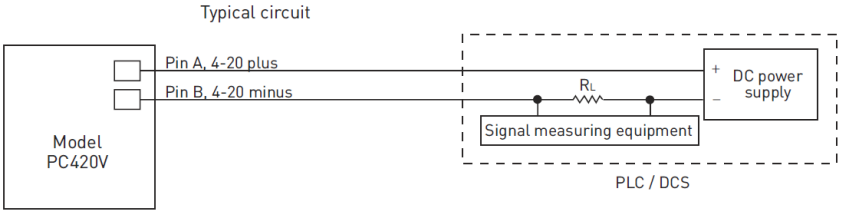
RMS and peak velocity loop powered sensors (LPS™)

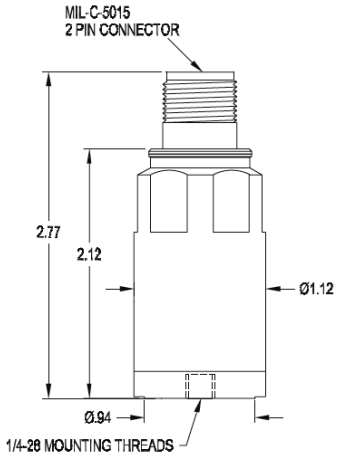
PC420V series

Wilcoxon's PC420V series provides continuous of overall machine vibration, alerting users to changing machine conditions and helping to guide maintenance in prioritizing the need for service. The choice of RMS or peak output allows you to choose the sensor that best fits your industrial requirements.

The 4-20 mA output of the PC420V series is proportional to velocity vibration. An output of 4 mA indicates a level of 0 ips or no vibration present. A full-scale reading of 20 mA indicates that the maximum range (RMS or peak) of vibration is present.



Connections	
Function	Connector pin
ground	shell
loop positive (+)	A
loop negative (–)	B



Key features

- True RMS or calculated peak output
- Corrosion resistant
- Hermetic seal
- ESD protection
- Overload protection
- Reverse wiring protection

Certifications

CE

Note: Due to continuous process improvement, specifications are subject to change without notice.
This document is cleared for public release.

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An Amphenol Company

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SPECIFICATIONS

OUTPUT, 4-20 mA		
Full scale, 20 mA, ±5%		see table 1 below
Frequency response:	**± 10%** **± 3 dB**	10 Hz - 1.0 kHz 3.5 Hz - 2.0 kHz
Repeatability		± 2%
Transverse sensitivity, max		5%
Power requirements (two-wire loop power): **Voltage at sensor terminals**		12 - 30 VDC
Loop resistance at 24 VDC, max		700 Ω
Turn on time, 4-20 mA loop		30 seconds
Grounding		case isolated, internally shielded
Operating temperature range[1]		–40 to +105° C
Vibration limit		250 g peak
Shock limit		2,500 g peak
Sealing		hermetic
Sensing element design		PZT, shear
Weight		160 grams
Case material		stainless steel
Mounting		1/4-28 tapped hole
Output connector		2-pin, MIL-C-5015 style
Mating connector		R6 type
Recommended cabling		J9T2A

Table 1: PC420Vx-yy model selection

x (4-20 mA output type)	yy (4-20 mA full scale)
R = RMS output, velocity	05 = 0.5 ips
P = Calculated peak output, velocity	10 = 1.0 ips
	20 = 2.0 ips
	30 = 3.0 ips
	50 = 5.0 ips

DC supply voltage	R_L (max resistance)[2]	R_L (minimum wattage capability)[3]
12 VDC	100 Ω	1/8 watt
20 VDC	500 Ω	1/4 watt
24 VDC	700 Ω	1/2 watt
26 VDC	800 Ω	1/2 watt
30 VDC	1,000 Ω	1/2 watt

Notes: [1] Maximum loop resistance (R_L) can be calculated by:

$$R_L = \frac{V_{DC\ power} - 10\ V}{20\ mA}$$

[2] Lower resistance is allowed, greater than 10 Ω recommended.

[3] Minimum R_L wattage determined by: (0.0004 x R_L).

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