



## CMCP420VT

Loop Powered 4-20 mA Vibration Velocity Sensor  
with Dynamic Output, Top Exit, Terminal



### Features

- Loop Powered 4-20 mA Output
- Velocity Output with RMS Detection
- Dynamic Signal Output (Buffered Output)
- Top Exit with Terminal Block Connections
- Interfaces Directly with Control Systems (PLC/DCS)
- Two Different Ranges Available
- 2 Hz to 2.0 kHz  $\pm$  5% Frequency Response (120 CPM to 120 kCPM)
- Class I Division II Groups B-D Approved Standalone
- RoHS Compliant



### Typical Applications

Fans, Motors, Pumps, Compressors, Centrifuges, Conveyors, Air Handlers, Gearboxes, Rolls, Dryers, Presses, Cooling, HVAC, Spindles, Machine Tooling, Process Equipment and many more.

### Technical Performance

Ranges:	-01 Model:	0-1.0 In/Sec RMS (0-25.4mm/Sec.)
	-02 Model:	0-2.0 In/Sec RMS (0-50.8mm/Sec.)
Frequency Response:		2 Hz to 2,000 Hz (120 to 120k CPM) $\pm$ 5%
		ISO 20816
Isolation:		Base Isolated
Measurement Range:		50 g peak
Transverse Sensitivity:		Less than 5%
Dynamic Output:		100 mV/g $\pm$ 5%

### Electrical

Output Current:	4-20 mA DC Proportional to RMS Velocity
Supply Voltage:	22 to 36 VDC
Settling Time:	3 Second
Output Impedance:	Loop Resistance 600 Ohm Max @ 24 VDC
Case Isolation:	>100 Ohm at 500 Volt

### Environmental

Operating Temperature Range:	-13 to 194°F (-25 to 90°C)
Sealing:	IP65 (IP67 with CMCP420BNC or CMCP420XPHD)
Maximum Shock:	5000 g

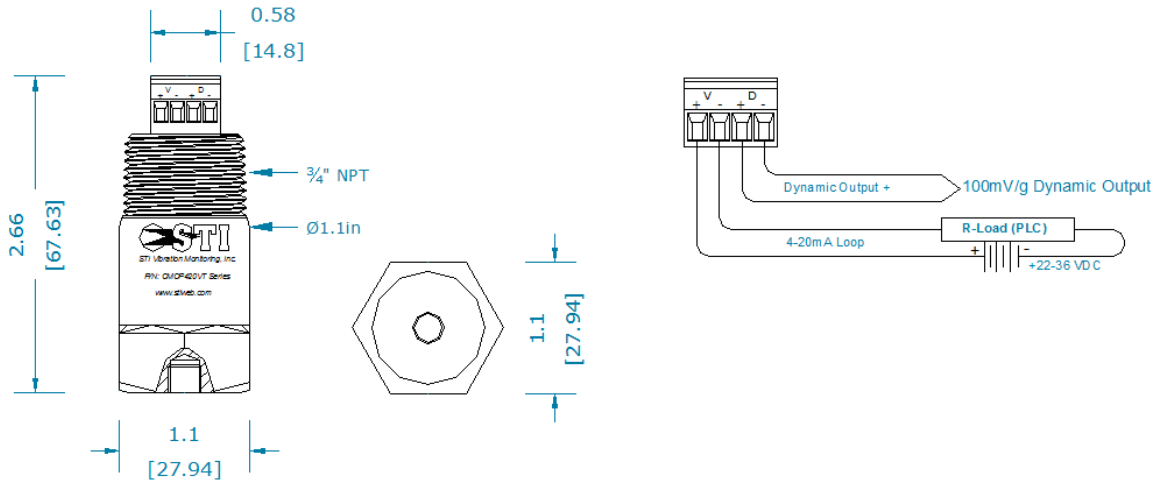
### Mechanical

Case Material:	Stainless Steel
Sensing Element:	PZT/Compression Type
Mounting Torque:	70 Lb.-In
Weight:	8 Oz (226 g)
Mounting:	1/4"-28 UNF Mounting Stud (Supplied with Sensor)
	M8x1.25 Mounting Stud (Supplied with Sensor)
Mating Connector:	18-24AWG (0.81 - 0.32mm <sup>2</sup> ) Instrumentation Cable Twisted, Shielded Pair

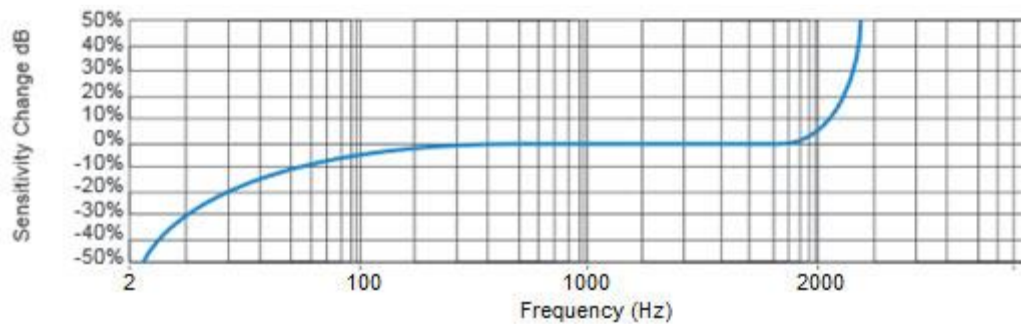
## Hazardous Location Ratings

Class 1 Division 2 Groups B-D  
 UL1604, CSA C22.2 No. 213  
 CE Approved  
 RoHS Compliant

## Dimensions and Connection Details



## Typical Frequency Response



## Ordering Information

CMCP420VT	-XX	Description
	-01	Loop Powered, Solid State Vibration Transmitter, CSA/UL Approved 1.00 In/Sec Full Scale (25.4 mm/s), RMS Detection
	-02	2.00 In/Sec Full Scale (50.8 mm/s), RMS Detection

## Similar Products



**CMCP420VT-T**  
 Dual Output Vibration and  
 Temperature 4-20 mA Sensor



**CMCP422VT-XX-X-I**  
 4-20 mA Velocity Sensor  
 With Braided Integral Cable



**CMCP422VT-XX-X-C**  
 4-20mA Velocity Sensor  
 with MS 5015 Connector

**Note:** Due to STI's continuous process improvement, specifications are subject to change without notice.

## CMCP420 Accessories

For 90° Exit:

Part ID: **CMCP420EL**

Description: 3/4" to 3/4" NPT Elbow

Cable Fitting for NPT Exit:

Part ID: **CMCP420WF**

Description: Weatherproof Cable Fitting,  
0.18 to 0.22" Diameter Cables

Requires CMCP420EL, CMCP420LED or CMCP420BNC



When access to the raw acceleration signal with a portable analyzer is required, then the CMCP420VT and an NPT Elbow with BNC (CMCP420BNC) can be used:

Part ID: **CMCP420BNC** (shown left)

Description: 3/4" Elbow with BNC Output for Buffered Signal (Data Collector Connection)



To read the measured Velocity value plus access to raw acceleration signal, use the CMCP420VT in conjunction with an LED or LCD display:

Part ID: **CMCP420LED -XX** LED Display, Mounts on Top of CMCP420VT Series

Part ID: **CMCP420LCD -XX** LCD Display, Mounts on Top of CMCP420VT Series

- 01: 1.00 In/Sec Full Scale
- 02: 2.00 In/Sec Full Scale
- 51: 25.4 mm/s Full Scale
- 52: 50.8 mm/s Full Scale



Mounting Accessories:

Part ID: **CMCP200-01**

Description: Sensor Mounting Pad

Part ID: **CMCP203 -XX**

Description: NPT Mounting Thread Adapter (Adapts 1/4"-28 to NPT)

- 01: 1/2" NPT
- 02: 3/4" NPT
- 03: 3/8" NPT
- 04: 1/4" NPT

For employment in hazardous locations, use the Explosion proof CMCP420VT/Ex IECEx/ATEX Approved Loop-Powered Vibration Transmitter with Dynamic Output.



**Shown above:** CMCP420VT/Ex Explosion proof Transmitter