



The output of the PC420AIS series is proportional to acceleration vibration. An output of 4 mA indicates a level of 0 g or no vibration present. A full-scale reading of 20 mA indicates that the maximum range(Peak or RMS) of vibration is present. The Peak output units provide a computed equivalent peak level of vibration based on the RMS. The True Peak output units have a track-and-hold circuit with fast attack and slow decay for catching transient vibration peaks.

Features

- Intrinsically Safe Certification
- Peak equivalent, True RMS, or True Peak
- Corrosion resistant
- Hermetic seal
- ESD protection
- Overload protection
- Reverse wiring protection

Benefits

- Choice of output: RMS, or Peak, permits you to choose the sensor that best fits, your industrial requirements.
- Provide continuous trending of overall machine vibration
- Can help guide maintenance

*CSA approval: Class 1, Division 1, Groups A,B,C,D.
 LCIE approval: EEx ia IIC T3



Model PC420A intrinsically safe Series Acceleration loop powered sensors (LPS™)

Output, 4-20 mA

Full scale, 20 mA	see table 1 on back
Frequency response:	
±10%	10 Hz - 1.0 kHz
±3 dB	4 Hz - 2 kHz
Repeatability	±2%
Transverse sensitivity, max.	5%

Electrical

Power requirements² (two wire loop power):

Voltage at PC420-series sensor terminals	12 VDC min, 30 VDC max
Loop resistance ¹ at 24 VDC, maximum	600.Ω
Turn on time, 4-20 mA loop	30 seconds
Grounding	case isolated, internally shielded

Environmental

Temperature range	-40 to 85°C
Vibration limit	250 g peak
Shock limit	2,500 g peak
Sealing	hermetic

Physical

Sensing element design	PZT ceramic / shear
Weight	162 grams
Case material	316L stainless steel
Mounting	1/4 - 28 tapped hole
Output connector	2 pin, MIL-C-5015 style
Mating connector	R6 type
Recommended cabling	J9T2A

Connector pin	Function
Shell	ground
A	+ positive
B	- negative

Notes: ¹ Maximum loop resistance (RL) can be calculated by:

$$RL(\text{max resistance}) = \frac{\text{Vdc power} - 12 \text{ V}}{20 \text{ mA}}$$

DC supply voltage	Typical	
	RL (max resistance) ²	RL (minimum wattage capability) ³
20VDC	400.Ω	1/4 Watt
24VDC	600.Ω	1/2 Watt
26VDC	700.Ω	1/2 Watt

² Lower resistance is allowed, greater than 10. recommended.
³ Minimum RL wattage determined by: (0.0004 x RL)
⁴ The following are recommended barrier strips: MTL7087, MTL7187, or MTL7875 for Class I Division1 locations.

Accessories supplied: SF6 mounting stud (International customers specify mounting requirements); calibration data (level 2).

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Table 1: PC420Axx-yy-IS Model number selection

xx (4-20 mA output type)	yy (4-20 mA full scale)
R = RMS output, acceleration	05 = 5 g
P = Equivalent peak output, acceleration	10 = 10 g
TP = True peak output, acceleration	20 = 20 g