

INSTALLATION & CONNECTIONS

Model JH2376 snaps onto 35mm DIN rail. Connections are made to the front-panel terminals. The terminal unplugs to facilitate calibrating or replacing the instrument. Connections to the 8 terminals (top to bottom) are:

- 1: High voltage positive input (generally above 1 volt - see specifications).
- 2: Input common (for both high and low voltages).
- 3: Low voltage positive input (generally below 1 volt - see specifications).
- 4: Optional filter. Connect terminals 4 & 2 together to activate the filter.
- 5: Pulse output (plus).
- 6: Pulse output common.
- 7: AC power.
- 8: AC power.

High Inputs (Terminals 1 & 2). For inputs generally above 1 volt (250 V RMS max). With unipolar pulses (such as positive-going logic pulses), terminal #1 should be positive. For AC inputs the two terminals are interchangeable.

The input is capacitively coupled and does not respond to DC: however, the sine-wave cutoff frequency is about 0.2 Hz. Response with pulse inputs effectively extends to DC because fast-rise pulses will couple through the input capacitor. Capacitive coupling assures proper response even when the low end of the input logic pulse does not truly drop all the way to zero volts.

Low Input (Terminals 3 & 2). For inputs generally below 1 volt (20mV peak-to-peak minimum, +/-100V peak max.). The input is DC coupled (no capacitor) to assure proper response even with slowly-varying waveforms. It is intended primarily for use with magnetic coil pickups such as "proximity sensor" type tachometers and turbine flowmeters. It responds *only* to inputs which vary both plus and minus and generally will not respond to unipolar logic inputs.

CALIBRATION

Model JH2376 has no calibration adjustments. The output frequency or pulse rate automatically equals the input.

SENSITIVITY ADJUSTMENT

The 25 turn *Sensitivity* trimpot sets the threshold below which the output will not respond (see Specifications for details). Turn *clockwise* for *maximum sensitivity*, counterclockwise to reduce susceptibility to noise and interference.

To adjust sensitivity in an operating system, run the system at minimum-input conditions (for example, minimum operating RPM). Turn the trimpot counterclockwise until the output pulses stop, then turn it back clockwise two turns.

OPTIONAL FILTER

The JH2376 is designed to function to 40kHz with high sensitivity. In noisy electrical environments this may cause an unwanted output at the noise frequency.

Also, some sensors' output voltages increase at higher frequencies (for example, magnetic-coil tachometer pickups).

Optional filtering can be connected to decrease sensitivity at higher frequencies. Connect terminal 4 to terminal 2 to activate the filter.

AVAILABLE OPTIONS

Power: AC power only (Model JH2376A). 115 or 230Vac options available.

Urethane Coating: Option U.

SPECIFICATIONS

High Inputs (Terminals 1 and 2):

For inputs generally above 1 volt (maximum 250V RMS or +/-350V peak) with frequencies between 0.2 Hz and 40kHz. Capacitively coupled - no response to DC inputs. 1 megohm input impedance. Typical input sensitivity at maximum setting (full clockwise):

<u>Frequency</u>	<u>No Filtering</u>	<u>Filter Connected (sine wave inputs)</u>
0.2 - 100 Hz	0.5V pk-pk	0.5V pk-pk
500 Hz	0.5V pk-pk	1.5V pk-pk
1kHz	0.55V pk-pk	3.2V pk-pk
5kHz	0.8V pk-pk	20V pk-pk
10kHz	1.4V pk-pk	40V pk-pk
20kHz	2.8V pk-pk	170V pk-pk
40kHz	6.5V pk-pk	(over 250V - not recommended)

Low Inputs (Terminals 3 and 2):

For inputs generally below 1 volt (20mV peak-to-peak minimum. Maximum +/- 100V peak) with frequencies from DC to 40kHz. DC coupled. Input must swing both plus & minus with no DC bias or offset. 50kohm input impedance. Typical input sensitivity at maximum setting (full clockwise):

<u>Frequency</u>	<u>No Filtering</u>	<u>Filter Connected (sine wave inputs)</u>
0 - 100 Hz	20mV pk-pk	20mV pk-pk
500 Hz	21mV pk-pk	40mV pk-pk
1kHz	22mV pk-pk	75mV pk-pk
5kHz	30mV pk-pk	450mV pk-pk
10kHz	50mV pk-pk	1.2V pk-pk
20kHz	90mV pk-pk	4V pk-pk
40kHz	180mV pk-pk	10V pk-pk

Input Sensitivity Adjustment:

25 turn trimpot. Full clockwise - maximum sensitivity as listed above. Full counterclockwise reduces sensitivity (increases the required input) approx. 10:1.

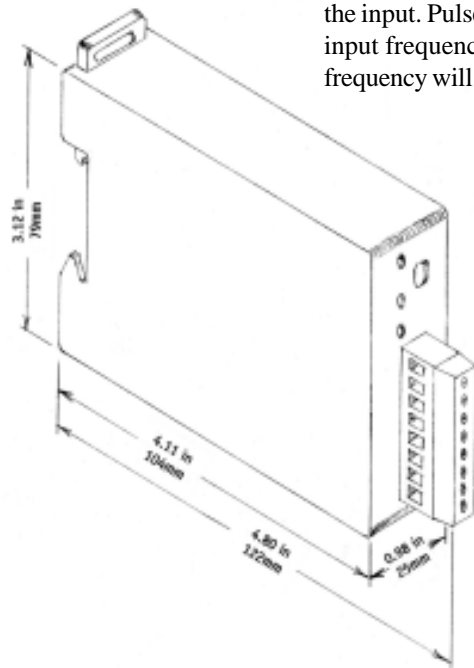
Optional Input Filter (Connect terminals 4 & 2):

Recommended for use with magnetic coil tachometer pickups and other sensors

continued on back

Specifications (continued)

whose output amplitudes increase with frequency. Also useful to reduce high frequency noise pickup.



Output: 0/+5V logic pulse. Output frequency equals the input. Pulse width and duty cycle will vary with input frequency, amplitude and waveform, but the frequency will not be affected. The output is in phase with (same polarity as) the input.

Isolation: 3-way isolation (input/output/power) 1,500Vac rms (2,100V peak).

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

Power Requirements: AC, 115 or 230Vac, 50/60Hz, 2.5V-A.

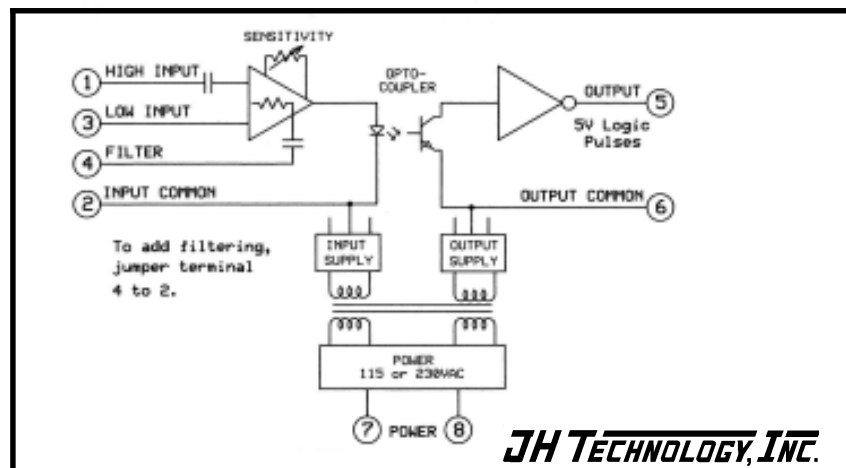


PULSE CONDITIONER

Model JH2376 Pulse Conditioner accepts a wide range of input voltages and waveforms and produces an isolated 5 volt logic pulse output at the same frequency. It may be used to isolate and condition signals ranging from millivolt-level magnetic pickups to 230Vac power frequencies. No calibration is needed - the output frequency automatically equals the input.

Two sets of input connections allow a wide range of applications. The low input connection is optimized for use with sensors such as magnetic coil tachometer and turbine pickups, while high level applications such as power monitoring and variable frequency drives use the high input. Adjustable sensitivity, built-in hysteresis and optional filtering minimize interference from noise pickup. Applications range from turbine flow sensors and tachometers to power monitoring and other high voltage applications.

The one-inch-wide case snaps onto DIN rail. The terminal strip unplugs for ease of replacement. Operating frequencies range from DC to 40kHz.



Warranty:

Model JH2376 will be replaced free if it fails due to defects in materials or workmanship within seven years of the date shipped.

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