



CMCP422VT-IP/IS Series

ATEX and IECEx Intrinsically Safe, Loop Powered 4-20 mA
Velocity Sensor, Top Exit, with integral submersible Cable



Features

- Loop Powered 4-20 mA Output
- Velocity Output with RMS or Peak Detection
- Top Exit with PUR Integral Cable
- 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 on Page 3
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

Operating Temperature Range:	-13 to +248°F (-25 to +120°C) <see certified temperature ranges>
Sealing:	IP68
Submersible:	Up to 100 meter (10 bar)
Maximum Shock:	5000 g

Mechanical

Case Material:	Stainless Steel
Cable Jacket:	PUR (Polyurethane)
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:	Flying Leads (White/Black/Shield)

Hazardous Location Ratings

Certificate Details Group I+II

IECEX SGS 24.0004X and SGS23ATEX0197X

Ex I M1 Ex ia I Ma ($-40^{\circ}\text{C} \leq T_a \leq +60^{\circ}\text{C}$)

Ex II 1GD Ex ia IIC T6 Ga ($-40^{\circ}\text{C} \leq T_a \leq +60^{\circ}\text{C}$)

Ex II 1GD Ex ia IIIC T80°C IP65 Da ($-40^{\circ}\text{C} \leq T_a \leq +60^{\circ}\text{C}$)

Accelerometer System Certificate

Baseefa08Y0087

Ex ia IIC T6 ($-40^{\circ}\text{C} \leq T_a \leq +60^{\circ}\text{C}$)

Terminal Parameters

$U_i = 28\text{V}$, $I_i = 115\text{mA}$, $P_i = 0.65\text{W}$ Group II

$U_i = 16.5\text{V}$ $P_i = 0.65\text{W}$

or $U_i = 28\text{V}$ $I_i = 115\text{mA}$ $P_i = 0.65\text{W}$ Group I

Certified Temperature Range

Ex ia IIC T6 Ga ($-40^{\circ}\text{C} \leq T_a \leq +60^{\circ}\text{C}$) (Gas)

Ex ia IIIC T80°C IP65 Da ($-40^{\circ}\text{C} \leq T_a \leq +60^{\circ}\text{C}$) (Dust)

Ex ia I Ma ($-40^{\circ}\text{C} \leq T_a \leq +60^{\circ}\text{C}$) (Mining)

South African Approval

Certificate No. MASC MS/16-0229X

Group I and II (As Baseefa/ATEX)

US/Canada Approvals

Certificate No. SGSNA/24/CA/00002

Class I, II, III, Division 1, 2, Groups A - G, T6, -40°C to $+60^{\circ}\text{C}$, IP65

Class I, Zone 0, AEx, ia, IIC, T6, Ga, -40°C to $+60^{\circ}\text{C}$

Zone 20, AEx, ia, IIIC, T80°C, IP65, Da, -40°C to $+60^{\circ}\text{C}$

Barrier

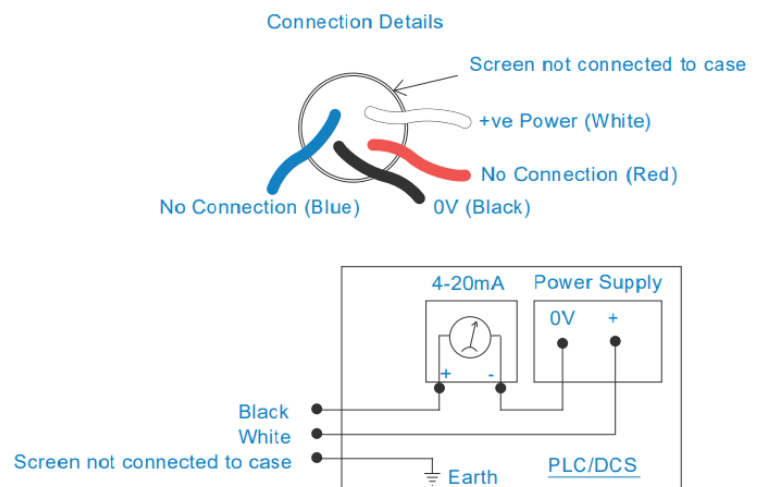
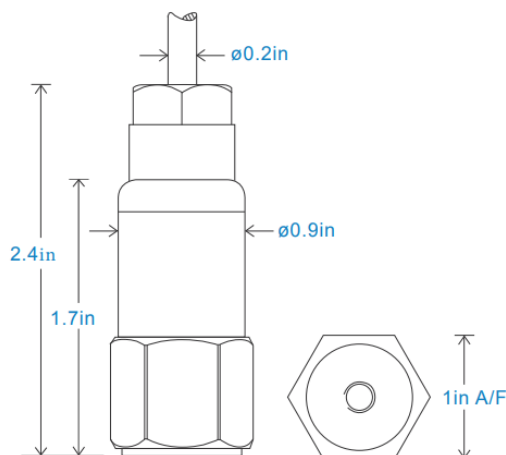
1 x CMCP245-05 MTL Zener Barrier MTL7787+ For 4-20 mA Signals (BAS01ATEX7217)

1 x Pepperl + Fuchs Galvanic Isolator KFD2-STC4-Ex1, which has superseded KFD2-CR-Ex1.30300 (BAS00ATEX7164)

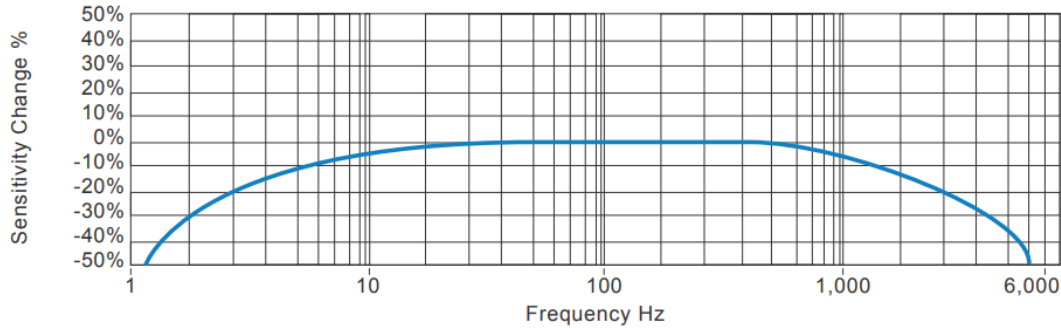
See system drawings on page 4

or Pepperl + Fuchs Zener Barrier Z787 (BAS01ATEX7005) or any other barrier that conforms to system drawings

Dimensions/Connection Diagram



Typical Frequency Response



Ordering Information

CMCP422VT	-XX	-X	-XXXX	/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
			-IP		Integral IP68 Submersible Cable (5 Meter)
			-IP10		Integral IP68 Submersible Cable (10 Meter)
			-IP20		Integral IP68 Submersible Cable (20 Meter)
			-IPXX		Specify desired Cable Length in Meter after IP
				/IS	ATEX and IECEx Intrinsically Safe

Example Part Number: CMCP422VT-01-R-IP10/IS

Loop Powered 4-20 mA Velocity Sensor,
Full Scale 1.0 Inch/Second, RMS Detection and 10-
meter integral cable, Intrinsically Safe

Similar Products



CMCP422VT-XX-X-M12/IS
M12 Eurofast Connector



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

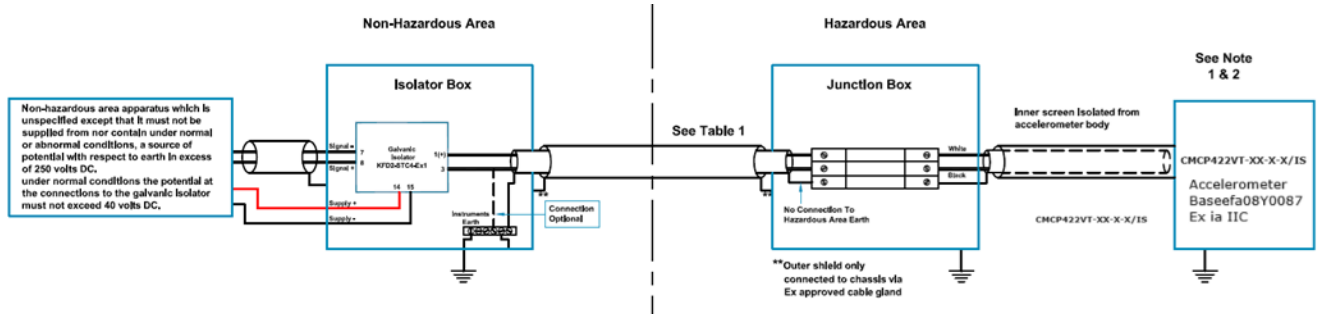


CMCP422VT-XX-X-C/IS
2 Pin MS 5015 Connector

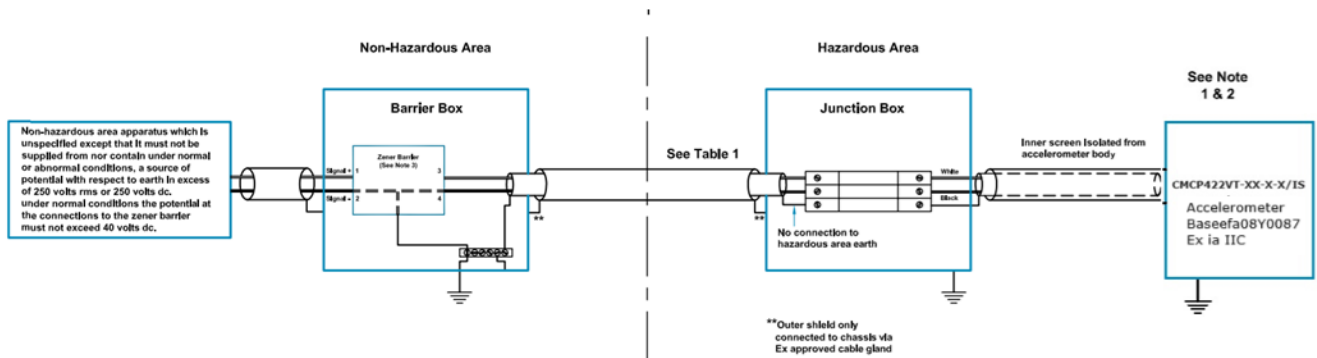
Note: Due to STI's continuous process improvement, specifications are subject to change without notice.

System Drawings

System Connection Details for CMCP422VT Accelerometer with integral Cable F.U.W. Galvanic Isolation:



System Connection Details for CMCP422VT Accelerometer with integral Cable 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 [EEx 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.