

HS-422I Series Vibration Sensor

Intrinsically Safe, Flame Retardant Cable, 4-20mA 'g' Sensor for PLC Interface



Typical Applications

- Low cost on-line means of monitoring with the capability of interfacing direct into PLC, BMS or any 4-20mA input module. Proven use in vibration monitoring for offline applications using commercially available data collectors.
- **Protecting...**
Fans, Motors, Pumps, Compressors, Centrifuges, Conveyers, Air Handlers, Gearboxes, Rolls, Dryers, Presses, Cooling, HVAC, Spindles, Machine Tooling, Process Equipment and many more.

Technical Performance

Mounted Base Resonance	10 kHz min.
Acceleration Ranges	0-2 to 0-100 g \pm 10% Nominal 80 Hz at 22°C
Frequency Response	10 Hz to 5 kHz \pm 5 % - ISO10816
Isolation	Base isolated
Measurement Range	50 g peak
Transverse Sensitivity	Less than 5%

Electrical

Output Current	4-20 mA DC proportional to 'g'
Supply Voltage	15 - 30 Volts DC (for 4-20 mA)
Settling Time	2 seconds
Output Impedance	Loop Resistance 600 Ohms max. at 24 Volts
Case Isolation	$>10^8$ Ohms at 500 Volts

Environmental

Certified Temperature Range	Ex ia IIC T6 (-40°C < Ta < +60°C)
Sensor Temperature Range	-25 to 90°C
Sealing	IP65
Maximum Shock	5000 g
Emissions	EN61000-6-4:2001
Immunity	EN61000-6-2:1999

Mechanical

Case Material	Stainless Steel
Sensing Element/Construction	PZT/Compression
Mounting Torque	8 Nm
Weight	135 gms (nom)
Maximum Cable length	See System drawing
Standard Cable length	5 metres
Mounting Threads	See 'How to order' table
Options	Connector, cable length, various mounts, other sensitivities

PRODUCT DATA



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PRODUCT DATA

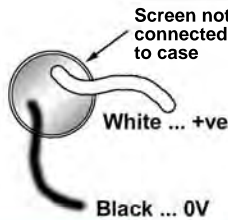
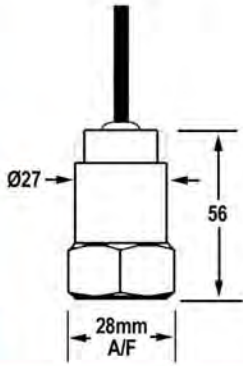
Intrinsically Safe Requirements

Maximum Cable Length System Connections for Zener Barrier	See System Drawings M06-011-A (Armoured) M06-013-A (FR Polyurethane) M06-012-A (Silicone) M06-018-A (PUR with M12 connector)
System Connections for Galvanic Isolator	M06-031-A (Armoured) M06-33-A (FR Polyurethane) M06-032-A (Silicone) M06-034-A (PUR with M12 connector)
Certificate details: Group I + II	IECEXBAS08.0034X Baseefa08ATEX0086X ⊕ II 1GD Ex ia IIC T6 Ex tD A20 IP65 T80°C ⊕ I M1 Ex ia I (-40°C ≤ Ta ≤ +60°C)
Accelerometer System Certificate	Baseefa08Y0087 Ex ia IIC T6 (-40°C ≤ Ta ≤ +60°C)
Terminal Parameters	Ui = 28V, li = 115mA, Pi = 0.65W Group II Ui = 16.5V Pi = 0.65W or Ui = 28V li = 115mA Pi = 0.65W Group I
500V Isolation Barrier	Units Will Pass A 500V Isolation Test 1 x Pepperl + Fuchs Galvanic Isolator KFD2-STC4-Ex1, which has superseded KFD2-CR-Ex1.30300 (BAS00ATEX7164) See M06-031-A, M06-033-A, M06-032-A and M06-034-A 1 x MTL Zener Barrier MTL7787 (BAS01ATEX7217) or Pepperl + Fuchs Zener Barrier Z787 (BAS01ATEX7005) or any other barrier that conforms to note 2 of sheet 2 of M06-011-A, M06-012-A, M06-013-A and M06-018-A.
Notes:	Special conditions of safe use for Group II dust. The free end of the cable on the integral cable version of the apparatus must be terminated in an appropriately certified dust-proof enclosure. The unit has no serviceable parts.



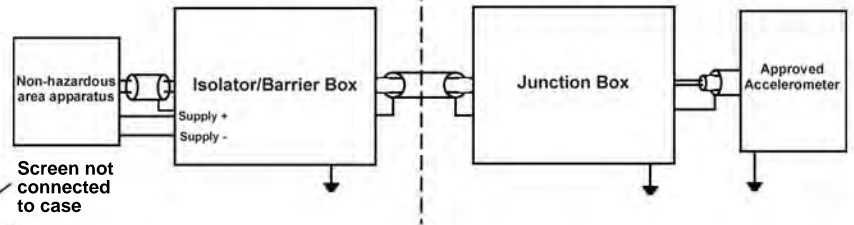
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Dimensions



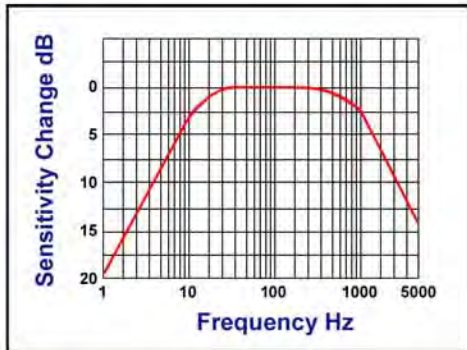
Non-Hazardous Area

Hazardous Area

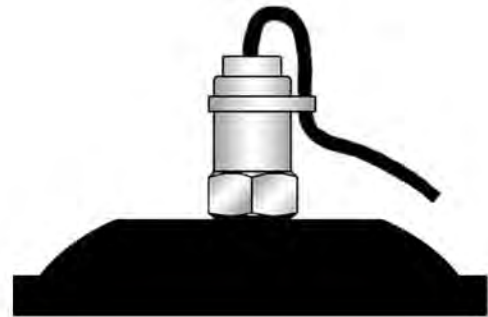


For full details, see System Connection M06-011-A, M06-012-A, M06-013-A, M06-018-A, M06-031-A, M06-032-A, M06-033-A and M06-034-A

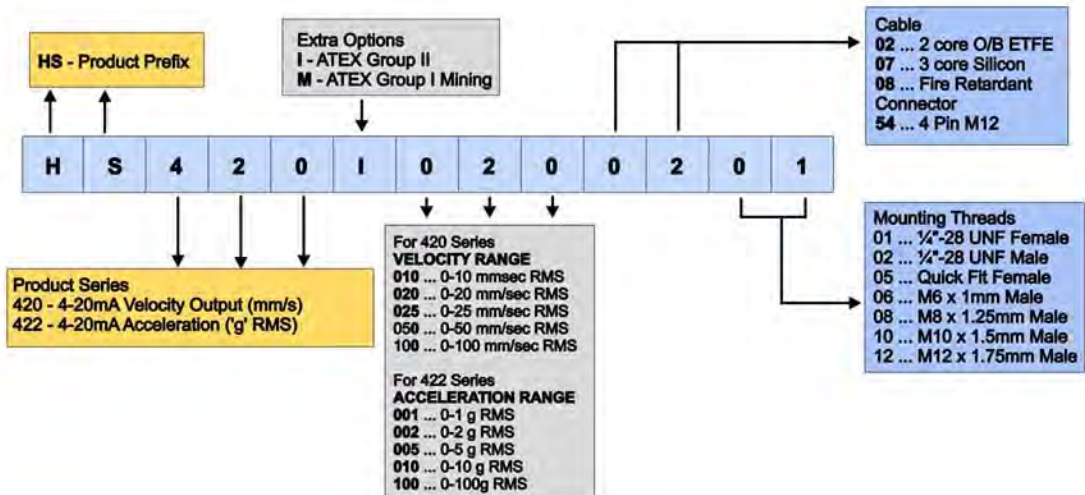
Frequency Response



Mounting of sensor to achieve good repeatable readings.
Vibration sensor should be firmly fixed to a flat surface (spot face surface may be needed to be produced and cable anchored to sensor body.)



How to order



Please contact our Sales Office for information on sensor accessories (mounting studs, etc) and multichannel switch boxes.