

## DC INPUT ADD/SUBTRACT TRANSMITTERS PLUG-IN MODULES, FIXED RANGE



### Model Numbers:

**JH4400I: Output = (A+B+C+D)/4**

**JH4401I: Output = (A+B+C)/3**

**JH4402I: Output = (A+B)/2**

**JH4408I: Output = A-B**

- Add up to Four DC Inputs, or subtract
- Quick-Check Red/Green Output LEDs
- Industry Standard Pinouts (11-Pin Socket)
- Input and Output Ranges Need Not be Equal
- AC or DC Power Options

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The JH4400 Series offers DC outputs representing 2, 3 or 4-input sums or (A-B) difference. Input and output ranges need not be the same; for example, the inputs 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.

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.

Input/output isolation is standard. (The inputs are not isolated from each other.) Available options include, AC or DC power choices and reverse-action Option RT (decreasing output with increasing inputs).

### **UNDERSTANDING THE INPUT FUNCTIONS**

Standard calibration provides low-end output (0%) when all inputs are at 0%. Full-scale output (100%) occurs when all additive (+) inputs are at 100% and all subtractive (-) inputs are at 0%. Standard calibration assumes the output always will be 0% or higher, never negative. All calculations are on a percent-of-span basis. With 4/20mA, for example, 4mA = 0% and 20mA = 100%. Likewise, for -5/+5V, -5V=0%, 0V=50% and +5V=100%.

Nonstandard setups and calibrations are possible. For example, we have created a number of specials providing unequal input weightings (such as  $A+2B+0.5C+0.5D$ ), and with up to six inputs. Please contact the factory with your requirements.

## ORDERING INFORMATION

**Model Number:**

**Select your model number from the list above. Add suffix –AC for AC power**

**Input Range:**

**Specify any DC voltage or current range allowed by the "Input Capabilities"**

**Output Range:**

**Specify any DC voltage or current range allowed by the "Output Capabilities"**

**Power:**

**Specify 115Vac, 230Vac, 12Vdc or 24Vdc.**

**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**

**Urethane Coating:**

**Specify Option "U"**

## INSTALLATION AND CONNECTIONS

These transmitters plug into any standard 11-pin circular ("octal") relay socket. JH Technology offers a socket suitable for DIN-rail or surface mounting (see the [Accessories](#) page). Pin connections are:

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**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:** A input (plus).

**Pin 5:** Input common (minus).

**Pin 6:** B input (plus).

**Pin 7:** C input, if used (plus).

**Pin 8:** D input, if used (plus).

**Pin 9:** Output plus.

**Pin 10:** Output minus.

**Pin 11:** No connection.

## DETAILED 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)**

### Voltage Output Capabilities:

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

### Current Output Capabilities:

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

### Accuracy (factory calibration)

**+/-0.1% of span or better.**

### Adjustability:

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**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)**

**Guaranteed Operating Temperature:**

**-10 to +60 deg. C (14 to 140 deg. F).**

**Temperature Stability:**

**+/-0.02% of span per deg. C, or better.**

**Power Requirements:**

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