# JH4430I/4440I

**PLUG-N-PLAY SQUARE/SQUARE ROOT TRANSMITTERS**

## FEATURES


- Takes the Square or Square Root of a DC Signal
- Input and Output Ranges Need Not be the Same
- Input/Output Isolation Standard
- Quick-Check Red/Green Output LEDs
- Industry Standard Pinouts (8-Pin Socket)
- AC or DC Power Options
- Full Replacement Warranty

## DESCRIPTION

The JH4430I/4440I Series provides DC outputs proportional to the square or square root of the input. The square root function is most commonly used to linearize differential pressure flow signals.

The input and output ranges need not be the same; for example, the input could be 0/10Vdc while the output could be 4/20mA. These are fixed-range devices, precisely calibrated to your specified ranges at the factory.

Input/output isolation is standard. Available options include AC or DC power choices and reverse-action Option RT (decreasing output with increasing input).

## HOW TO ORDER

**Model Numbers:**
JH4430I: Square Function
JH4440I: Square Root Function

**Power:**
Add suffix –AC for AC power or –DC for DC power. (Example: JH4440I-AC.) 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. Specify Option RT.

**Loop-Powered Output:**
4/20mA "current sink" output stage for connection to devices whose inputs provide 24Vdc loop excitation. Specify Option LPO.

**Urethane Coating:**
Specify Option U.

## INSTALLATION

These transmitters plug into any standard 8-pin circular ("octal") relay socket. JH Technology offers part # DS008 for DIN-rail or surface mounting. (see the Accessories page).

**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.

## SQUARE/SQUARE ROOT FUNCTIONS

The square and square root are calculated on a percent-of-span basis. For example, using the square root function (JH4440I) with a 4/20mA input range and 0/10V output range, if the input is at 0.5, or 50% (12mA) the output will be the square root of 0.5 which is 0.707 (70.7% of 10V), or 7.07 volts.

## 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 or better. (For square root function Model JH4440 the input must be greater than 20% of span for rated accuracy.)

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

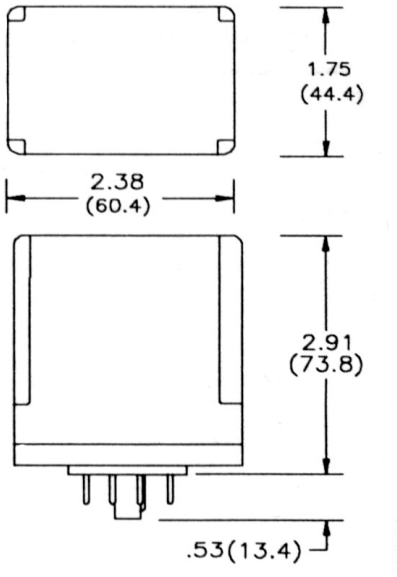
**Response Time:**
Under 100 milliseconds.

**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.

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