Explosion-proof, acceleration loop powered sensor

SENSING TECHNOLOGIES



Key features

- RMS, peak equivalent or true peak detection
- · Explosion-proof certified
- Provides continuous trending of overall machine vibration
- Manufactured in an approved ISO 9001 facility

Class I, Div 1, 2 Groups A, B, C, D

Class II, Div 1, 2 Groups E, F, G

For hazardous area locations, sensor must be installed in accordance with

- Conduit seal must be installed within 18 inches (450 mm) of the enclosure.

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

Class III

installation instructions or local code requirements.

Special conditions for safe use:

T3C Ta = 85°C max

- Use supply wires with spreading suitable for at least 70° C

Wilcoxon Sensing Technologies An Amphenol Company

8435 Progress Drive Frederick, MD 21701 USA

II 2 G

II 3 G

Ex d IIC T3

Ex nA IIC T3 -40°C \leq Ta \leq +85°C

(F

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Table 1: PC420Ax-yy-EX model selection guide

PC420A-EX series

x (4-20 mA output type)	yy (4-20 mA full scale)
R = acceleration, RMS output	05 = 5 g (49 m/sec ²)
P = acceleration, equivalent peak output	10 = 10 g (98 m/sec ²)
TP = acceleration, true peak output	20 = 20 g (196 m/sec ²)

98823 Rev. C.2 09/18

Certifications

Explosion-proof, acceleration loop powered sensor

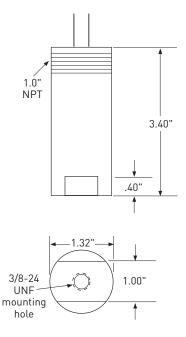


PC420A-EX series

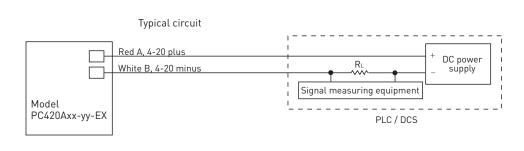
SPECIFICATIONS

Full scale, 20 mA, ±5%		see Table 1 on page 1
Frequency response:	±10% ±3 dB	10 Hz - 1.0 kHz 4.0 Hz - 2.0 kHz
Repeatability		±2%
Transverse sensitivity, max		5%
Power requirements, 2-wire loc Voltage at sensor terminal		14 - 30 VDC
Loop resistance ¹ at 24 VDC, m	ax	700 Ω
Turn on time, 4-20 mA loop		<10 sec
Grounding		case isolated, internally shielded
Temperature range		–40° to +85° C
Vibration limit		250 g peak
Shock limit		2,500 g peak
Sealing		epoxy sealed
Sensing element design		PZT, shear
Weight		380 grams
Case material		303 stainless steel
Mounting		3/8-24 x 3/8 depth tapped hole
Output leads, 18 AWG		13 ft.

Connections		
Function	Cable color	
loop positive (+)	red	
loop negative (-)	white	



Accessories supplied: SF20-2 mounting stud; calibration data (level 2) Optional accessories: SF20-1 mounting stud (1/4-28 to 3/8-24)



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(0.0004 x R₁).

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Notes: 1 Maximum loop resistance (R $_{\!\!\! L})$ can be calculated by:

$$R_{L} = \frac{V_{DC \text{ power}} - 12 \text{ V}}{20 \text{ mA}}$$

DC supply	R, (max	R ₁ (minimum
voltage	resistance) ²	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

² Lower resistance is allowed, greater than 10 Ω recommended. ³ Minimum R_i wattage determined by: