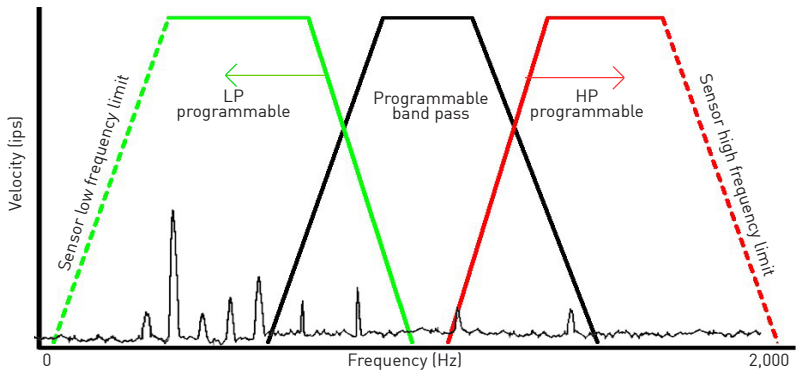
Wilcoxon Research®

Programmable vibration transmitter with HART protocol
PCH420V velocity sensor

Meggitt Sensing Systems now offers a family of HART vibration sensors which offer superior performance in extreme environments. For over 20 years, the HART field communication protocol has grown to support over 40 million devices because of its high reliability and ease of programming. The PCH420V superimposes a digital signal on top of the popular 4-20 mA loop offering unparalleled flexibility for condition based maintenance of rotating equipment. Three user configurable bands allow targeted measurements for identifying machine faults like unbalance, alignment, looseness or bearing wear conditions. HART enabled communication enables PCH420 sensors to be easily integrated in existing HART networks without the expense of implenting a traditional vibration monitoring system.

Three HART programmable bands: PV, SV, TV (user configured)



Device variables	Description
PV	Vibration band 1
SV	Vibration band 2
TV	Vibration band 3

Key features

- 4-20 mA output + HART
- HART 7.0 protocol
- Continuous asset monitoring
- Remote configuration and diagnostics
- Single or multi-drop loop installation
- Programmable vibration bands
- Manufactured in an approved ISO 9001 facility

Certifications

CE

Applications

- Chemical processing
- Oil & gas
- Process automation

Aerospace
Measurement
Energy

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HART parameters

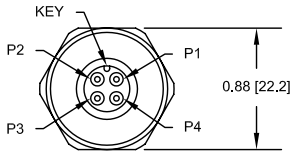
Full scale velocity output, 20 mA, ±10% **Programmable PV band**	0.5 - 5.0 in/sec, peak (12.7 - 127 mm/sec, peak)
HART analysis bands, independently programmable: PV, SV, TV	low-pass high-pass band-pass (max 2, simultaneous)
Signal detection options	rms, peak, true peak
Minimum analysis bandwidth	10 Hz

Sensor specifications

Frequency response	**± 10%** **± 3 dB**	10 Hz - 1.0 kHz 3.0 Hz - 1.95 kHz
Measurement accuracy at 25° C, 100 Hz, 1 ips peak 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		600Ω
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		2,500 g peak
Sealing		hermetic
Sensing element design		PZT, shear
Case material		316L stainless steel
Mounting		1/4-28 tapped hole
Output connector		M12
Recommended cabling		shielded, multi-conductor (J9T4A/J12/J84)

Note: [1] Maximum loop resistance (R_L) can be calculated by: (VDC – 10.3 V) / 22.8 mA, HART communication requires min 250Ω resistance, see manual for further details

Connections



M12 connector

Function	Connector pin
loop positive	1
loop negative	2
N/C	3
N/C	4
ground	shell

Contact

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