

PA1001A Preamplifiers



The PA1001A series preamplifiers allow convenient interfacing with process measuring devices and digital electronics. This series of preamplifiers/signal conditioners is available in both variable reluctance (VR) and RF sensor configurations as well as a combination unit that provides user selection of either VR or RF sensor input.

Optional features include factory installed pulse scaling and field or factory installed analog output modules. The analog output module provides both current and voltage outputs proportional to RPM, flowrate, etc.



Features and Specifications

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| <p>Input Power</p> <ul style="list-style-type: none"> voltage: 8 to 30 Vdc current draw: 125 mA @ 24 Vdc (all options equipped) reverse polarity protected | <p>Optional Features</p> <p>Pulse Scaling</p> <ul style="list-style-type: none"> divisions of 2, 4, 8, 16, 32, 64, or 128 (user selectable) <p>Analog Output Module</p> <p>Current Output</p> <ul style="list-style-type: none"> accuracy $\pm 0.05\%$ of full-scale ± 200 PPM/$^{\circ}$C available range 4 to 20 mA output suitable for driving, floating or grounded loads maximum loop impedance 500 ohms response time 3 seconds for 10 to 90% <p>Voltage Output</p> <ul style="list-style-type: none"> accuracy: $\pm 0.05\%$ of full-scale ± 200 PPM/$^{\circ}$C available range: 0 to 5Vdc or 0 to 10Vdc (user selectable) impedance: less than 10 ohms. response time: 3 seconds for 10 to 90% |
| <p>RF Sensor Input</p> <ul style="list-style-type: none"> modulation carrier frequency: 20 KHz input frequency: 2 Hz to 5 KHz, user-adjustable trigger level to eliminate false pulsing carrier adjustment to allow precise tuning of carrier signal to physical environment (e.g., air gap, wall thickness) maximum air gap: 0.160" preferred coil inductance: 1.0 mH $\pm 10\%$ maximum distance from sensor to preamp: 100 feet | <p>Temperature Range</p> <ul style="list-style-type: none"> operating: -40° to 185°F (-40° to 85°C) storage: -40° to 302°F (-40° to 150°C) <p>Enclosures</p> <ul style="list-style-type: none"> unit is intended for mounting in a condulet box. Enclosure is not required but recommended to protect unit from moisture, dirt, etc. optional explosion proof box available upon request enclosure requirements: GUAX16,26,36 or equivalent |
| <p>VR Sensor Input</p> <ul style="list-style-type: none"> input protected, RF and band pass filtered input frequency: 0 to 10 KHz, user-adjustable trigger level to eliminate false pulsing (higher frequencies also available) trigger sensitivity: 4 mV RMS minimum
NOTE: at 4 mV frequency range 10 Hz to 3KHz input impedance: 40K ohms (nominal) maximum input signal: 600 volts RMS maximum distance from sensor to preamp: 100 feet | <p>Approvals</p> <ul style="list-style-type: none"> CE compliant to EMC Directive 89/336/EEC for use in residential, commercial, light industrial and heavy industrial environments <p>Warranty</p> <ul style="list-style-type: none"> unconditional 1 year warranty if used within specifications |
| <p>Pulse Output Options</p> <p>ALL OUTPUT OPTIONS ARE USER SELECTABLE</p> <ul style="list-style-type: none"> open collector Vmos transistor, maximum OFF state voltage 30 Vdc; maximum ON current 0.40 amp TTL/CMOS fanout of 5 TTL/CMOS loads 0 to 10 Vdc square wave square wave tied to input voltage | |
| <p>Physical Dimensions</p> <ul style="list-style-type: none"> board diameter: 2.75" center mounting holes: 2" and 2.5" height (standard): 0.625" (NOTE: with analog option add 1.325"; may change with different connector types) | |

Product Features

	Model Number	Description	Enclosure Cover Type
VR and RF	PA1001A-1	standard	standard lid
	PA1001A-1PS	with pulse scaling	standard lid
	PA1001A-1A	with analog module	2" dome lid
RF only	PA1001A-2	standard	standard lid
	PA1001A-2PS	with pulse scaling	standard lid
	PA1001A-2A	with analog module	2" dome lid
VR only	PA1001A-3	standard	standard lid
	PA1001A-3PS	with pulse scaling	standard lid
	PA1001A-3A	with analog module	2" dome lid