Explosion-proof, velocity loop powered sensor

PC420V-EX series





Key features

vibration

 Choice of RMS or peak equivalent output

Explosion-proof certifiedProvides continuous

· Manufactured in an

trending of overall machine

approved ISO 9001 facility

Table 1:	PC420Vx-yy-EX	model	selection	guide

x (4-20 mA output type)	yy (4-20 mA full scale)	
	05 = 0.5 ips	
2 - valacity DMC cutaut	10 = 1.0 ips	
= velocity, RMS output	20 = 2.0 ips	
= velocity, equivalent peak output	30 = 3.0 ips	
	50 = 5.0 ips	

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 II T3 -40°C ≤ Ta ≤ +85°C

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.

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Explosion-proof, velocity loop powered sensor



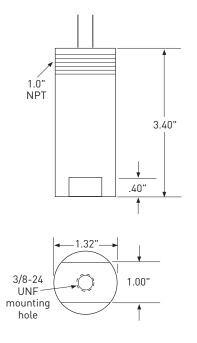


SPECIFICATIONS

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 loop power: Voltage at sensor terminals		14 - 30 VDC	
Loop resistance ¹ at 24 VDC, max		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.	

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

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

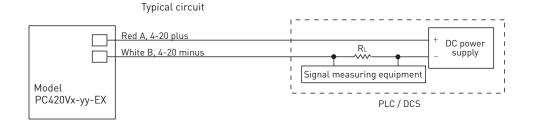


Notes: ¹ Maximum loop resistance (R_L) can be calculated by:

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

DC supply	R _i (max	R _i (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

 $^{^{\}rm 2}$ Lower resistance is allowed, greater than 10 Ω recommended.



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 $^{^3}$ Minimum $R_{_L}$ wattage determined by: (0.0004 x $R_{_1}$).