

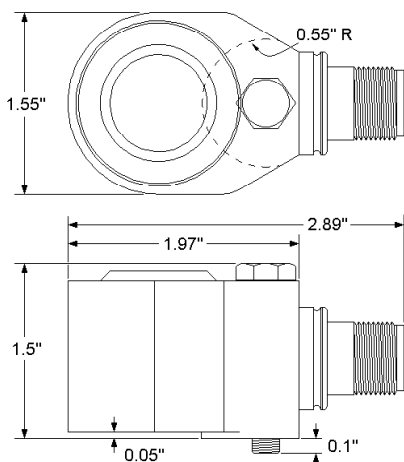
Features

- Intrinsic safety rated
- Peak equivalent or true RMS
- Corrosion resistant
- Hermetic seal
- ESD protection
- Overload protection
- Reverse wiring protection

Benefits

- Choice of output: RMS, equivalent peak, and true peak; permits you to choose the sensor that best fits your industrial requirements
- Provides continuous trending of overall machine vibration
- Can help guide maintenance

The 4-20 mA output of the PC421 Series is proportional to vibration. An output of 4 mA indicates a level of 0 ips or no vibration present for velocity output models and 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.



Model PC421 IS Series Intrinsically safe, side exit, 4-20mA, Loop-powered sensors (LPS)TM

Output, 4-20 mA

Full scale, 20 mA (±5%)	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 requirements (two wire loop power):	
Voltage (between pins A & B)	12 VDC min, 30 VDC max
Loop resistance ¹ at 24 VDC, maximum	600Ω
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	320 grams
Case material	316L stainless steel
Mounting	1/4 - 28 captive bolt
Output connector	2 pin, MIL-C-5015 style
PC421xxx-yy-Dz	3 pin, MIL-C-5015 style
Mating connector	R6 type
Recommended cabling	J9T2A

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

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

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

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

² Lower resistance is allowed, greater than 10Ω recommended

³ Minimum R_L wattage determined by: (0.0004 x R_L)

⁴ The following are recommended barrier strips: MTL7087, MTL7187, or MTL787S for Class I, Division 1 locations.

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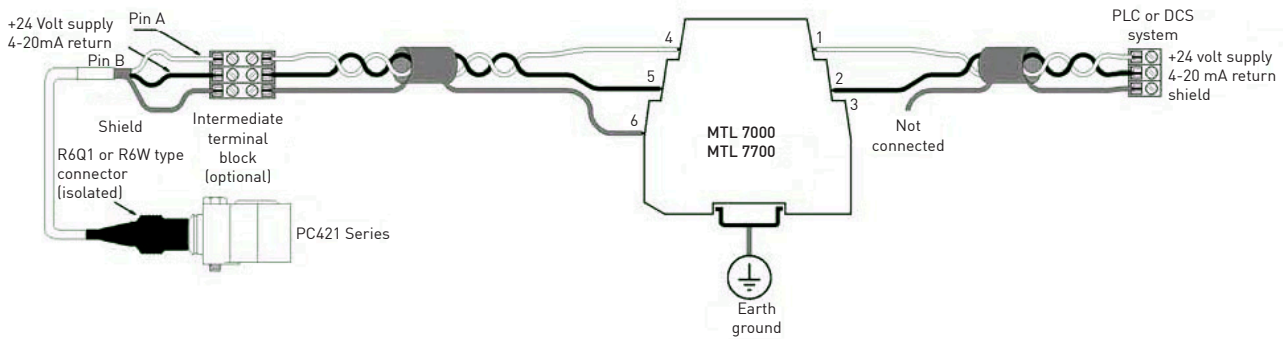


*CSA approval: class I, division 1, groups A, B, C, D
LCIE approval: EEx ia IIC T3
When installed in accordance with WR drawing 12799

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Table 1: PC421xxx-yy-IS model number selection

xxx (4-20 mA output type)	-yy (full scale)
AR = acceleration, RMS AP = acceleration, peak	-05 = 5 g (49 m/sec ²) -10 = 10 g (98 m/sec ²) -20 = 20 g (196 m/sec ²)
VR = velocity, RMS VP = velocity, equivalent peak B	-05 = 0.5 i.p.s. (12.8 mm/sec) -10 = 1.0 i.p.s. (25.4 mm/sec) -20 = 2.0 i.p.s. (50.8 mm/sec) -30 = 3.0 i.p.s. (76.2 mm/sec) -50 = 5.0 i.p.s. (127 mm/sec)



All wire and cable used for installation of the PC421 Series sensor should be shielded. Generally accepted instrumentation wiring practice considers the best way to ground the shield is to connect it at the measurement end of the cable. The shield should not be wired to ground at the sensor end of the cable. Wilcoxon R6W and R6QI type connectors leave the shield unconnected at the sensor end of the cable.