

VE902 Series



Nonincendive Intrinsically Safe Velocity Sensor, CSA North America Class 1
Div 1, Class II Div 1, Class III and IECEx/ATEX Zone 0,1 Approved Piezo
Velocity Sensor, Side Exit 2 Pin Connector, 100 mV/in/sec, $\pm 10\%$



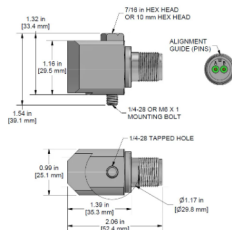
Regulatory Information

CSA 221421	Refer to product manual
CSA 26CA80263367X	MXN10134
CL I, DIV 1, GRP A, B, C and D	
CL II, DIV 1, GRP E, F and G; CL III	
Ex ia IIC T3-T4 Ga	Sira 15ATEX2152X
Ex ib IIC T135°C...T147°C Db	Ex ia IIC T3-T4 Ga
CL I, ZN 0, AEx ia IIC T3-T4 Ga	T3: Ta @ -40°C to +121°C
ZN 21, AEx ib IIC T135°C...T147°C Db	T4: Ta @ -40°C to +80°C
T3: Ta = -40°C to +121°C	Ex ib IIC T135°C ... T147°C Db
T4: Ta = -40°C to +80°C	T147°C: Ta @ -40°C to +121°C
T147°C: Ta = -40°C to +121°C	T135°C: Ta @ -40°C to +80°C
T135°C: Ta = -40°C to +80°C	Ex ia I Ma
Install per drawing INS10187	Ta @ -40°C to +121°C
Refer to product manual MNX10127	Install per drawing INS10211
IECEx SIR 15.0060X	Refer to product manual
Ex ia IIC T3-T4 Ga	MXN10135
Ex ib IIC T135°C ... T147°C Db	
Ex ia I Ma	Connector Exit Entity Parameters:
T3: Ta @ -40°C to +121°C	Ui = 28 Vdc, li = 120 mA, Pi = 1W, Ci = 0nF, Li = 0µH
T4: Ta @ -40°C to +80°C	
Mining Group I: Ta @ -40°C to +121°C	Integral Cable Entity Parameters
T147°C: Ta @ -40°C to +121°C	Ui = 28 Vdc, li = 120 mA, Pi = 1W, Ci = 80.4nF, Li = 336µH
T135°C: Ta @ -40°C to +80°C	
Install per drawing INS10210	
	1600 ft (488 m) Maximum Allowable Integral Cable Length
	Approved Cabling: CB102, CB103*, CB111, CB190*, CB193*, CB206, CB296 (*Approved for Use in T4 Applications Only)
	Requires one IS111-1B Intrinsic Safety Barrier

VE902-1A

2 Pin Connector

Connector Pin	Polarity
A	(+) Signal/Power
B	(-) Common

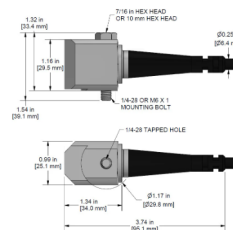


Stock Product

VE902-2A

CB193 Integral Cable

Conductor	Polarity
Red	(+) Signal/Power
Black	(-) Common
Shield	Cable Drain Wire

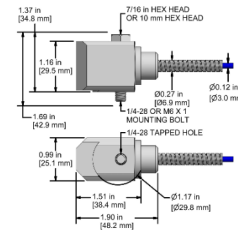


Built To Order

VE902-3A

CB296 Armored Integral Cable

Conductor	Polarity
Red	(+) Signal/Power
Black	(-) Common
Shield	Cable Drain Wire



Built To Order

Specifications	Standard	Metric	Specifications	Standard	Metric
Part Number	VE902	M/VE902	Environmental		
Sensitivity ($\pm 10\%$)	100 mV/in/sec		Operating Temperature Range	-58 to 250 °F	-50 to 121 °C
Frequency Response ($\pm 3\text{dB}$)	90-420,000 CPM	1,5-7000 Hz	Maximum Shock Protection	5,000 g, peak	
Frequency Response ($\pm 10\%$)	120-240,000 CPM	2,0-4000 Hz	Electromagnetic Sensitivity	CE	
Dynamic Range	± 50 in/sec. pk		Sealing	Welded, Hermetic	
Transverse Sensitivity	$*V_{\text{source}} \geq 22\text{V}, 12\text{Vbias}$	$\leq 5\%$	Submersible Depth	200 ft.	60 m
			SIL Rating	SIL 3	
Electrical			Physical		
Settling Time	<5 seconds		Sensing Element	PZT Ceramic	
Voltage Source	18-30 VDC		Sensing Structure	Shear Mode	
Constant Current Excitation	2-10 mA		Weight	5.1 oz	145 grams
Spectral Noise @ 10 Hz	25 $\mu\text{IPS}/\sqrt{\text{Hz}}$ 2 $\mu\text{IPS}/\sqrt{\text{Hz}}$		Case Material	316L Stainless Steel	
Spectral Noise @ 1000 Hz	0.5 $\mu\text{IPS}/\sqrt{\text{Hz}}$		Connector (Non-Integral)	2 Pin MIL-C-5015	
Output Impedance	<100 ohm		Resonant Frequency	1,320,000 CPM	22000 Hz
Bias Output Voltage	10-14 VDC		Mounting Torque	2 to 5 ft. lbs.	2,7 to 6,8 Nm
Case Isolation	>10 ⁸ ohm		Mounting Hardware Supplied	1/4-28 Captive Bolt	M6x1 Captive Bolt
			Calibration Certificate	CA10	

Typical Frequency Response

