Displacement loop powered sensor

PC420DPP-40

SPECIFICATIONS

Full scale, 20 mA, ±5%		40 mils (1.0 mm) peak-peak
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**		12 - 30 VDC
Loop resistance[1] at 24 VDC, max		700 Ω
Turn on time, 4-20 mA loop		30 seconds
Grounding		case isolated, internally shielded
Temperature range		–40° to +85°C
Vibration limit		500 g peak
Shock limit		2,500 g peak
Sealing		hermetic
Base strain sensitivity, max		0.0002 g/µstrain
Sensing element design		PZT ceramic / shear
Weight		162 grams
Case material		316L stainless steel
Mounting		1/4-28 tapped hole
Output connector		2 pin, MIL-C-5015 style
Mating connector		R6 type
Recommended cabling		J9T2A

Accessories supplied: SF6 mounting stud; calibration data (level 2)

Notes: * Maximum full scale frequency response limited to the lesser of 40 mils peak-peak or 500 g-peak.

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

$$R_L = \frac{V_{DC\ power} - 10\ V}{20\ mA}$$

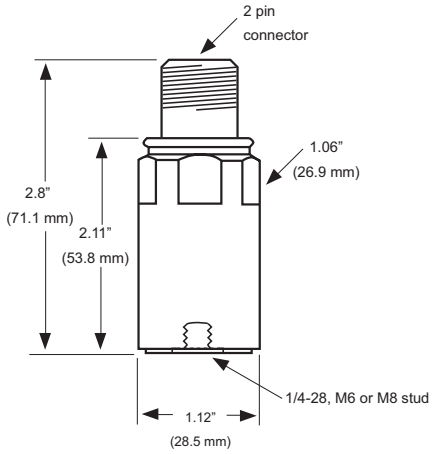
[2] Lower resistance is allowed, greater than 10 Ω recommended.

[3] Minimum R_L wattage determined by: (0.0004 x R_L).

DC supply voltage	R_L (max resistance)[2]	R_L (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

Key features

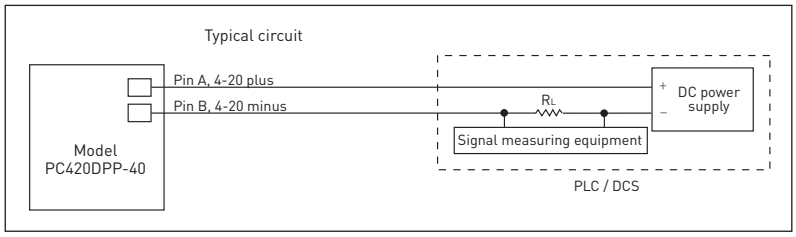
- Peak-peak detection derived from true RMS detection
- Minimizes influence of blade pass and gear mesh frequencies
- Manufactured in ISO 9001 facility



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

Interpreting the mA reading: Insert your reading in mA and the full scale value of the sensor into the following equation to find the equivalent vibration level.

$$\text{Vibration level} = \left(\frac{(\text{reading in mA}) - 4}{16\ mA} \right) * \text{full scale value}$$



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

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