## **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 <sup>1</sup> 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.

<sup>1</sup> Maximum loop resistance (R<sub>1</sub>) can be calculated by:

$$V_{\rm DC power} - 10 \text{ V}$$
20 mA

R

F

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

<sup>3</sup> Minimum R<sub>1</sub> wattage determined by: (0.0004 x R<sub>1</sub>).

**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.

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



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Typical circuit

Pin A, 4-20 plus

Pin B, 4-20 minus

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DC power

supply

ODEL PC420DPP-4
SN: 12345

## **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

Ru

Signal measuring equipment

PLC / DCS





Model PC420DPP-40

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