# HS-422I/M Intrinsically Safe Accelerometer

4-20mA acceleration output via M12 Connector

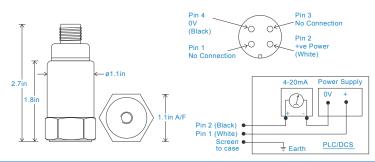
# **Key Features**

- Intrinsically Safe with European, USA and South African approvals
- For use with PLC/DCS systems
- · Customizable features

#### Industries

Building services, Pulp and Paper, Mining, Metals, Utilities, Automotive, Water, Pharmaceutical





## **Technical Performance**

 $\begin{array}{c} \mbox{Mounted Base Resonance} & 10\mbox{kHz min} \\ \mbox{Acceleration Ranges} & \mbox{see: 'How To Order' table <math>\pm 10\%$} \\ \mbox{Nominal 80Hz at 72°F} \\ \mbox{Frequency Response} & 600\mbox{cpm (10Hz) to 300\mbox{kcpm (5kHz)} <math>\pm 5\%$} \\ \mbox{- ISO10816} \\ \mbox{Isolation} & \mbox{Base isolated} \\ \mbox{Range} & \mbox{50g peak} \\ \mbox{Transverse Sensitivity} & \mbox{Less than } 5\% \\ \end{array}$ 

### Mechanical

Case Material Stainless Steel
Sensing Element/Construction PZT/Compression
Mounting Torque 5.9ft. lbs
Weight 5.2 oz. (nominal)
Sheilded Cable Assembly HS-AC010 - straight
HS-AC011 - right angle
Mounting Threads see: 'How To Order' table

#### **Electrical**

Current Output
Supply Voltage
Settling Time
Output Impedance
Case Isolation

4-20mA DC proportional to acceleration 15-30 Volts DC (for 4-20mA) 2 seconds

Loop Resistance 600 Ohms max. at 24 Volts >108 Ohms at 500 Volts

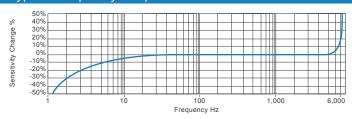
#### Environmental

Operating Temperature Range see Sealing Maximum Shock EMC

see: attached certification details IP67 5000g

EN61326-1:2013

## Typical Frequency Response



#### **Applications**

Fans, Motors, Pumps, Compressors, Centrifuges, Conveyors, Air Handlers, Gearboxes, Rolls, Dryers, Presses, Cooling, VAC, Spindles, Machine Tooling, Process Equipment

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.)



### Certifications













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## Intrinsically Safe Requirements

Maximum Cable Length nominal 100 metres see attached system drawings

Certificate details: Group I + II IECEx BAS08.0034X
Baseefa08ATEX0086X

©II 1GD

Ex ia IIC T6 Ga Ex ia IIIC T80°C IP65 Da

(-40°C ≤ Ta ≤ +60°C)

Accelerometer System Certificate Baseefa08Y0087

Ex ia IIC T6 (-40°C ≤ Ta ≤ +60°C) \*On request - consult Sales Office

Terminal Parameters Ui = 28V, Ii = 115mA, Pi = 0.65W Group II

Ui = 16.5V Pi = 0.65W

or Ui = 28V Ii = 115mA Pi = 0.65W Group I

500V Isolation Units Will Pass A 500V Isolation Test

Certified Temperature Range Ex ia IIC T6 Ga (-40°C  $\leq$  Ta  $\leq$  +60°C) (Gas) Ex ia IIIC T80°C IP65 Da (-40°C  $\leq$  Ta  $\leq$  +60°C) (Dust)

Ex ia I Ma ( $-40^{\circ}$ C  $\leq$  Ta  $\leq$  +60 $^{\circ}$ C) (Mining)

South African Approval Certificate No. MASC MS/16-0229X

Group I and II (As Baseefa/ATEX)

US/Canada Approvals

Class I, II, III, Division 1, 2, Groups A - G, T6, -40°C to +60°C, IP65

Class I, Zone 0, AEx, ia, IIC, T6, Ga, -40°C to +60°C

Zone 20, AEx, ia, IIIC, T80°C, IP65, Da, -40°C to +60°C

Barrier 1 x Pepperl + Fuchs Galvanic Isolator
KFD2-STC4-Ex1, which has superseded
KFD2-CR-Ex1.30300 (BAS00ATEX7164)

see attached system drawings

1 x MTL Zener Barrier MTL7787+ (BAS01ATEX7217)

or PepperI + Fuchs Zener Barrier

Z787 (BAS01ATEX7005) or any other barrier that conforms to system drawings attached

System Connections for Zener Barrier see attached system drawings

System Connections for Galvanic Isolator see attached system drawings

Terminal Parameters Ui = Vmax = 28V

Ii = Imax = 115mA Pi = 0.65W

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.

# How To Order

