TECHNICAL INFORMATION

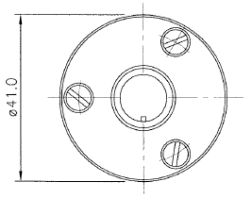
PREDICTIVE MAINTENANCE SYSTEMS

SENSONICS LTD

VEL/GLF –Velocity Vibration Transducer Low Frequency

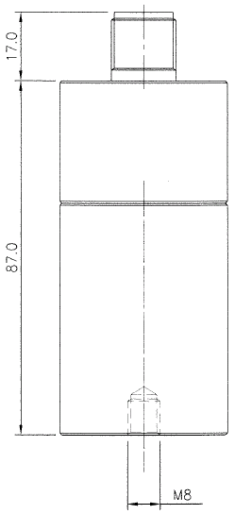
Features

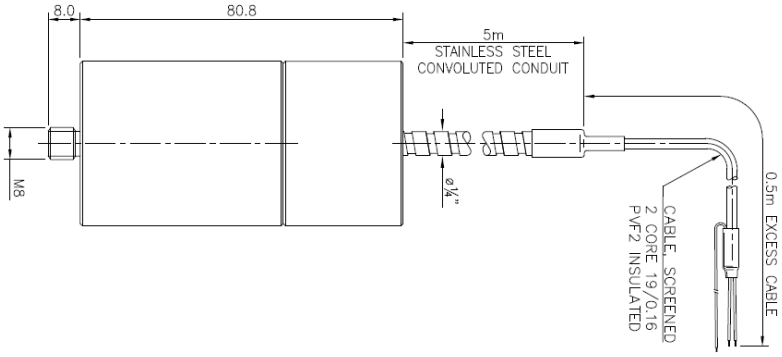
- Velocity Vibration Sensor
- High Noise Immunity
- IEPE Interface
- Low frequency response to 0.5Hz
- High sensitivity 20mV/mm/s
- Top or Side exit connector and cable options
- Excellent high frequency vibration rejection
- Wide Supply Voltage Range
- Double cased unit with excellent isolation



Applications

- Heavy Industrial Environments
- Hydro Electric and Wind Turbines
- Cooling Tower Fans
- Low Speed Pumps
- Integrated signal conditioning
- Operating Temperature range -40°C to +100°C





The VEL/GLF produces a signal proportional to the velocity component of a mechanical vibration by means of relative movement between a coil and a magnet. The coil is suspended within the field of the magnet by means of diaphragms which permit virtually frictionless movement in one axis only. This measuring axis is coincident with the axis of the cylindrical body. Internal compensation circuitry provides a frequency response extension down to 0.5Hz in combination with a standard IEPE current loop interface.

Piezoelectric based velocity vibration sensors 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 saturation and also mains voltage interference due to a combination of a poor local plant earth and insufficient transducer internal isolation. The VEL/GLF's unique design combats all of these effects providing a robust vibration sensor suited to low frequency vibration measurement applications.

VEL/GLF Velocity Vibration Transducer Low Frequency

SPECIFICATION

Operating Voltage	18.0 to 28.0 Vdc.
Output signal	IEPE Drive 2.0 mA to 10 mA
Sensitivity	20 mV/mm/s (500 mV/ips)
Accuracy	±5%
Frequency Range	0.5 Hz to 1kHz, Refer to Table 1
Maximum Displacement	2.0 mm pk-pk
Bias Voltage	12.0 Vdc ± 20%
Residual electrical noise	10^{-4} mm/sec (10Hz)
Isolation	500Vdc
Orientation	Horizontal or Vertical (±20°)
Weight	500 grams (nominal)
Acceleration limit:	2000g pk
Temperature Range:	-30°C to +100°C
Protection (BS.EN60529)	Sealed to IP.67

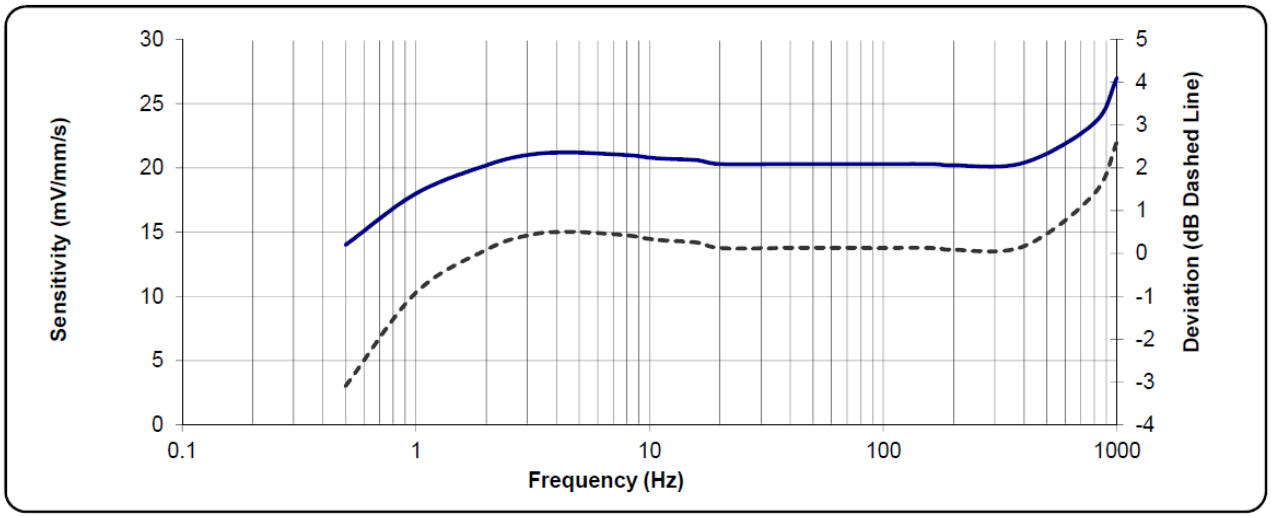


Table 1. Vibration Transducer Frequency Response

ORDERING INFORMATION

	A	B		C	D	E		F
VEL/GLF -	2							

A – Electrical Configuration

2	2-wire, IEPE

B – Connection Method

6	C	Integral Cable Unarmoured (140°C)
6	D	Integral Cable Armoured (140°C)
8	E	Integral Connector, 3 pin MIL

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

F – Orientation

1	Vertical
2	Horizontal

Connections

Conn	*Cable*	*Mode*
Pin A	Red	Hi
Pin B	Black	0V

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