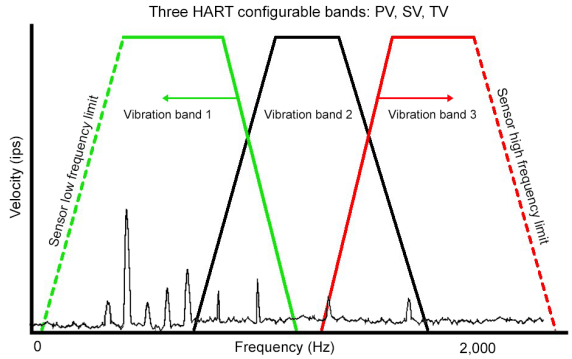
HART-enabled vibration transmitter

PCH420V series

The PCH420V series sensors are velocity transmitters with 4-20 mA outputs and the added capability of digital communications using HART protocol. The HART functionality allows user configuration of the sensors, enables multi-drop cable installations and allows the sensor to communicate directly with a HART-enabled DCS or PLC. The benefits are a sensor that can be configured by the user for a number of different full-scale ranges and filter settings, a reduction in the required cabling, and simple connection to existing plant infrastructure. Digital sensors allow improved connectivity into plant networks, improving efficiency and simplifying decision-making about machinery health.



Device variables:
- PV - Vibration band 1
- SV - Vibration band 2
- TV - Vibration band 3

Model	Description
PCH420V-R6(-HZ)	4-20 mA + HART velocity sensor with 2 pin MIL-C-5015 connector
PCH420V-M12(-HZ)	4-20 mA + HART velocity sensor with 4 pin M12 connector

Note: Model numbers ending in -HZ are hazardous area certified sensors.

Certifications

CE

(all models)

-HZ models only:

CSA C US
Class I, Div 2
Groups A, B, C, D
Class I, Zone 2
AEx/Ex nA nC IIC T4
Tamb: -40°C to +105°C

Ex
II 3 G
Ex nA nC IIC T4 Gc
Ta = -40°C to +105°C

IEC IECEx

The cable installed must be suitable for the installation temperature and the voltage of any intermingled circuits. • Connected cable must be of a type suitable for Zone 2 Hazardous Locations. • The connected cable and connector must provide a minimum ingress protection level of IP54, when assessed according to EN 60079-0 and EN 60079-15. Unused connector must be fitted with an appropriately rated blanking cover. • The connection must be made in a manner that cannot be separated without the use of a tool. • Where the installation requires that the Accelerometer enclosure be grounded, this is to be done using a metal mounting stud as described in document 13327-01, 13334-01, 13335-01 or 13336-01.

Key features

- 4-20 mA + HART 7.0 output
- Three user-configurable bands
- Single or multi-drop loop installation
- Hazardous area certified models available
- Remote configuration and diagnostics
- Connector options: 2 pin MIL-C-5015 (-R6 models) or M12 (-M12 models)
- Continuous asset monitoring
- Manufactured in an approved ISO 9001 facility

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

Wilcoxon Sensing Technologies
An Amphenol Company

8435 Progress Drive
Frederick, MD 21701
USA

Tel: +1 (301) 330-8811
Fax: +1 (301) 330-8873
info@wilcoxon.com

buy.wilcoxon.com
www.wilcoxon.com

99249 Rev.F.2 03/19

HART-enabled vibration transmitter

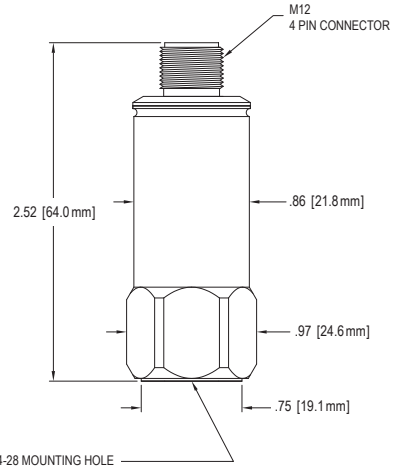
PCH420V series

SPECIFICATIONS

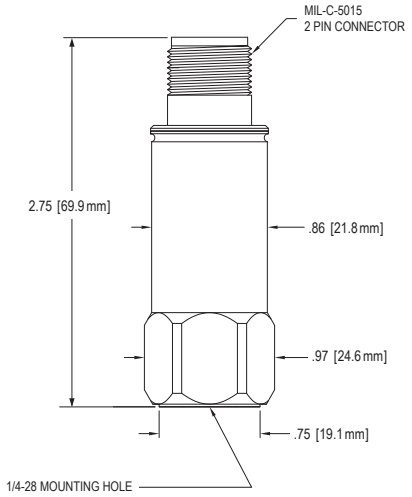
HART PARAMETERS		
Full scale velocity output, 20 mA, ±10% **Programmable PV band**		0.5 - 5.0 in/sec, peak (12.7 - 127 mm/sec, peak)
HART analysis bands, independently programmable: PV, SV, TV		low-pass high-pass band-pass (max 2, simultaneous)
Signal detection options		RMS, peak, true peak
Minimum analysis bandwidth		10 Hz
SENSOR SPECIFICATIONS		
Frequency response:	**±10%** **±3 dB**	10 Hz - 1 kHz 3.0 Hz - 1.95 kHz
Measurement accuracy at 25°C, 100 Hz, 1 ips full scale		±5%
Power requirements, 2-wire loop power: **Voltage, between pins A and B**		12 - 30 VDC
Current draw		3.8 - 22 mA
Loop resistance[1] at 24 VDC, max		600 Ω
Turn on time, 4-20 mA loop		30 seconds
Grounding		case isolated, internally shielded
Temperature range		–40° to +105° C (–40° to +221°F)
Vibration limit		500 g peak
Shock limit		5,000 g peak
Sealing		hermetic
Sensing element design		PZT, shear
Case material		316L stainless steel
Mounting		1/4-28 tapped hole
	-M12 models	**-R6 models**
Mating connector	4 pin, M12	2 pin, MIL-C-5015
Recommended cabling	J9T4A	J9T2A
Recommended connector	R75S	R6H series

Notes: [1] Maximum loop resistance (R_L) can be calculated by: $R_L = \frac{V_{DC\ power} - 10.3\ V}{22.8\ mA}$
HART communication requires min. 250Ω resistance.

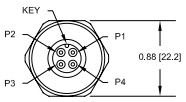
Accessories supplied: SF6 mounting stud; calibration data; DD (Device Description) file is available for download at buy.wilcoxon.com.



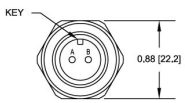
Connections - PCH420V-M12	
Function	Connector pin
loop positive	1
loop negative	2
N/C	3
N/C	4
ground	shell



M12 connector



R6 connector



Connections - PCH420V-R6	
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.

Wilcoxon Sensing Technologies
An Amphenol Company

8435 Progress Drive
Frederick, MD 21701
USA

Tel: +1 (301) 330-8811
Fax: +1 (301) 330-8873
info@wilcoxon.com

buy.wilcoxon.com
www.wilcoxon.com

99249 Rev.F.2 03/19

Mouser Electronics

Authorized Distributor

Click to View Pricing, Inventory, Delivery & Lifecycle Information:

Amphenol:

PCH420V-R6 PCH420V-M12-HZ PCH420V-R6-HZ