Model PC420V intrinsically safe series Velocity loop powered sensors (LPS™)

Output, 4-20 mA

Full scale,20mA (±5%)	see table 1 on back
Frequency response:	
±10%	10 Hz - 1.0 kHz
±3 dB	4 Hz - 2 kHz
Repeatability	±2%
Transverse sensitivity, max.	5%

Electrical

Power requirements(two wire loop power):	
Voltage at PC420-series sensor terminals	12 VDC min, 30 VDC max
Loop resistance[1] at 24 VDC, maximum	600.
Turn on time, 4-20 mA loop	30 seconds
Grounding	case isolated, internally shielded

Environmental

Temperature range	–40 to 85°C
Vibration limit	250 g peak
Shock limit	2,500 g peak
Sealing	hermetic

Physical

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

Connector pin	Function
Shell	ground
A	+ positive
B	– negative

The output of the PC420V-IS Series is proportional to velocity vibration. An output of 4 mA indicates a level of 0 ips or no vibration present. A full-scale reading of 20 mA indicates that the maximum range(Peak or RMS) of vibration is present.The Peak output units provide a computed equivalent peak level of vibration based on the RMS. The True Peak output units have a track-and-hold circuit with fast attack and slow decay for catching transient vibration peaks.

Features
- Intrinsically safe certification
- Peak equivalent, True RMS, or True Peak
- Corrosion resistant
- Hermetic seal
- ESD protection
- Overload protection
- Reverse wiring protection

Benefits
- Choice of ouput: RMS, or Peak, permits you to choose the sensor that best fits your industrail requirements.
- Provide continuous trending of overall machine vibration
- Can help guide maintenace

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

$$RL(\text{max resistance}) = \frac{\text{Vdc power} - 12\ \text{V}}{20\ \text{mA}}$$

Typical

DC supply voltage	RL (max resistance)[2]	RL (minimum wattage capability)[3]
20VDC	400.	1/4 Watt
24VDC	600.	1/2 Watt
26VDC	700.	1/2 Watt

[2] Lower resistance is allowed, greater than 10. recommended.
[3] Minimum RL wattage determined by: (0.0004 x RL)
[4] The following are recommended barrier strips: MTL7087, MTL7187, or MTL787S for Class I divisioni locations.

Accessories supplied: SF6 mounting stud (International customers specify mounting requirements); calibration data (level 2).

*CSA Approval: Class 1, Division 1, GroupsA,B,C,D.
LCIE Approval: EEx ia IIC T3

Table 1: PC420Vxx-yy-IS Model number selection

xx (4-20 mA output type)	yy (4-20 mA full scale)
R = RMS output, velocity	05 = 0.5 ips
P = equivalent peak ouput, velocity	10 = 1.0 ips
TP = true peak output, velocity	20 = 2.0 ips
	30 = 3.0 ips
	50 = 5.0 ips

ALTHEN Meß- und Sensortechnik

ALTHEN GmbH Mess- und Sensortechnik
Frankfurter Strasse 150 - 152
65779 Kelkheim / Germany
phone: +49 (0)6195 70060
fax: +49 (0)6195 700666
sales@althensensors.com
www.althensensors.com