

# AIS 7425L

## Capacitive Accelerometer Triaxial



### Features

The model **AIS 7425L** accelerometer is a triaxial, capacitive accelerometer. The sensor is applicable for rugged applications due to Protection Class IP67 and additional strain-relief. The sensor is over a wide range from -55°C to +125°C temperature compensated. Small measuring ranges are possible due to capacitiv 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.

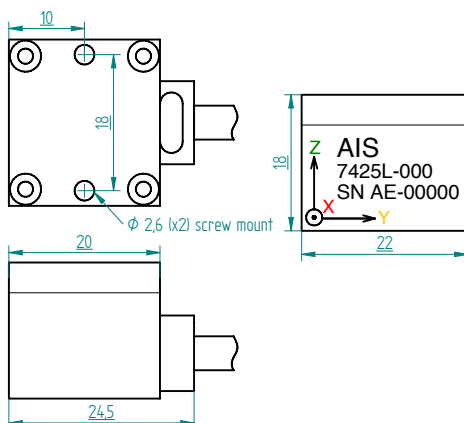
- Range  $\pm 2$  g to  $\pm 400$  g
- Temperature Compensated
- Stainless Steel Housing
- Amplified Output
- Highly Shock Resistant
- LowNoise Performance
- Low Noise:  $7\mu\text{g}/\sqrt{\text{Hz}}$  typical for 2g FSO
- Excellent long term stability

### Applications

- Vibration Monitoring
- Automotive Dyamics
- Machine Control
- Misuse Application
- Truck Testing

### Service

- Sinusoidal Calibration
- Different cable length
- All axes repairable
- Signal Conditioning
- Protective Circuit



## AIS 7425L Capacitive Accelerometer / Triaxial

**Individual Technical Data**  $V_{DD}=V_R=5.0$  VDC,  $T_C=25^\circ\text{C}$ , Differential. Span =  $\pm g$  range = 8000mV

AIS 7425L Performance			
Range (g)	Sensitivity (mV/g)	Frequency Response (Minimum 3 dB) (Hz)	Output Noise ( $\mu\text{g}/\text{root Hz}$ )
2	2000	0 – 300	7
5	800	0 – 400	12
10	400	0 – 600	18
25	160	0 – 900	25
50	80	0 – 1200	50
100	40	0 – 1400	100
200	20	0 – 1750	200
400	10	0 – 2000	400

New „Wide Band“ sensor by next year 2017

AIS 7425L Performance				
		min.	typ.	max.
<b>Bias Calibration Error</b>	(% of Span)			
	$\pm 2 g - \pm 400 g$	-	0.2	0.5
<b>Bias Temperature Shift</b> (-55 °C – +125 °C)	(ppm of Span/°C)			
	$\pm 2 g - \pm 400 g$	-	50	+200
<b>Scale Factor Temperature Shift</b> (-55 °C – +125 °C)	(ppm/°C)			
	$\pm 2 g - \pm 400 g$	-200	0	+200
<b>Non-Linearity</b> (-90 to +90% of span)	( $\pm\%$ of span)			
	$\pm 2 g - \pm 400 g$	-	0.15	0.5
<b>Long Term Scale Factor Stability</b>	( $\pm\text{ppm}$ )			
	$\pm 2 g - \pm 400 g$	-	500	1000

Cable Code <sup>7</sup>
<b>12 Wire Code</b>
<b>X-Axis</b>
Supply + = red
Supply - = black
Output + = green
Output - = white
<b>Y-Axis</b>
Supply + = red
Supply - = black
Output + = green
Output - = white
<b>Z-Axis</b>
Supply + = red
Supply - = black
Output + = green
Output - = white

Order Information
<b>AIS 7425L-XXX-XXX</b>
1 2 3
<b>1 Model</b>
<b>2 Range</b>
<b>3 Cable Length and Pinout</b>

Export Classification: EAR99 for  $\pm 2g$  to  $\pm 100g$

## General Technical Data

AIS 7425L Performance				
		min.	typ.	max.
<b>Supply Voltage</b>	(V) <sup>1</sup>	9	-	24
<b>Cross Axis Sensitivity</b>	(%) <sup>2</sup>	-	2	3
<b>Output Impedance</b>	( $\Omega$ ) <sup>3</sup>	-	90	-
<b>Operating Current</b> ( $I_{DD} + I_{VR}$ )	(mA) <sup>6</sup>	-	5	6
<b>Max. Mechanical Shock (0.1 ms)</b>	(g) <sup>3</sup>	-	-	5000
<b>Operating Temperature</b>	(°C) <sup>4</sup>	-45	-	+95
<b>Material Housing</b>		Stainless Steel <sup>5</sup>		
<b>Weight Sensor</b>	(g)	40		
<b>Material Cable</b>		Polyurethane		
<b>Weight Cable nom. each meter</b>	(g)	30		

1) Performance chip 5.0VDC, additional circuit for 9 to 24VDC, optional 30VDC

2) max. 3% after assembling in housing

3) max. mech. shock (0.1 ms)  
 $\pm 2 g$  to  $\pm 5 g = 2000 g$   
 $\pm 10 g$  to  $\pm 400 g = 5000 g$

4) with high temperature cable up to 125 °C

5) Protection class IP67

6) Operating current chip typ. 5 mA, in modul typ 20 mA

7) 5wire and 8wire optional

8) optional overvoltage protection up to 600VDC

9) optional low impedance output driver