Wilcoxon Research

Model PC420VP-10-B3041
Frequency-banded velocity loop powered sensors (LPS™)

Features
- Peak velocity output
- Corrosion resistant
- Hermetic seal
- ESD protection
- Overload protection
- Reverse wiring protection

Benefits
- Provides velocity vibration trending
- Provides continuous trending of overall machine vibration
- Can help guide maintenance
- Helps notify of impending equipment failure
- Much-narrower bandwith response makes 4-20mA output dependent on key fundamental frequencies

The PC420VP-10-B3041 4-20 mA loop powered transducers offer users the ability to monitor vibration at their running speed while ignoring many higher frequency effects. In equipment such as gearboxes there can be high-amplitude vibration at frequencies far above the running speed. This sensor will filter out the higher frequencies and allow users to trend only the low-frequency components such as running speed for machines operating in the 300 RPM to 1500 RPM range.

Output, 4-20 mA

Full scale, 20 mA (±5%)	1.0 inches/second
±10% frequency response	6Hz - 20Hz
±3 dB	3Hz - 40kHz
Repeatability	±2%
Transverse sensitivity, max.	5%

Electrical

Power requirements (two wire loop power):	
Voltage at PC420 Series sensor terminals	10 VDC min, 30 VDC max
Loop resistance[1] at 24 VDC, maximum	700Ω
Turn on time, 4-20 mA loop	< 45 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

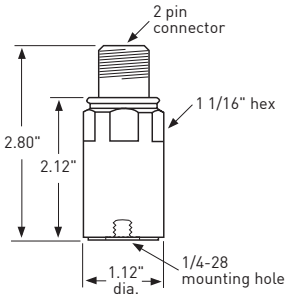
Physical

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	R6G type
Recommended cabling	J9T2A

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

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

See back for notes and powering diagram.



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

$$R_L \text{ (max resistance)} = \frac{V_{DC\ power} - 10\ V}{20\ mA}$$

DC supply voltage	R_L (max resistance)[2]	R_L (minimum wattage capability)[3]
12 VDC	100Ω	1/8 watt
20 VDC	500Ω	1/4 watt
24 VDC	700Ω	1/2 watt
26 VDC	800Ω	1/2 watt
30 VDC	1.0kΩ	1/2 watt

[2] Lower resistance is allowed, greater than 10Ω recommended.
[3] Minimum R_L wattage determined by: (0.0004 x R_L).

Typical circuit