

MON-420I Series Vibration Sensor

Intrinsically Safe, Submersible, 4-20mA Velocity Transducer



Typical Applications

- Low cost online 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 | 5 kHz min. |
| Velocity Ranges | 0-10 to 0-100 mm/sec RMS (5 ranges) |
| Frequency Response | 10 Hz to 1 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 RMS velocity (mm/s) |
| 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 | IP68 |
| 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 | 140 gms (nom) |
| Maximum Cable length | See System drawing |
| Cable | Blue Silicon - length to be specified with order |
| Mounting Threads | See 'How to order' table |
| Submersible Depth | 100 metres max (10 bar) |



MONITION LTD

Condition Monitoring
& Plant Reliability Services

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PRODUCT DATA



MON-420I Series Vibration Sensor

Intrinsically Safe, 4-20mA Industrial Accelerometer

Intrinsically Safe Requirements

| | |
|-----------------------------------|--|
| Maximum Cable Length | See System Drawing M06-011-A (Armoured) M06-013-A (FR Polyurethane) M06-012-A (Silicone) M06-018-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) On request - consult Sales Office |
| System Connections | Drawing M06-011-A (Armoured) Drawing M06-013-A (FR Polyurethane) Drawing M06-012-A (Silicone) Drawing M06-018-A (PUR with M12 Connector) |
| Terminal Parameters | U _i = 28V, I _i = 115mA, P _i = 0.65W Group II U _i = 16.5V P _i = 1.74W Group I |
| 500V Isolation | Units will pass a 500V Isolation Test |
| Barrier | 1 x Pepperl + Fuchs Galvanic Isolator KFD2-CR-Ex1.30300 (BAS00 ATEX7164) sheet 1 of M06-011-A, M06-012-A, M06-013-A and M06-018-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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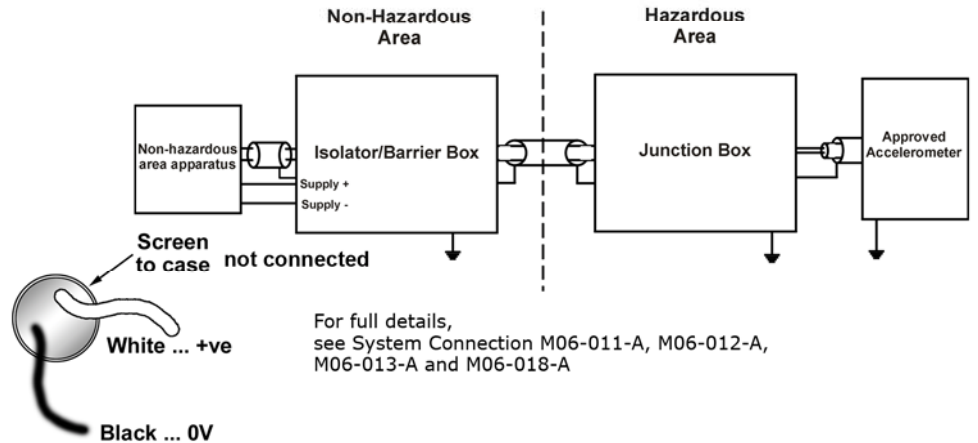
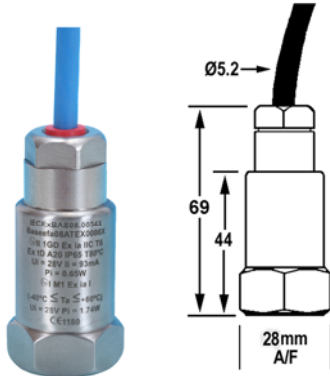
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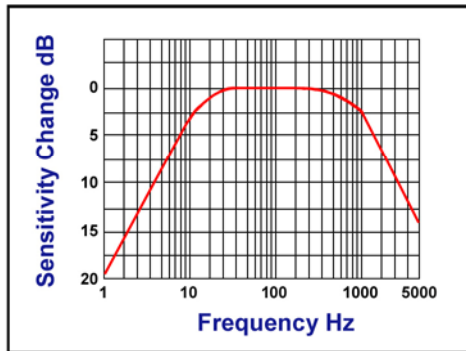


MON-420I Series Vibration Sensor

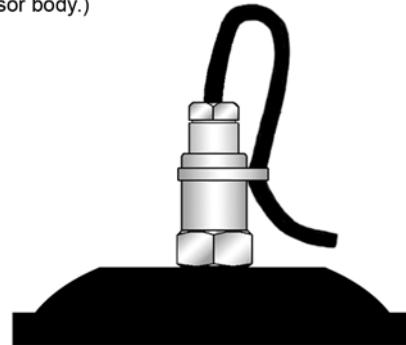
Dimensions



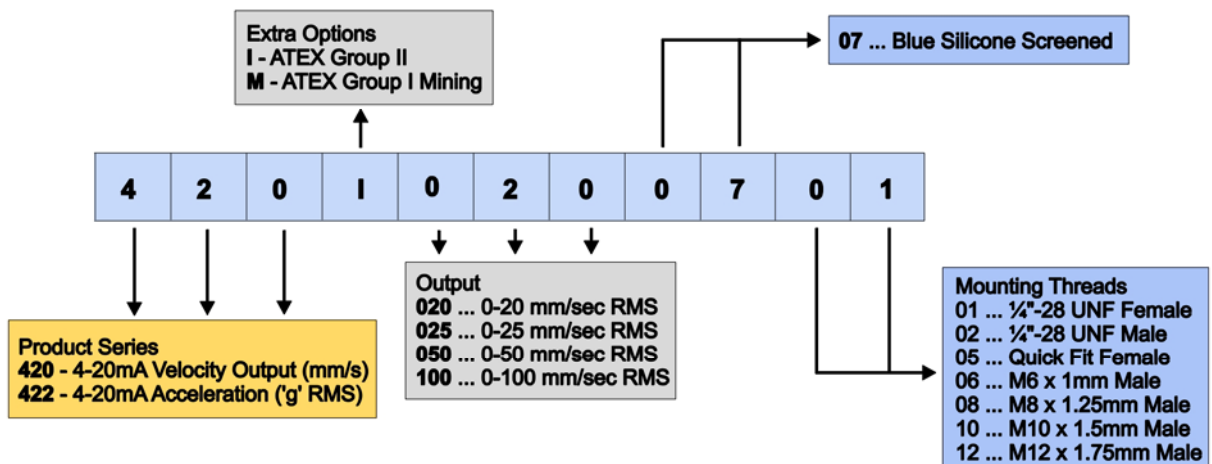
Frequency Response



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.

We reserve the right to alter the specification of this product without prior notice.