
JH2376

ISOLATED PULSE CONDITIONER

FEATURES

- Operates with inputs from DC to 40kHz
- Conditions Tachometers, Turbines, Power, VFDs, oth
- 5V Logic Pulse Output Equals Input Frequency
- Inputs from 20mV pk-pk to 250Vrms (700V pk-pk)
- Full Isolation Protects Against Ground Loop & Safety H
- Adjustable Sensitivity, Optional Filtering
- Full Replacement Warranty



DESCRIPTION

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 support a wide range of applications. The low input connection is optimized for sensors such as magnetic coil tachometer and turbine meter pickups, while high level applications such as power monitoring and variable frequency drives use the high input. (Use the high input for logic pulses.) 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. The JH2376 handles input frequencies from DC to 40kHz (0.2Hz minimum on high input). When used in high humidity or dirty environments, optional urethane circuit board coating is available.

HOW TO ORDER

Model Number:

AC Power: Model JH2376A (DC power is not available on this model)
Specify 115Vac or 230Vac power.

Urethane Coating:

Specify Option U.

JH TECHNOLOGY, INC.

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INSTALLATION

Model JH2376 snaps onto 35mm DIN rail. Connections are made to the front-panel terminals. The terminal strip unplugs to facilitate testing or replacing the instrument.

CONNECTIONS

Connections to the 8 terminals (top to bottom) are:

- 1: High voltage positive input (generally above 1 volt - see specs).
- 2: Input common (for both high and low voltages).
- 3: Low voltage positive input (generally below 1 volt - see specs).
- 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.

CALIBRATION

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

SENSITIVITY ADJUST

A 25-turn sensitivity adjustment allows trade-off between maximum sensitivity and noise rejection. Turn clockwise for maximum sensitivity, counterclockwise to reduce sensitivity and susceptibility to noise.

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 reduce sensitivity at higher frequencies. Connect terminal 4 to terminal 2 to activate the filter.

SPECIFICATIONS

High Inputs (Terminals 1 and 2):

For inputs generally above 1 volt (maximum 250Vrms or +/-350V peak) with frequencies between 0.2 Hz and 40kHz. Capacitively coupled - no response to DC. 1 megohm input impedance.

Typical input sensitivity at maximum setting (full clockwise) is as shown. Values are peak-to-peak voltage with sine wave inputs.

Frequency (Sine Wave)	No Filter	With Filter
0.2 - 100 Hz	0.5V	0.5V
500 Hz	0.5V	1.5V
1kHz	0.55V	3.2V
5kHz	0.8V	20V
10kHz	1.4V	40V
20kHz	2.8V	170V
40kHz	6.5V	- -

Low Inputs (Terminals 3 and 2):

For inputs generally below 1 volt (maximum +/-100V peak) with frequencies from DC to 40kHz. Input must swing both plus & minus with no DC bias or offset. 50kohm input impedance.

Typical input sensitivity at maximum setting (full clockwise) is as shown. Values are peak-to-peak voltages with sine wave inputs:

Frequency (Sine Wave)	No Filter	With Filter
0 - 100 Hz	20mV	20mV
500 Hz	21mV	40mV
1kHz	22mV	75mV
5kHz	30mV	450mV
10kHz	50mV	1.2V
20kHz	90mV	4V
40kHz	180mV	10V

Input Sensitivity Adjustment:

25 turn trimpot. Full clockwise - max. sensitivity as listed above. Full ccw reduces sensitivity (increases the required input) approximately 10:1.

Optional Input Filter (Connect terminals 4 & 2 together):

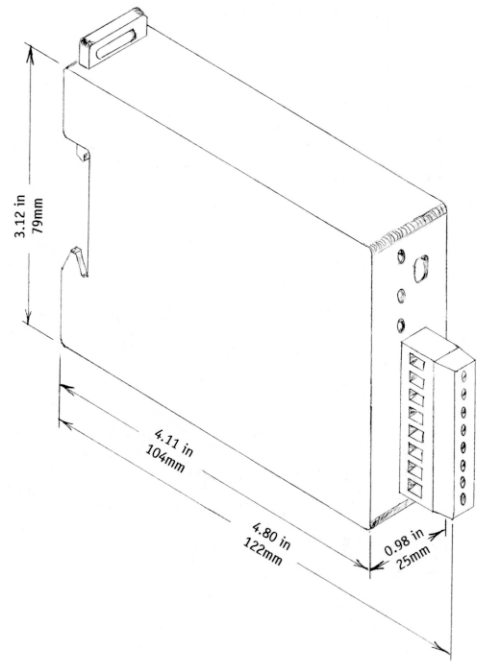
Recommended for use with magnetic coil tachometer pickups and other sensors whose output amplitudes increase with frequency. Also useful to reduce high frequency noise pickup.

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 (input/output/power) 1,500Vac rms (2,100V peak).

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

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



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