



MOTION SENSORS, INC.

Producing High Quality Solutions Since 1970

786 Pitts Chapel Rd.
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PA2001 Pre-Amplifier

The Motion Sensors (MSI) PA2001 series preamplifiers allow convenient interfacing with process measuring devices and digital electronics. This series of preamplifiers/signal conditioners is available in either a combination version that provides user selection of either variable reluctance (VR) or RF sensor input, or a VR input only version. When used with VR sensors they will accept low-level signals and provide hysteresis to eliminate unwanted noise and interference. Operating range is 4 to 10,000 Hz. When used with RF sensors, they provide false pulsing safeguards, air gaps up to 0.150", a frequency range of 2 to 5,000 Hz, as well as a precisely tuned carrier signal to allow for maximum signal reliability.

Features and Specifications

Input Power:

Voltage: 8 to 30 VDC

Current draw: 25 mA @ 24 VDC

Reverse polarity protected

RF Sensor Input:

Modulation carrier frequency: 25 KHz

Input frequency: 2 Hz to 5 KHz

Maximum air gap: 0.150"

Preferred coil inductance: 1.0 mH +/- 10%

Max. distance from sensor to preamp: 100'

VR Sensor Input:

Input protected, RF and band pass filtered

Input frequency: 0 to 10 KHz

Trigger sensitivity: 4 mV RMS minimum
(NOTE: at 4 mV frequency range 10 Hz to 3 KHz)

Input impedance: 40K ohms (nominal)

Maximum input signal: 600 volts RMS

Max. distance from sensor to preamp: 100'

Pulse Output Options:

All output options are user selectable

Open collector Vmos transistor, maximum OFF state voltage 30 VDC; maximum ON current 400 mA

TTL/CMOS; fanout of 5 TTL/CMOS loads

0 to 10 VDC square wave

Square wave tied to input voltage

Physical Dimensions:

Board diameter: 1.10"

Height: 0.85"

Temperature Range:

Operating: -40°F to +185°F
(-40°C to +85°C)

Storage: -40°F to +302°F
(-40°C to +150°C)



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Approvals:

CE compliant to EMC Directive 89/336/EEC for use in residential, commercial, light industrial and heavy industrial environments

Warranty:

Unconditional one (1) year warranty if used within specifications

Enclosures:

Unit is intended for mounting in an elbow conduit box such as Crouse-Hinds Model LB15

Optional explosion proof box available upon request

Product Features

Model Number	Description	Pulse Output
PA2001-1	Combo VR/RF	equipped with all options
PA2001-1A	Combo VR/RF	TTL/CMOS and open collector only
PA2001-2	VR only	equipped with all options
PA2001-2A	VR only	TTL/CMOS and open collector only