



CMCP422VT-M12/IS Series

Intrinsically Safe Loop Powered 4-20 mA Velocity Sensor,
Top Exit, 4-Pin M12 Connector



Features

- Loop Powered 4-20 mA Output
- Velocity Output with RMS or Peak Detection
- Top Exit with 4-Pin M12 Connector
- Interfaces Directly with Control Systems (PLC/DCS)
- Selectable Full-Scale Ranges
- 10 Hz to 1.0 kHz +/-5% Frequency Response (600 CPM to 60 kCPM)
- Sealed to IP68
- European, USA and South African Approvals

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

Mounted Base Resonance:	5 kHz Min.
Ranges:	See Ordering Information Below
Frequency Response:	10 Hz to 1.0 kHz $\pm$ 5%
	600 CPM to 60k CPM
	ISO 20816
Isolation:	Base Isolated
Measurement Range:	50 g peak
Transverse Sensitivity:	Less than 5% with Faraday Cage

Electrical

Output Current:	4-20 mA DC Proportional to RMS or Peak Velocity
Supply Voltage:	15 to 30 VDC
Settling Time:	2 Second
Output Impedance:	Loop Resistance 600 Ohm Max @ 24 VDC
Case Isolation:	>10 ⁸ Ohm at 500 Volt

Environmental

Sealing:	IP68
Maximum Shock:	5000 g

Mechanical

Case Material:	Stainless Steel
Sensing Element:	PZT/Compression Type
Mounting Torque:	5.9 ft. lbs (8 Nm)
Weight:	5.2 Oz (150 g)
Mounting:	1/4-28 UNF Mounting Stud and 1/4-28 to M8x1.25 Adapter Stud (Supplied with Sensor)
Mating Connector:	4 Pin M12 Connector

Hazardous Location Ratings

Certificate Details Group I+II

IEEx BAS08.0034X
Baseefa08ATEX0086X
ExII 1GD
Ex ia IIC T6 Ga
Ex ia IIIC T80°C IP65 Da
Ex I M1
Ex ia I Ma
(-40°C ≤ Ta ≤ +60°C)

Certificate Details Group II

ExII 1GD
Ex ia IIC T6 Ga
Ex ia IIIC T130°C IP65 Da
(-40°C ≤ Ta ≤ +110°C)

Accelerometer System Certificate

Baseefa08Y0087
Ex ia IIC T6 (-40°C ≤ Ta ≤ +60°C)

Terminal Parameters

Ui = 28V, Ii = 115mA, Pi = 0.65W Group II
Ui = 16.5V Pi = 0.65W
or Ui = 28V Ii = 115mA Pi = 0.65W Group I

Certified Temperature Range

Ex ia IIC T6 Ga (-40°C ≤ Ta ≤ +60°C) (Gas)
Ex ia IIC T4 Ga (-40°C ≤ Ta ≤ +120°C) (Gas)
Ex ia IIIC T80°C IP65 Da (-40°C ≤ Ta ≤ +60°C) (Dust)
Ex ia IIIC T130°C IP65 Da (-40°C ≤ Ta ≤ +110°C) (Dust)
Ex ia I Ma (-40°C ≤ Ta ≤ +60°C) (Mining)

South African Approval

Certificate No. MASC MS/16-0229X
Group I and II (As Baseefa/ATEX)

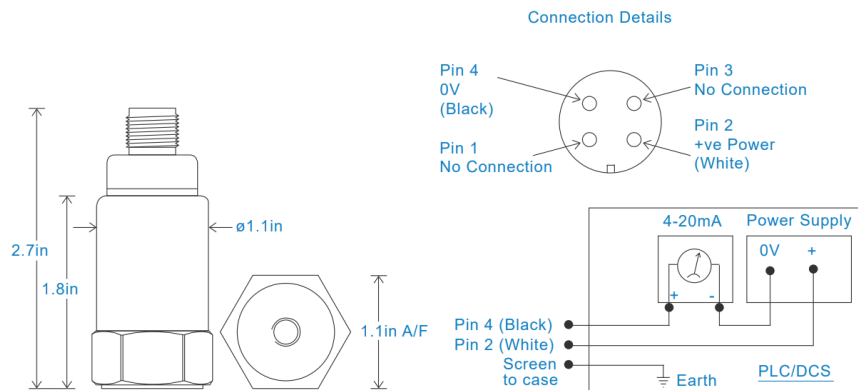
US/Canada Approvals

Certificate No. SGSNA/18/SUW/0000231
Class I, II, III, Division 1, 2, Groups A - G, T4, -40°C to +110°C
Class I, Zone 0, AEx, ia, IIC, T4, Ga, -40°C to +110°C
Zone 20, AEx, ia, IIIC, T130°C, IP65, Da, -40°C to +110°C

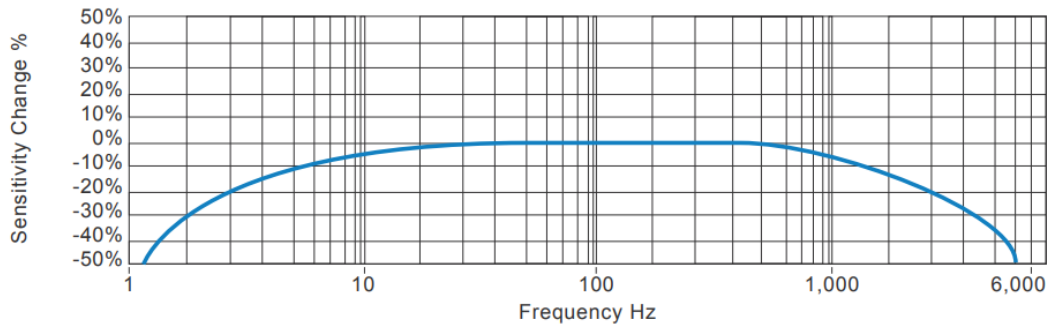
Barrier

1 x CMCP245-05 MTL Zener Barrier MTL7787+ For 4-20 mA Signals (BAS01ATEX7217)
1 x Pepperl + Fuchs Galvanic Isolator KFD2-STC4-Ex1, which has superseded KFD2-CR-Ex1.30300 (BAS00ATEX7164)
See system drawings on page 4
or Pepperl + Fuchs Zener Barrier Z787 (BAS01ATEX7005) or any other barrier that conforms to system drawings

Dimensions



Typical Frequency Response



Ordering Information

CMCP422VT	-XX	-X	-XXX	/XX	Description
Imperial System	-01				Loop Powered 4-20 mA Velocity Sensor 1.00 In/Sec Full Scale (25.4 mm/s)
	-02				2.00 In/Sec Full Scale (50.8 mm/s)
Metric System	-10				10 mm/s Full Scale
	-20				20 mm/s Full Scale
	-25				25 mm/s Full Scale
	-50				50 mm/s Full Scale
	-100				100 mm/s Full Scale
		-R			RMS Detection
		-P			Peak Detection
			-M12		4 Pin M12 Connector
				/IS	Intrinsically Safe

Example Part Number: CMCP422VT-01-R-M12/IS

Intrinsically Safe Loop Powered 4-20 mA Velocity Sensor, Top Exit, Full Scale 1.0 Inch/Second, RMS Detection and 4 Pin M12 Connector

Similar Products



CMCP422VT-XX-X-C/IS
2-Pin MS 5015 Connector



CMCP422VT-XX-X-I/IS
Braided Integral Cable

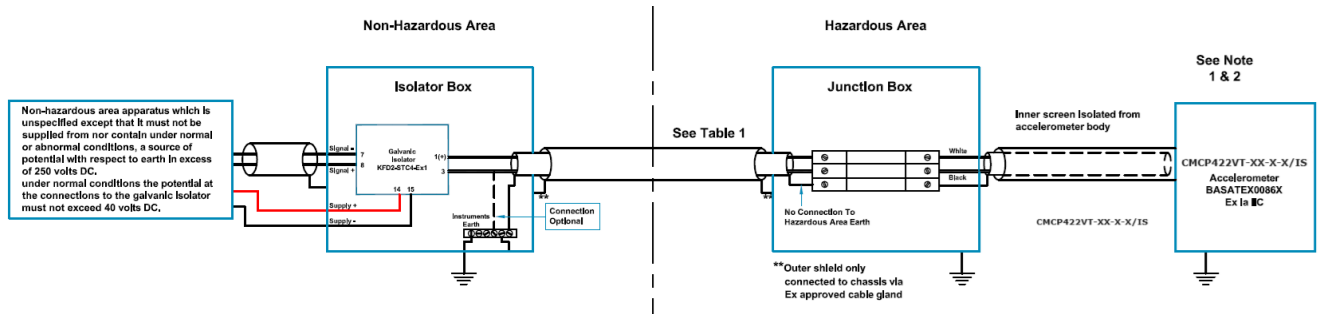


CMCP422VT-XX-X-IP/IS
PUR Integral Cable

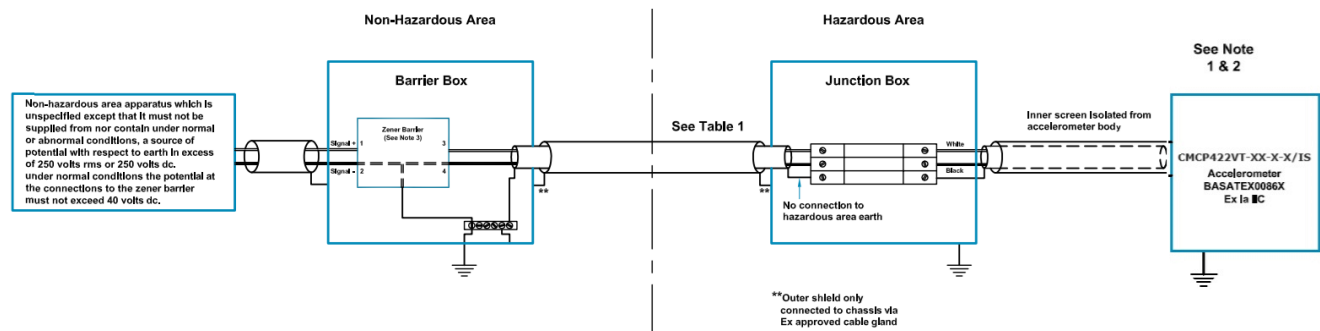
Note: Due to STI's continuous process improvement, specifications are subject to change without notice.

System Drawings

System Connection Details for CMCP422VT Accelerometers with 4 Pin M12 Connector F.U.W. Galvanic Isolation:



System Connection Details for CMCP422VT Accelerometers with 4 Pin M12 Connector F.U.W. Zener Barrier:



Notes:

1. The capacitance and Inductance, or Inductance - to - resistance ratio (L/R) of hazardous area cable, must not exceed the values shown in Table 1.
2. The cable from the accelerometer to the Junction box must not be installed in a high velocity dust laden atmosphere.
3. Any shunt zener diode safety barrier certified by an ec approved body to [EEEx Ia] IIC having the following output parameters: $U_o = 28V$ dc, $I_o = 93mA$ dc, $P_o = 0.65W$. e.g. MTL7787 to BAS01ATEX7217 or Pepperl + Fuchs Z787 to BAS01ATEX7005.
4. The Installer is to perform a risk assessment in accordance with clause 10 of EN 60079-25 and install lightning protection arrestors as deemed necessary.