

### FEATURES

- Full Scale Frequencies from 10Hz to 100kHz
- Expanded Scale (Elevated-Zero) Ranges Available
- Adjustable Sensitivity Threshold
- Pullup Resistor and Sensor Excitation Included
- Quick-Check Red-Green Output LEDs
- Input/Output Isolation Standard
- AC or DC Power Options



### DESCRIPTION

Model JH7010I provides a DC output proportional to the input signal's frequency or pulse rate. A fixed-range device, it is precisely calibrated to your specified ranges at the factory. (For a rangeable transmitter see Model JH7580.)

The JH7010I accepts input amplitudes from 25mV (50mV pk-pk - see specifications) to 350V peak without recalibration. A sensitivity adjustment provides optimum tradeoff between sensitivity and noise rejection for each application. Pin connections allow the selection of two options: a pullup resistor for dry-contact or open-collector inputs and a built-in DC excitation supply (approx. 18V) for low-current DC proximity sensors (25mA max).

Input/output isolation guards against shock hazards with high-voltage inputs and ground loop errors with low-level signals. Available options include AC or DC power choices and reverse-action Option RT (decreasing output with increasing input).

### HOW TO ORDER

**Model Number:** JH7010I

**Power:**

Add suffix -AC (JH7010I-AC) for AC power or -DC for DC power. Specify 115Vac, 230Vac, 12Vdc or 24Vdc.

**Input Range:**

Specify any frequency range allowed by the "Input Capabilities" spec (see back).

**Input Sensitivity:**

The adjustment is normally factory-set for maximum sensitivity. If you wish a specific setting, please specify it on your order. (See specifications on 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

The JH7010I 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

**Please note:** Model JH7010I uses pins 2 and 4 to offer features not included on some competitive transmitters. **Do not use pins 2 and 4 as tie points in your system.**

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

**Pin 2:** +18V (approx.) sensor excitation voltage output. See specifications.

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

**Pin 4:** Pullup resistor (10Kohms to +9V). Jumper pins 4 and 5 together for use with dry contact or open-collector (NPN) inputs.

**Pin 5:** Frequency input. (For normal inputs use pins 5 & 6.)

**Pin 6:** Input common.

**Pin 7:** Output plus.

**Pin 8:** Output minus.

## SENSITIVITY ADJUSTMENT

The sensitivity trimpot sets the threshold below which the unit will not respond. *Clockwise* provides *maximum* sensitivity (see specs); *counterclockwise*, minimum.

## 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:

Min. span 10 Hz., max. frequency 100kHz. Low-end input may be zero, or may be as high as 2.5 x span (for example, 20Hz span with 50Hz elevation, for 50/70Hz range). (Input Impedance: 200kohms or greater.)

### Input Amplitude:

350V peak (700V pk-pk, 250V rms sine wave) maximum.

### Threshold Adjustment:

25 turn trimpot. *Max. Sensitivity (full clockwise):* 50mV pk-pk for frequencies below 1kHz. Increases with frequency to 1V pk-pk at 100kHz.

*Minimum Sensitivity (full counterclockwise):* 8V pk-pk for frequencies below 1kHz. Increases with frequency to 20V pk-pk at 100kHz.

### Input Pullup Resistor:

10Kohms to +9V. Jumper pins 4 and 5 to activate.

### Input Sensor Excitation:

Approx. 18Vdc, unregulated, 25mA max current. At pin 2.

### Voltage Output Capabilities:

1 volt minimum output span, -10 to +10V 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:

+/-0.1% of span.

### Adjustability:

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

### Linearity:

+/-0.05% of span or better.

### Isolation:

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

### Operating Temperature:

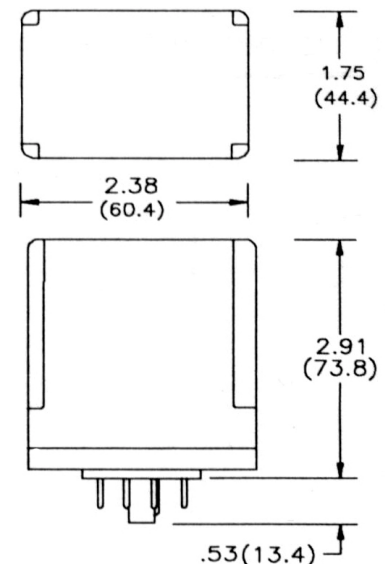
-10 to +60°C (14 to 140°F).

### Temperature Stability:

+/-0.02% of full scale frequency 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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