Wilcoxon Research PCC421
Side exit loop powered sensor (LPS™)

Features
- Acceleration or velocity output units
- True root-mean-square (RMS) or calculated peak output
- Corrosion resistant
- Hermetic seal
- ESD, overload and reverse wiring protection
- Connector options: MIL-C-5015 2 pin, M12 4 pin, or integral cable (model PCC423)

Benefits
- Choice of RMS or peak output allows you to choose the sensor that best fits your requirements
- Enables continuous trending of overall machine vibration
- Can help guide maintenance in prioritizing the need for service
- Helps notify of impending equipment failure

The 4-20 mA output of this sensor series is proportional to the overall vibration. An output of 4 mA indicates no vibration; a level of 0 ips for velocity output models; a level of 0 g for acceleration output models. A full-scale reading of 20 mA indicates that the maximum range (RMS or peak) of vibration is present.

Dynamic

Output, 4-20 mA	loop signal proportional to acceleration or velocity, see table 1
Full scale, 20 mA, ±5%	selectable, see table 1
Frequency response, 4-20 mA	see table 2
Repeatability	±2%
Transverse sensitivity, max	5.0%

Electrical

Power requirements (two wire loop power):	
Voltage at sensor terminals	12 - 30 VDC
Loop resistance (at 24 VDC), max	700 Ohm
Turn on time, 4-20 mA loop	‹30 seconds
Grounding	case isolated, internally shielded

Environmental

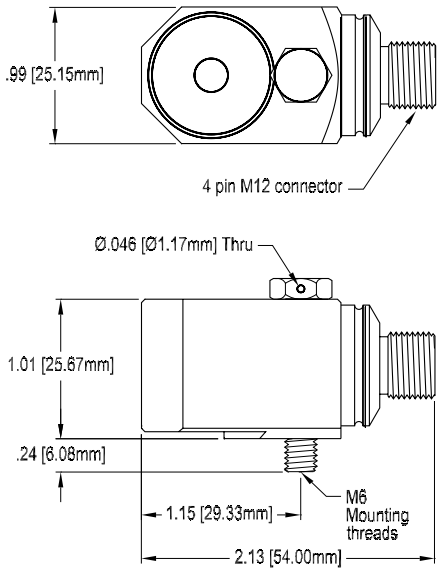
Temperature range	-40 to 105°C
Vibration limit	250 g peak
Shock limit	2,500 g peak
Sealing	hermetic

Physical

Sensing element design	PZT ceramic/shear
Weight	145 grams
Case material	stainless steel
Mounting	captive screw, 1/4-28 or M6
Output connector	2 pin MIL-C-5015 style or 4 pin M12

Note: Unless otherwise specified, the M12 connector version will be supplied with the M6 captive screw.

PCC421 with M12 connector and M6 mounting



PCC421 with MIL-C-5015 connector and 1/4-28 mounting

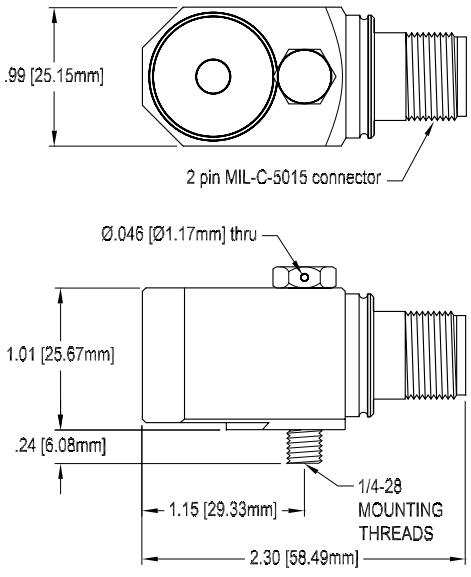


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Table 1 - Part number configuration guide		
Part number	PCC421-xx-yy-C	
Ouput type		
xx	AR	Acceleration - RMS
	AP	Acceleration - peak
	VR	Velocity - RMS
	VP	Velocity - peak
Full scale		
yy	05	5 g (acceleration output)
		0.5 ips (velocity output)
	10	10 g (acceleration output)
		1.0 ips (velocity output)
	20	20 g (acceleration output)
		2.0 ips (velocity output)
	50	50 ips (velocity output)
Output connector		
C	R6	MIL-C-5015 2 pin connector
	M12-4	M12 4 pin connector

Table 2 - PCC421 frequency response		
Acceleration	+/- 10%	10 - 1k Hz
	+/- 3 dB	1 - 2k Hz
Velocity	+/- 10%	10 - 1k Hz
	+/- 3 dB	3.5 - 2k Hz

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

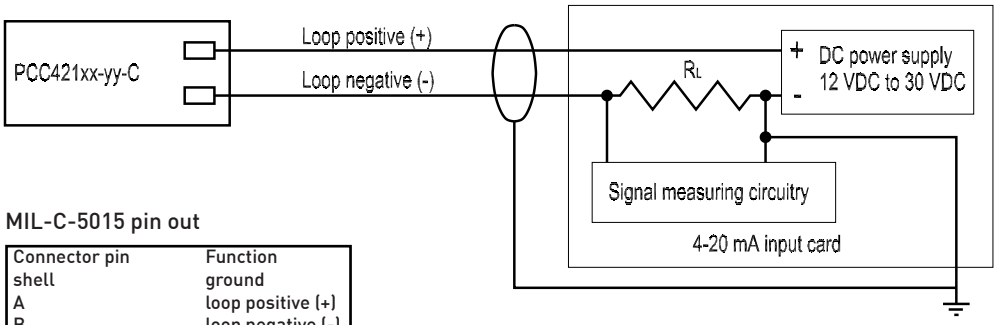
$$RL\ (\text{max. resistance}) = \frac{V_{DC\ power} - 10\ V}{20\ mA}$$

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)

PCC421 wiring diagram



MIL-C-5015 pin out

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

M12 pin out

Connector pin	Function
shell	ground
1	loop positive (+)
2	loop negative (-)
3	N/C
4	N/C

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