**HS-420I/M Intrinsically Safe Accelerometer**

4-20mA velocity output via Braided Cable

### Key Features
- Intrinsically Safe with European, USA, Australian and South African approvals
- For use with PLC/DCS systems
- Customisable features

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

### Technical Performance

<table>
<thead>
<tr>
<th>Parameters</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mounted Base Resonance</td>
<td>5kHz min</td>
</tr>
<tr>
<td>Frequency Response</td>
<td>10Hz (600 cpm) to 1kHz (600 kcpm) ±5% - ISO10816</td>
</tr>
<tr>
<td>Isolation</td>
<td>Base isolated</td>
</tr>
<tr>
<td>Transverse Sensitivity</td>
<td>Less than 5%</td>
</tr>
</tbody>
</table>

### Mechanical

<table>
<thead>
<tr>
<th>Parameters</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Case Material</td>
<td>Stainless Steel</td>
</tr>
<tr>
<td>Sensing Element/Construction</td>
<td>PZT/Compression</td>
</tr>
<tr>
<td>Mounting Torque</td>
<td>8Nm</td>
</tr>
<tr>
<td>Weight</td>
<td>150gms (nominal)</td>
</tr>
<tr>
<td>Maximum Cable Length</td>
<td>1000 metres</td>
</tr>
<tr>
<td>Standard Cable Length</td>
<td>5 metres</td>
</tr>
<tr>
<td>Screened Cable</td>
<td>Braided - length to be specified with order</td>
</tr>
</tbody>
</table>

### Environmental

<table>
<thead>
<tr>
<th>Parameters</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operating Temperature Range</td>
<td>see: attached certification details</td>
</tr>
<tr>
<td>Sealing</td>
<td>IP65</td>
</tr>
<tr>
<td>Maximum Shock</td>
<td>5000g</td>
</tr>
<tr>
<td>EMC</td>
<td>EN61326-1:2013</td>
</tr>
</tbody>
</table>

### Electrical

<table>
<thead>
<tr>
<th>Parameters</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Current Output</td>
<td>4-20mA DC proportional to Velocity Range</td>
</tr>
<tr>
<td>Supply Voltage</td>
<td>15-30 Volts DC (for 4-20mA)</td>
</tr>
<tr>
<td>Output Impedance</td>
<td>Loop Resistance 600 Ohms max. at 24 Volts</td>
</tr>
<tr>
<td>Case Isolation</td>
<td>&gt;10⁴ Ohms at 500 Volts</td>
</tr>
</tbody>
</table>

### Connection Details

- **Earth**
  - to case
- **Screen**
  - to case
- +ve Power (White)
  - 0V (Black)
- **Screen to case**
- **PLC/DCS**
  - 0V +
  - 0V -
  - 0V (White)

### Typical Frequency Response

- Sensitivity Change %
- Frequency Hz

### 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

![SGS](image1.png)

![Ex](image2.png)

![MASC](image3.png)

![IECEx](image4.png)

![C-Tick](image5.png)

![710318](image6.png)

*All pictures are for illustration purpose only. Actual markings may vary due to certification*
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
± I M1
Ex ia I Ma
(-40°C ≤ Ta ≤ +60°C)

Barrier
1 x Pepperl + Fuchs Galvanic Isolator
KFD2-STC4-Ex, which has superseded
KFD2-CR-Ex1.30300 (BAS00ATEX164)
see attached system drawings

Accelerometer System Certificate
Baseefa08Y0087
Ex ia IIC T6 (-40°C ≤ Ta ≤ +60°C)
*On request - consult Sales Office

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

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

or
Ui = 16.5V Pi = 0.65W
Group I

500V Isolation
Units Will Pass A 500V Isolation Test

Certified Temperature Range
Ex ia IIC T6 Ga (-40°C ≤ Ta ≤ +60°C) (Gas)
Ex ia IIIC T80°C IP65 Da (-40°C ≤ Ta ≤ +60°C) (Dust)
Ex ia I Ma (-40°C ≤ Ta ≤ +60°C) (Mining)

Australia Approval Group 1
IECEx ITA 10.0003X
Ex ia I Ma (-40°C ≤ Ta ≤ +60°C)

South African Approval
Certificate No. MASC MS/16-0229X
Group I and II (As Baseefa/ATEX)

How To Order

Product Prefix
HS - MEC Sensors

Product Series
420 - Industrial Vibration Sensor

Cable Length (if integral cable)
QXX - length specified in metres

Extra Options (if required)
A - Australia (Group I)
P - Filtered
I - Intrinsically Safe (Group II)
L - 316L Stainless Steel
M - Mining (Group I)
T - Temperature Output

Velocity Range
(RMS unless specified)
010 - 0-10 mm/sec
020 - 0-20 mm/sec
025 - 0-25 mm/sec
050 - 0-50 mm/sec
100 - 0-100 mm/sec

Cable/Connector
01 - PUR*
02 - Braided
07 - Silicon
08 - Flame Retardant
50 - 2 Pin MS*
54 - M12
* Please note these connection options are
NOT available in Australia

Mounting Threads
01 - ¼-28” UNF Female
02 - ¼-28” UNF Male
05 - Quick Fit Female
06 - M6 x 1mm Male
08 - M8 x 1.25mm Male
10 - M10 x 1.5mm Male