AIS 5525L
Capacitive Accelerometer Triaxial

Features
The model AIS 5525L accelerometer is a triaxial, capacitive accelerometer. The sensor is applicable for rugged applications due to Protection Class IP67 and special integral strain relief. The sensor is over a wide range from -55°C to 125°C temperature compensated. Small measuring ranges are possible due to capacitive technology with excellent long term stability. The signal is independent from the power supply between 9VDC to 24VDC optional up to 30VDC. The flexible and rugged cable provides a simple mounting. The sensor is equipped with standard 6 m cable. Different cable lengths and cable splits are available.

- Range ± 2 g to ± 400 g
- Temperature Compensated
- Stainless Steel Housing
- Amplified Output
- Highly Shock Resistant
- Low Noise Performance
- Low Noise: 7µg/√Hz typical for 2 g FSO
- Excellent Long Term Stability

Applications
- Vibration Monitoring
- Automotive Dynamics
- Machine Control
- Misuse Application
- Truck Testing

Service
- Sinusoidal Calibration
- Different cable length
- All axes repairable
- Signal Conditioning
- Protective Circuit
AIS 5525L  Capacitive Accelerometer / Triaxial

**Individual Technical Data**  
\( V_{DD}=V_{R}=5.0\,\text{VDC},\ T_{C}=25^\circ\text{C},\ \text{Differential, Span} = \pm g\ \text{range} = 8000\text{mV} \)

### AIS 5525L Performance

<table>
<thead>
<tr>
<th>Range (g)</th>
<th>Sensitivity (mV/g)</th>
<th>Frequency Response (Minimum 3 dB) (Hz)</th>
<th>Output Noise (µg/root Hz)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>2000</td>
<td>0 – 300</td>
<td>7</td>
</tr>
<tr>
<td>5</td>
<td>800</td>
<td>0 – 400</td>
<td>12</td>
</tr>
<tr>
<td>10</td>
<td>400</td>
<td>0 – 600</td>
<td>18</td>
</tr>
<tr>
<td>25</td>
<td>160</td>
<td>0 – 900</td>
<td>25</td>
</tr>
<tr>
<td>50</td>
<td>80</td>
<td>0 – 1200</td>
<td>50</td>
</tr>
<tr>
<td>100</td>
<td>40</td>
<td>0 – 1400</td>
<td>100</td>
</tr>
<tr>
<td>200</td>
<td>20</td>
<td>0 – 1750</td>
<td>200</td>
</tr>
<tr>
<td>400</td>
<td>10</td>
<td>0 – 2000</td>
<td>400</td>
</tr>
</tbody>
</table>

New „Wide Band“ sensor by next year 2017

### AIS 5525L Performance

- **Bias Calibration Error**: (% of Span)  
  - ±2 g – ±400 g  
  - 0.2
  - 0.5
- **Bias Temperature Shift**: (-55 °C – +125 °C) (ppm of Span/°C)  
  - ±2 g – ±400 g  
  - 50
  - 200
- **Scale Factor Temperature Shift**: (-55 °C – +125 °C) (ppm/°C)  
  - ±2 g – ±400 g  
  - -200
  - 0
  - +200
- **Non-Linearity**: (-90 to +90% of span)  
  - ±2 g – ±400 g  
  - 0.15
  - 0.5
- **Long Term Scale Factor Stability**: (±ppm)  
  - ±2 g – ±400 g  
  - 500
  - 1000

### General Technical Data

- **Supply Voltage**: (V)  
  - 9
  - 24
- **Cross Axis Sensitivity**: (%)  
  - 2
  - 3
- **Output Impedance**: (Ω)  
  - 90
  - –
- **Operating Current**: (I_{DD} + I_{VR}) (mA)  
  - 5
  - 6
- **Max. Mechanical Shock**: (g)  
  - 5000
  - –
- **Operating Temperature**: (°C)  
  - -45
  - –
  - +95
- **Material Housing**: Stainless Steel
- **Weight Sensor**: (g)  
  - 39
- **Material Cable**: Polyurethane
- **Weight Cable nom. each meter**: (g)  
  - 30

### Cable Code

<table>
<thead>
<tr>
<th>12 Wire Code</th>
<th>X-Axis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Supply + = red</td>
<td></td>
</tr>
<tr>
<td>Supply - = black</td>
<td></td>
</tr>
<tr>
<td>Output + = green</td>
<td></td>
</tr>
<tr>
<td>Output - = white</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>10 Wire Code</th>
<th>Y-Axis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Supply + = red</td>
<td></td>
</tr>
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<td>Supply - = black</td>
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<th>Z-Axis</th>
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### Order Information

- **AIS 5525L-XXX-XXX**  
  - 1
  - 2
  - 3
  - 4

### Export Classification

- EAR99 for ±2g to ±100g

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Subject to change April 2016

New „Wide Band“ sensor by next year 2017

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Advanced International Sensors

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