

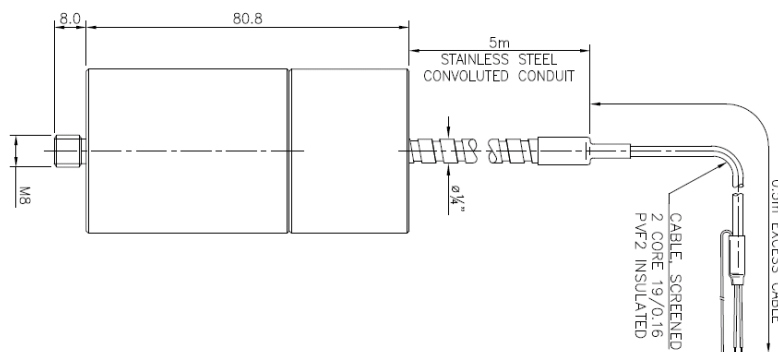
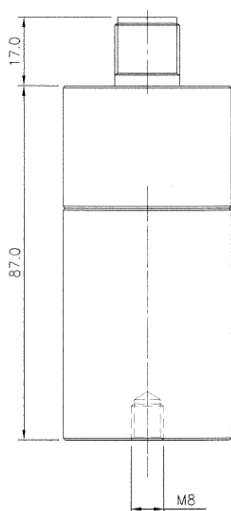
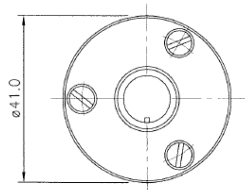


**Features**

- Velocity Vibration Transmitter
- High Noise Immunity
- 4-20mA Loop Powered
- Additional Dynamic Signal Output
- Interfaces direct with PLC / SCADA systems
- Top or Side exit connector and cable options
- Excellent high frequency vibration rejection
- Wide Supply Voltage Range
- Double cased unit with excellent isolation
- High Tolerance to Mains Supply Interference

**Applications**

- Heavy Industrial Environments
- Compressors and Engines
- Pumps, Motors and Fans
- Integrated signal conditioning
- General Purpose Vibration Monitoring
- Operating Temperature range -40°C to +100°C



The VEL/GDC series of vibration transducers are robust sealed instruments providing a process current output of 4-20mA proportional to RMS velocity vibration. The series are designed for applications requiring direct integration to SCADA systems (PLC/DCS) and provide an extremely cost effective solution for measuring overall vibration performance. The VEL/GDC has evolved from our standard VEL/G range of vibration velocity sensors and combines the excellent noise immunity of a moving coil velocity transducer with a signal conditioned current loop output.

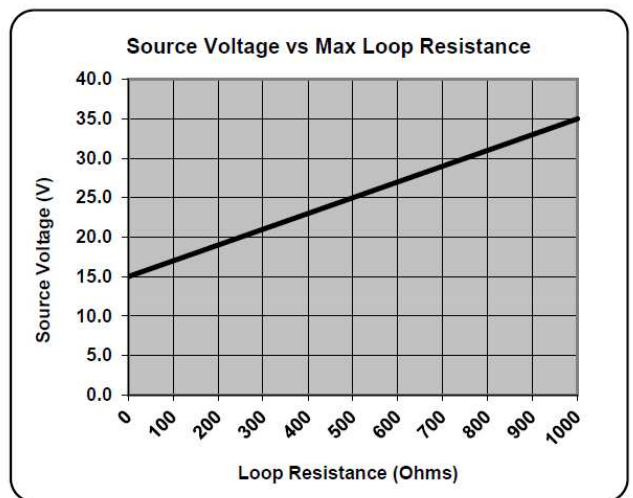
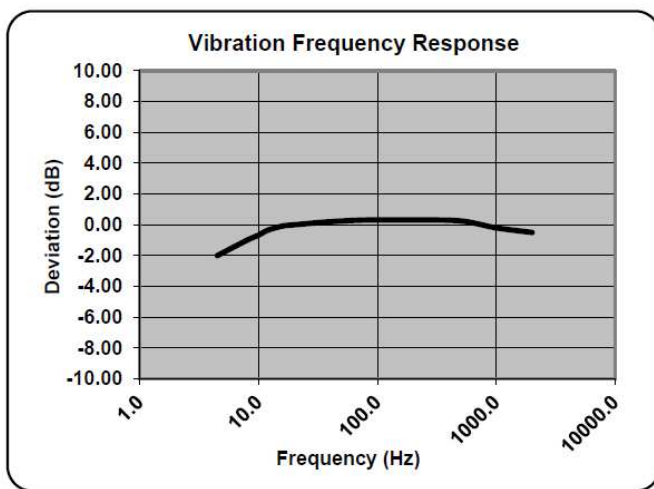
Piezoelectric based vibration transmitters are susceptible to many forms of interference on most machine applications that can result in spurious readings and alarms. Typical causes include, low frequency base strain effects due to temperature changes amplified through the internal signal processing, high frequency and high g vibration events caused by auxiliary machine items resulting in transducer resonance and also mains voltage interference due to a combination of poor local plant earthing and insufficient transducer internal isolation. The VEL/GDC's unique design combats all of these effects providing a robust vibration transmitter suitable for most applications.

**SENSONICS LTD**

# VEL/GDC Vibration Transmitter, Loop Powered

## SPECIFICATION

Operating Voltage .....	15 to 35 volts DC.
Output signal .....	4-20mA proportional to output range
Output ranges (factory set) .....	0 – 15mm/s, 20mm/s, 25mm/s & 50mm/s
.....	0 – 100um, 125um, 250um, 500um
Accuracy .....	±2%
Frequency Range .....	Refer to Table 1
Maximum Displacement .....	1500um pk-pk
Maximum Loop Resistance .....	1000 Ohms
Dynamic Output Sensitivity .....	20mV/mm/s >100kOhm load
Isolation .....	500Vdc
Orientation .....	Refer to Table 1
Weight .....	500 gms (nominal)
CE Certification ATEX Marking .....	Ex II 1 G EEx ia IIC T4 (Tamb = -30°C to +100°C)
Acceleration limit: .....	2000g pk
Temperature Range:.....	-30°C to +100°C
Protection (BS.EN60529).....	Sealed to IP.67



## ORDERING INFORMATION

VEL/GDC -  A  B  C  D  E  F  G  H

Connections		
Conn	Cable	Mode
Pin 1	Red	Hi
Pin 2	Blue	Lo / 0V
Pin 3	Black	Sig

### A – Electrical Configuration

5	2-wire, loop powered
8	3-wire, loop powered + dynamic o/p

### B – Connection Method

6	C	Integral Cable Unarmoured (140°C)
6	D	Integral Cable Armoured (140°C)
8	E	Integral Connector, MIL-C-5015

### C – Connection / Cable Orientation

T	Top exit
S	Side exit

### D – Mounting Type

1	¼ in UNF Male
2	½ in UNF Male
3	M8
5	M10x1

### E – Cable Length

0	5	e.g. = 5 metres
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### F – Measurement Range

1	0 – 15 mm/s	5	0 – 100 µm
2	0 – 20 mm/s	6	0 – 125 µm
3	0 – 25 mm/s	7	0 – 250 µm
4	0 – 50 mm/s	8	0 – 500 µm

### G – Frequency band & Mounting angle

<input type="checkbox"/>	See Table 1 below
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### H – Hazardous Area Approval

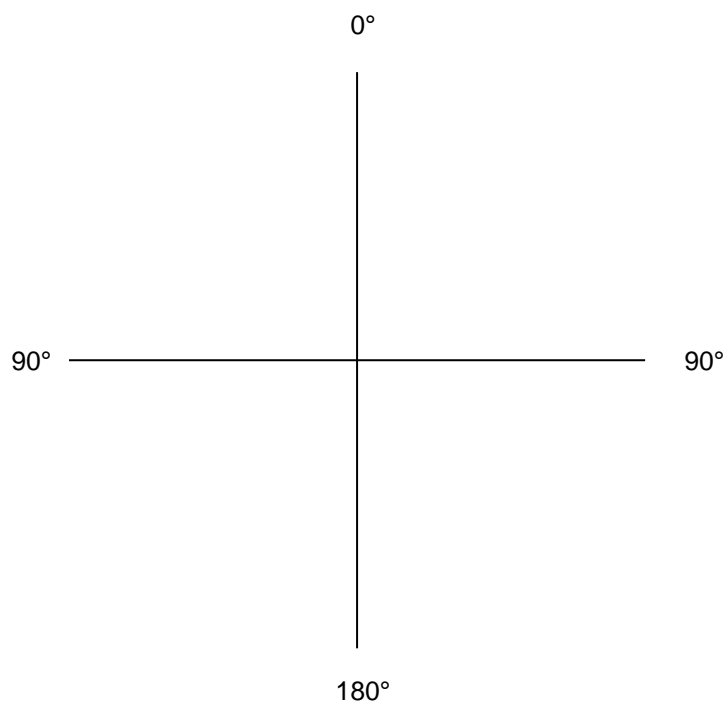
0	None
1	Intrinsically Safe Option

# VEL/GDC Vibration Transmitter, Loop Powered

**Table 1 – Frequency band & Mounting angle Options**

Output sensitivity deviation over frequency range versus mounting angle relative to angle of calibration  
 Note:- The primary axis of the sensor is parallel to the cylindrical length of the main body assembly.

Freq. Range (Hz)	Angle of Calibration (see Fig.1)	Angular Range of Operation (Degrees) From Angle of Calibration	Max. Sensitivity Deviation	Options (H)
15 – 2000	Vertical 0°	Universal (0°±180°)	±3dB	1
10 – 2000	Vertical 0°	Vertical (0°±20°)	±3dB	2
10 – 2000	Horizontal 90°	Horizontal (90°±20°)	±3dB	3
4.5 – 2000	Vertical 0°	Vertical (0°±20°)	±3dB	4
4.5 – 2000	Horizontal 90°	Horizontal (90°±20°)	±3dB	6



**Fig 1. VEL/GDC Angle of Calibration and Mounting**

Viewpoint is from the machine driving end, 0° is the Vertical Orientation.

