

FDT5100 SERIES FIELD MOUNT TRANSMITTERS ADD-SUBTRACT DC INPUTS



FDT5110: $(A+B)/2$

FDT5120: $(A+B+C)/3$

FDT5130: $(A-B)$

- NEMA 4X Splashproof Enclosure
- 3-1/2 Digit Display
- Voltage or Current Inputs and Outputs
- Nonstandard Ranges Available
- Input/Output Isolation Standard
- Urethane-Coated Circuit Boards
- AC or DC Power Options

[FDT5110/FDT5120/FDT5130](#)

[PDF](#)

[DATA SHEET](#)

Also see:

FDT5140/FDT5150 for Multiply/Divide functions

FDT5160/FDT5170 for Square/Square Root functions

FDT5110-5120-5130 Field Mount Transmitter

Written by Administrator

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FDT5100 Series Add/Subtract Transmitters respond to the sum or difference of 2 or 3 DC inputs and provide a proportional, isolated DC output.

Standard calibration provides low-end output (0%) when all inputs are at 0%. On Models FDT5110 and FDT5120 full-scale output (100%) occurs when all inputs are at 100%. On Model FDT5130, full-scale output occurs when input A is at 100% and input B at 0%. Voltage or current inputs and outputs may be chosen: the input and output ranges need not be the same. Nonstandard calibrations are available, including unequal weighting, dissimilar input ranges and input-to-output offsets. [Contact us](#) with your requirements.

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. FDT5100 Series transmitters include 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 plug-in transmitter module plus our ENCL-1 NEMA-4X enclosure. (see [Accessories](#) page)

ORDERING INFORMATION

Model Number:

Select from the list above according to your input function.

Display:

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Specify display reading at low end and at full scale output, including decimal point if required. See "Display" section for details.

Power:

Add suffix A (for example, FDT5110A) for AC power, D for DC power. Specify 115Vac, 230Vac, 12Vdc or 24Vdc.

Input Range:

Specify any DC voltage or current range allowed by the "Input Capabilities" spec, below.

Output Range:

Specify any DC voltage or current range allowed by the "Output Capabilities" spec, below.

Reverse-Acting Transmitter (increasing output with increasing input)

Change the last digit of the model number to 1 (for example, FDT5111A).

Loop-Powered Output:

4/20mA "current sink" output stage for connection to devices whose inputs provide 24Vdc loop excitation.

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Urethane Coating:

Specify Option U.

Conduit Opening:

Standard: None. The enclosure has knockouts. Option NPT: Single 1/2 inch NPT fitting (glass)

ELECTRICAL CONNECTIONS

Connections are made to 8 terminals within the enclosure:

- 1: Input A (positive).
- 2: Input common (negative).
- 3: Input B (positive).
- 4: Input C (positive - Model FDT5120 only).
- 5: Output positive.
- 6: Output negative.
- 7: Power (AC or, if DC power option, DC plus).
- 8: Power (AC or, if DC power option, DC minus).

DETAILED SPECIFICATIONS

Voltage Input Capabilities:

100mV minimum span, +/-20V maximum input. Offset ranges are allowed. (Input Impedance: 200kohms)

Current Input Capabilities:

1mA minimum span, +/-100mA maximum input. Offset ranges are allowed. (Input Resistance: Varies with

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Voltage Output Capabilities:

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

Current Output Capabilities:

1mA minimum output span, 0 to +25mA absolute limit. Positive offsets are allowed, negative outputs are

Accuracy	(factory calibration)	:
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+/-0.1% of span.

Adjustability:

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

Linearity:

+/-0.05% of span or better.

Response Time:

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Under 100 milliseconds.

Isolation:

3-way (Power/Input/Output) 1,500Vac rms (2,100V peak). (The inputs are not isolated from each other.)

Guaranteed Operating Temperature:

-10 to +60	°	C (14 to 140	°	F).
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Temperature Stability:

+/-0.02% of span per	°	C, or better.
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Power Requirements:

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