JH5140/5150

MULTIPLY/DIVIDE DIN-RAIL TRANSMITTERS

FEATURES

- Multiply or Divide Two DC Inputs
- Input and Output Ranges Need Not be the Same
- Unequal Inputs Available as Specials
- Input/Output Isolation Standard
- High Speed Option HS Available
- Unpluggable Terminal Strip
- AC or DC Power Options

DESCRIPTION

JH5140/JH5150 Multiply/Divide Transmitters respond to the product or ratio of two DC inputs and provide a proportional, isolated DC output.

Standard calibration calculates the inputs and outputs on a percent-of-span basis. For example, in a JH5140 multiplying transmitter with 4/20mA inputs and a 0/10V output, when both inputs are at 12mA (50%) the output will be 2.5V (25%). The equation is: 0.5 x 0.5 = 0.25.

Voltage or current inputs and outputs may be chosen: the input and output ranges need not be the same. Nonstandard calibrations are available, including dissimilar input ranges and input-to-output offsets. We also can, as a special, create the function, Output = (A x B)/C. Contact us with your requirements.

Standard transmitters include filtering to smooth measurements and minimize noise pickup. When fast response is needed Option HS speeds the response time to approximately 1 millisecond. Other response speeds are readily available on special order.

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

HOW TO ORDER

Model Numbers:
JH5140: A x B
JH5150: A/B

Power:
Add suffix A (for example, JH5140A) 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 (see back).

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

Reverse-Acting Transmitter:
Decreasing output with increasing input. Change the last digit of the model number to 1 (for example, JH5141A).

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, JH5142A).

High Speed Response:
Approximately 1 msec. (see Specifications). Specify Option HS.

Urethane Coating:
Specify Option U.

INSTALLATION

JH5100 Series transmitters snap onto 35mm DIN rail. Connections are made to the front-panel terminals. The terminal strip unplugs to facilitate calibrating or replacing the transmitter.

CONNECTIONS

Connections to the 8 terminals (top to bottom) are:

1: Input A (positive).

2: Input common (negative).

3: Input B (positive).

4: No connection.

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).

QUICK-CHECK LEDS

Red-green Quick-Check LEDs give a quick indication of the relative output. Red is brighter at the low end, green at high, while at mid-scale both are approximately equal. Red-only indicates offscale low while green-only indicates offscale high.

SPECIFICATIONS

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

Current Input Capabilities:
1mA minimum span, +/-100mA maximum input. Offset ranges are allowed. (Input Resistance: Varies with input range. Contact factory for details. 62 ohms for 4/20mA input.)

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).

Accuracy:
+/-0.2% of span. (For divider, input B must be greater than 20% of span to achieve rated accuracy.)

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

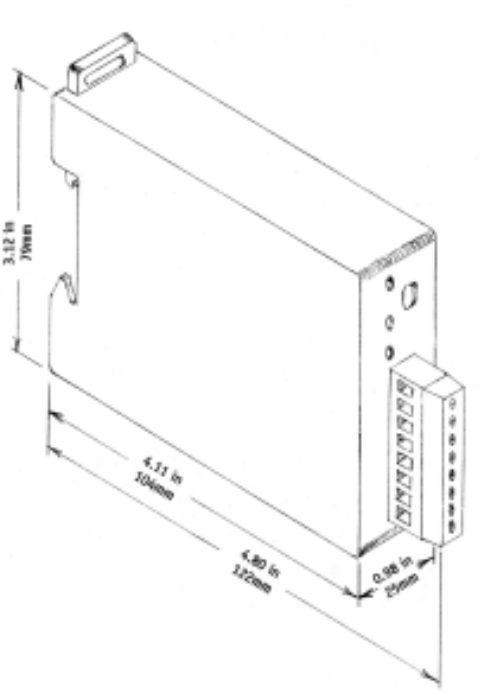
Response Time:
Standard: Under 100 milliseconds. Option HS: Approx. 95% complete in 1msec. Frequency response 3dB down at approx. 600 Hz. Others available on special order.

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

Operating Temperature:
-10 to +60^{O}C (14 to 140^{O}F).

Temperature Stability:
+/-0.02% of span per ^{O}C, or better.

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



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