



# PC420A-EX SERIES

Explosion-proof, acceleration loop powered sensor



### Table 1: PC420Ax-yy-EX model selection guide

x (4-20 mA output type) R = acceleration, RMS output P = acceleration, equivalent peak output

TP = acceleration, true peak output

yy (4-20 mA full scale) 05 = 5 g (49 m/sec<sup>2</sup>) 10 = 10 g (98 m/sec<sup>2</sup>) 20 = 20 g (196 m/sec<sup>2</sup>)

#### 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

## CERTIFICATIONS



Class I, Div 1, 2 Groups A, B, C, D Class II, Div 1, 2 Groups E, F, G Class III T3C Ta = 85°C max



II 2 G Ex d IIC T3 II 3 G Ex nA IIC T3 -40°C ≤ Ta ≤ +85°C

CE

For hazardous area locations, sensor must be installed in accordance with installation instructions or local code requirements. Special conditions for safe use:

Conduit seal must be installed within 18 inches (450 mm) of the enclosure.
 Use supply wires with spreading suitable for at least 70° C.

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

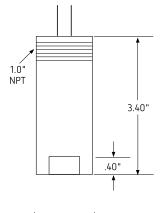


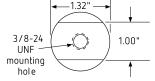


#### SPECIFICATIONS

Full scale, 20 mA, ±5%		see Table 1 on page 1
Frequency response:	±10%	10 Hz - 1.0 kHz
	±3 dB	4.0 Hz - 2.0 kHz
Repeatability		±2%
Transverse sensitivity, max		5%
Power requirements, 2-wire loc	op power:	
Voltage at sensor terminal	S	14 - 30 VDC
Loop resistance <sup>1</sup> at 24 VDC, ma	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	





**Notes:** <sup>1</sup> Maximum loop resistance ( $R_L$ ) can be calculated by:

R <sub>L</sub> =	$V_{_{DCpower}}$ – 12 V
	20 mA

DC supply voltage	R <sub>L</sub> (max resistance)²	R <sub>⊥</sub> (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

 $^2$  Lower resistance is allowed, greater than 10  $\Omega$  recommended.

 $^3$  Minimum R<sub>L</sub> wattage determined by: (0.0004 x R<sub>L</sub>).

Page 2/2

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

Accessories supplied: SF20-2 mounting stud; calibration data (level 2)

Optional accessories: SF20-1 mounting stud (1/4-28 to 3/8-24)

Typical cir cuit

Red A, 4-20 plus

White B, 4-20 minus

The information provided herein is to the best of our knowledge true and accurate, it is provided for guidance only. All specifications are subject to change without prior notification. Althen – Your expert partner in Sensors & Controls | althensensors.com

R∟ ∕₩

PLC / DCS

Signal measuring equipment

Althen stands for pioneering measurement and custom sensor solutions. In addition we offer services such as calibration, design & engineering, training and renting of measurement equipment.

Germany/Austria/Switzerland
info@althen.de

Model PC420Axx-yy-EX

> **Benelux** sales@althen.nl

France info@althensensors.fr Sweden info@althensensors.se

+ DC power

suppl y

USA/Canada info@althensensors.com **Other countries** info@althensensors.com