

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:

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

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

³ Minimum R_L wattage determined by: $(0.0004 \times R_L)$.

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

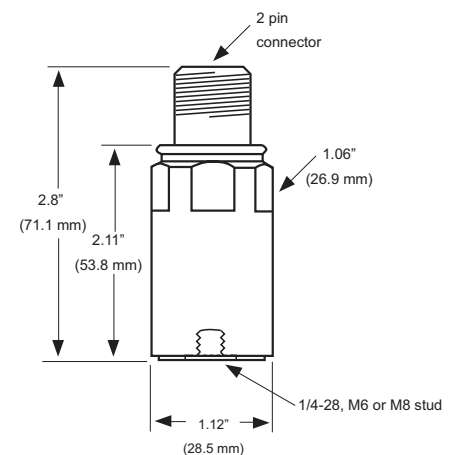
Interpreting the mA reading: Insert your reading in mA and the full scale value of the sensor into the following equation to find the equivalent vibration level.

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

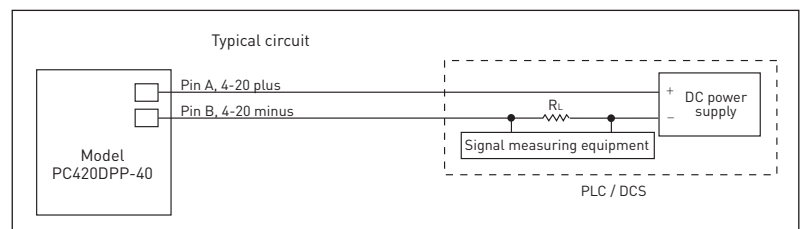


Key features

- 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



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