

# MON-422I Series Vibration Sensor

Intrinsically Safe, M12 Connector, 4-20mA 'g' Sensor for PLC Interface



## 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.
Acceleration Ranges	0-2 to 0-100 g (5 ranges)
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	IP67
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	150 gms (nom)
Maximum Cable length	See System drawing
Mounting Threads	See 'How to order' table
Options	Integral cable, various cable assemblies, other sensitivities



**MONITION LTD**

Condition Monitoring  
& Plant Reliability Services

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PRODUCT DATA



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## 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 <sub>i</sub> = 28V, I <sub>i</sub> = 115mA, P <sub>i</sub> = 0.65W Group II U <sub>i</sub> = 16.5V P <sub>i</sub> = 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.

PRODUCT DATA

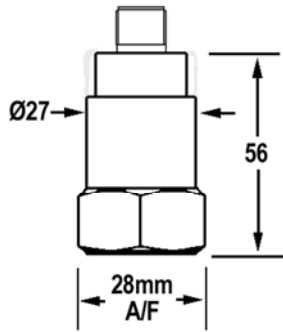


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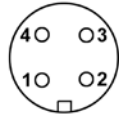
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# MON-422I Series Vibration Sensor

## Dimensions

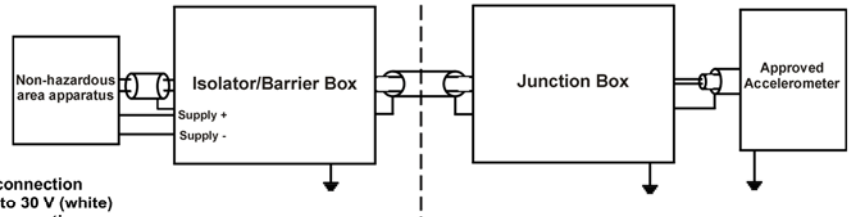


Pin 1 - No connection  
 Pin 2 - +18 to 30 V (white)  
 Pin 3 - No connection  
 Pin 4 - 0V (black)



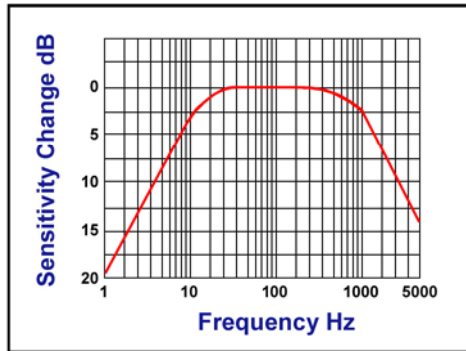
Non-Hazardous Area

Hazardous Area

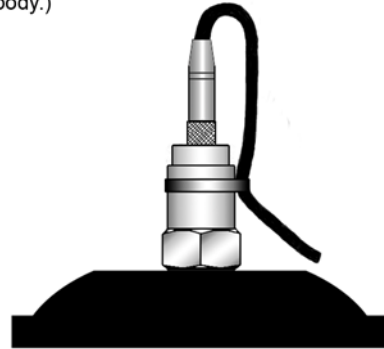


For full details, see System Connection M06-011-A, M06-012-A, M06-013-A and M06-018-A

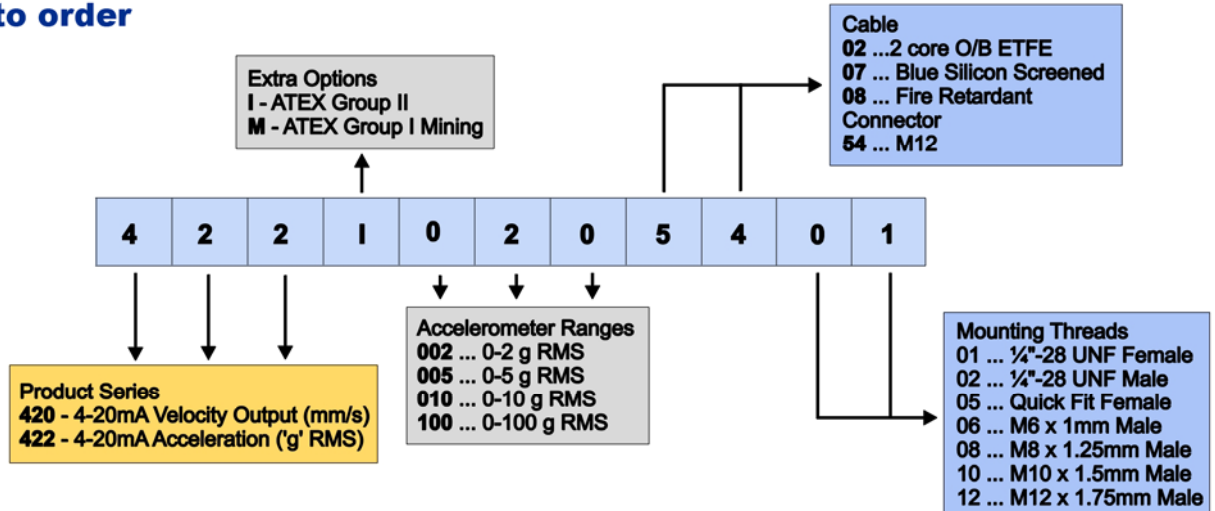
## Frequency Response



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.

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