zero based or may be expanded (for example, 50-150Vac).

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. FDT5600 Series transmitters include a 3-1/2 digit user-rangeable display to provide process indication in engineering units.

Model FDT5600 is average responding, calibrated to provide accurate RMS readings with sine wave inputs. Accuracy is better than 0.5% of span, but will be degraded with nonsinusoidal waveforms such as from SCR/Triac speed and power controllers or pulse-modulated motor drives. For accurate readings with nonsinusoidal waveforms use true-RMS responding Model FDT5610.

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:
FDT5600: AC Input, Average Responding
FDT5610: AC Input with True RMS Response

Power:
Add suffix A (for example, FDT5600A) for AC power, D for DC power. Specify 115Vac, 230Vac, 12Vdc or 24Vdc.

Input Range:
Specify any AC voltage or current range allowed by the "Input Capabilities" spec (see back).

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

DisplayRange:
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, FDT5601A).

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, FDT5602A).

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: AC signal input.

2: AC signal input.

3: No connection.

4: No connection.

5: Output plus.

6: Output minus.

7: Power (AC or, if DC power option, DC plus).

8: Power (AC, or DC minus).

TRUE-RMS OPTION

Model FDT5600 uses average-responding AC/DC converter circuitry calibrated for RMS sine wave response. Pure AC power and other sine wave inputs will be highly accurate. Nonsinusoidal waveforms, however, such as from SCR/Triac power controllers or variable speed drives (pulsed), will produce appreciable errors.

True-rms response, Model FDT5610, gives correct readings regardless of the waveform's shape.

SPECIFICATIONS

Voltage Input Capabilities:
50mV rms minimum span, 250V maximum input (to 600V rms on special order). Offset ranges are allowed. (Input Impedance: 200kohms or greater.)

Current Input Capabilities:
1mA rms minimum span, 5 Amps maximum input. Offset ranges are allowed. (Input voltage drop typically 0.1V at full scale. For exact specification for your range, contact factory.)

Input Frequency:
40 Hz to 1kHz for specified accuracy.

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:
+/-0.5% of span or better.

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

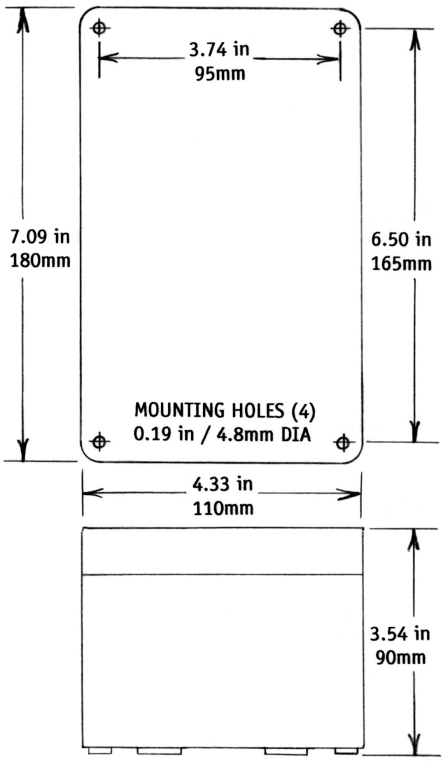
Response Time:
Under 200 milliseconds.

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% 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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