

INSTALLATION

Model JH5002 snaps onto 35mm DIN rail. Connections are made to the front-panel terminals. The terminal unplugs to facilitate calibrating or replacing the transmitter.

CONNECTIONS

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

- 1: Input plus.
- 2: Input minus.
- 3: No connection.
- 4: No connection.
- 5: Output plus (see "Typical Connection" diagram for details).
- 6: Output minus (see "Typical Connection" diagram for details).
- 7: Power (AC or, if DC power option, DC plus).
- 8: Power (AC or, if DC power option, DC minus).

RECALIBRATION

The Model JH5002 is factory-set to the range ordered. To check or readjust calibration, proceed as follows:

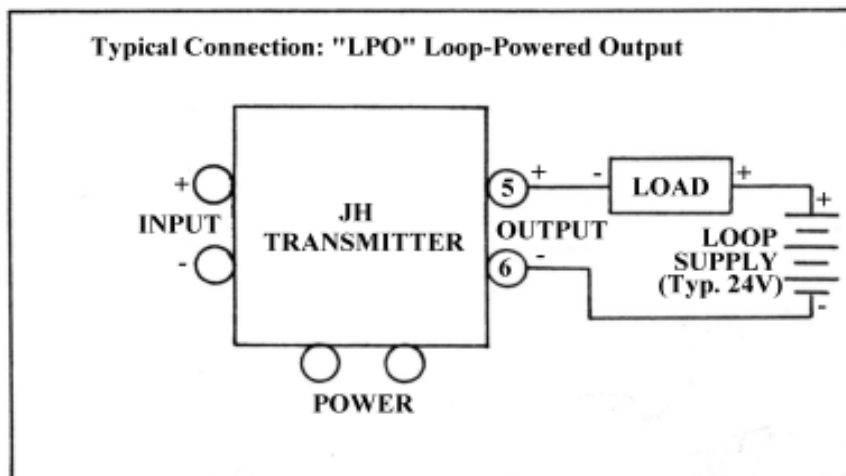
Connect a precision DC calibration source to the input. Connect the output to a precision DC current meter and 24Vdc loop supply per the "Typical Connection" diagram. To maintain factory-calibration accuracy the input and output should be monitored to 4-1/2 digits or better, with an accuracy of 0.05%.

Set the input to the low end of the range. (If reverse-acting, set the input to full scale.) Adjust the ZERO adjustment for the proper low-end output (usually 4mA).

Set the input to full-scale. (If reverse-acting, set the input to the low end of the range.) Adjust the SPAN adjustment for the proper full-scale output (usually 20mA).

Repeat until both readings are correct.

LOOP-POWERED OUTPUT



Systems designed for 2-wire transmitter inputs, such as some PLC and data acquisition cards, provide 24Vdc loop excitation on their 4/20mA input lines. Although 2-wire transmitters are readily available and appropriate for many applications, specialized inputs or other system considerations often require the use of transmitters or isolators using separate AC or DC power.

Transmitters with self-powered outputs should *never* be connected in loops containing an excitation source. Doing so may result in incorrect readings, overheating or possible damage to the instruments.

The Loop-Powered Output option removes the internal power from the output transistor, allowing it to be safely connected to two-wire style inputs. All other circuitry within the transmitter remains powered by its normal AC or DC power source. The diagram shows a typical hookup.

OTHER OPTIONS

Power:

115Vac, 230Vac, 12Vdc or 24Vdc. Designated by suffix A (JH5002A) for AC power, D for DC power.

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

Urethane Coating: Option U.

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

Input Capabilities:

1V minimum span, +/-250V maximum input. Offset ranges are allowed. (Input Impedance: 200kohms or greater.)

Current Output:

4/20mA (others may be available on special order). The internal circuitry drops less than 5 volts at 20mA output. Loop drive capability, assuming a 24Vdc loop supply, is at least 900 ohms.

Accuracy: +/-0.1% of span or better.

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

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

Response Time: Standard: Under 100 milliseconds.

Option HS: Approximately 95% complete in 1 millisecond. Frequency response 3dB down at approx. 600 Hz. Others available on special order.

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Specifications (continued)

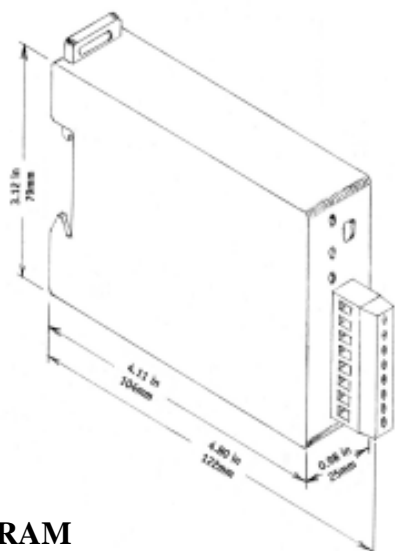
Isolation: 3-way (Power/Input/Output) 1,500Vac rms (2,100V peak).

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

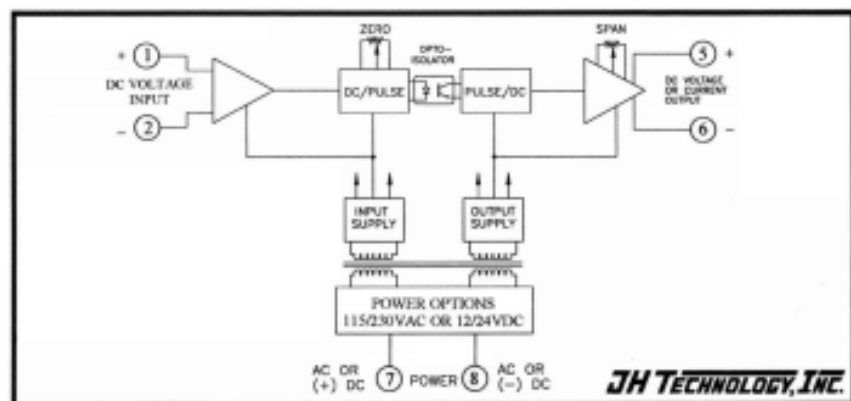
Temperature Stability: +/-0.02% of span per °C, or better.

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

DIMENSIONAL DRAWING



BLOCK DIAGRAM



SEVEN-YEAR WARRANTY

The JH5002 will be replaced free if it fails due to defects in materials or workmanship within seven years of the date shipped.

8/2010



DC INPUT DIN-RAIL TRANSMITTER

For voltage input ranges 1 volt or greater
With Loop-Powered (Current Sinking) Output Option

Model JH5002 DIN-Rail Transmitter provides an isolated 4/20mA DC output proportional to a DC voltage or current input. It is useful for amplifying, reducing, scaling or offsetting signals and for eliminating ground loops and noise problems. Its Loop-Powered Output option (also known as Current-Sinking Output) provides compatibility with certain PLCs or data acquisition systems intended for use with 2-wire (loop-powered) transmitter inputs.

The one-inch-wide case snaps onto DIN rail and the terminal strip unplugs for ease of replacement. The JH5002 is a fixed-range device, precisely calibrated to your range at the factory.

The standard JH5002 includes 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.

Model JH5002 uses stable, proven circuitry for accurate measurements under varying ambient conditions. Available options include AC and DC power choices and reverse-acting transmitter (decreasing output with increasing input).

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