

FEATURES

- Low-Cost 4/20mA Isolator/Booster
- Input drops only 1-1/4 volts (62 ohms)
- Output drives up to 1,200 ohms
- Applications Include Loop-Splitting
- Full 4000 Series Accuracy, Lower Cost
- Industry Standard Pinouts (8-Pin Socket)
- AC or DC Power Options

DESCRIPTION

The Model JH4300C Process Current Isolator takes a 4/20mAdc input and provides an equal but isolated 4/20mA output. Isolation eliminates many ground loop and noise problems, while its 24-volt output drive capability “boosts” the signal to drive high-resistance loops. The input is filtered to minimize high-frequency noise and transients.

Although not a dual-output device, the JH4300C often can be used to split 4/20mA current loops at a cost lower than standard loop splitters. See the application note on back of this page.

This transmitter is a low-cost, single-range version of our full-featured Model JH4300 DC Input Transmitter. For other ranges or additional options, please refer to Model JH4300.



HOW TO ORDER

Model Number: JH4300C

Power:

Add suffix -AC for AC power or -DC for DC power. (Example: JH4300C-AC.) Specify 115Vac, 230Vac, 12Vdc or 24Vdc.

Input Range: 4/20mAdc only.

Output Range: 4/20mAdc only.

Other Options:

Please refer to Model JH4300 for a complete selection of inputs, outputs and options.

INSTALLATION

The JH4300C plugs into any standard 8-pin circular (“octal”) relay socket. JH Technology offers part # DS008 for DIN-rail or surface mounting (see the Accessories page).

CONNECTIONS

Pin 1: Power (AC or, if DC power option, DC plus).

Pin 2: No connection.

Pin 3: Power (AC or, if DC power option, DC minus).

Pin 4: No connection.

Pin 5: Input plus.

Pin 6: Input minus.

Pin 7: Output plus.

Pin 8: Output 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

Input:

4/20mA dc. 62 ohms input resistance (1.25V drop at 20mA).

Output:

4/20mA dc. 24V output drive capability (1,200 ohms max. at 20mA).

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:

Under 100 milliseconds.

Isolation:

Power, 1,500Vac rms (2,100V peak). Input/Output, 1,000Vac rms (1,400V peak).

Operating Temperature:

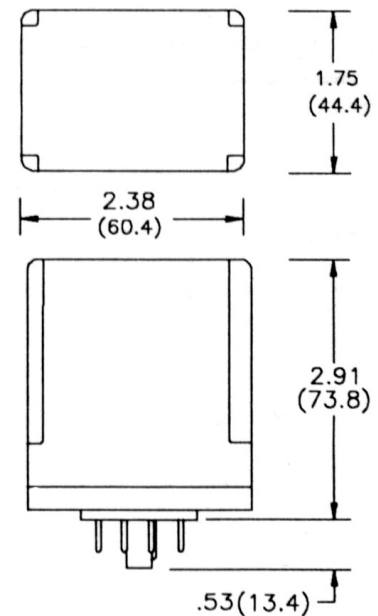
-10 to +60° C (14 to 140°F).

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.



APPLICATION NOTE: SPLITTING LOOPS WITH THE JH4300C

Users often specify dual-output 4/20mA loop splitters in their system applications. Common reasons include:

- The need for an output boost to drive several loads at once.
- The need to run simultaneous isolated current loops to two different systems.

These needs often can be met, and at lower cost, using the single-output JH4300C. Here are two examples.

Figure 1 uses the JH4300C to duplicate the output of a standard current-sourcing transmitter. Its input, wired in series with the transmitter's output loop, requires only a 1-1/4 volt drop at 20mA. Most of the transmitter's output drive remains available for loop #1. The JH4300C's output provides a second isolated current loop (loop #2) capable of driving up to 1,200 ohms (24 volts at 20mA).

Figure 2 boosts and splits a 2-wire transmitter's output. This example includes an intrinsic safety barrier for hazardous (explosive) area protection; however, the concept is equally valid without the barrier. The JH4300C's input is wired in series with the 2-wire loop. The safety barrier forces the 2-wire loop to be grounded and limits the total load drive available. The second loop, provided from the JH4300C, is fully isolated and capable of driving up to 1,200 ohms.

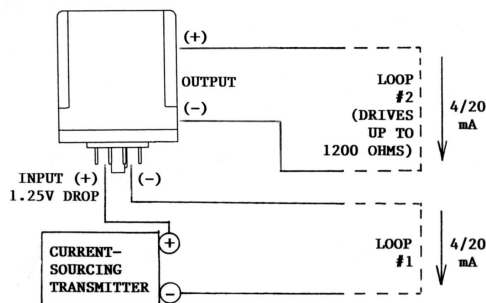


Figure 1: Powered Transmitter

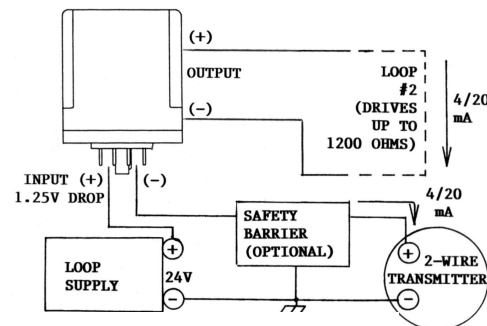


Figure 2: 2-Wire Transmitter

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