

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 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.

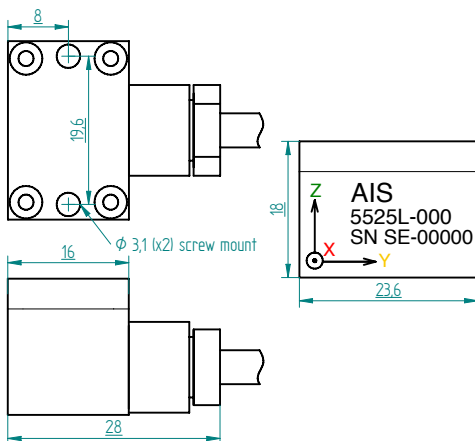
- Range $\pm 2\text{ g}$ to $\pm 400\text{ g}$
- Temperature Compensated
- Stainless Steel Housing
- Amplified Output
- Highly Shock Resistant
- LowNoise Performance
- Low Noise: $7\mu\text{g}/\sqrt{\text{Hz}}$ typical for 2g FSO
- Excellent Long Term Stability

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 5525L 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 5525L 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 5525L Performance				
		min.	typ.	max.
Bias Calibration Error	(% of Span)			
	$\pm 2 g - \pm 400 g$	-	0.2	0.5
Bias Temperature Shift (-55 °C – +125 °C)	(ppm of Span/°C)			
	$\pm 2 g - \pm 400 g$	-	50	+200
Scale Factor Temperature Shift (-55 °C – +125 °C)	(ppm/°C)			
	$\pm 2 g - \pm 400 g$	-200	0	+200
Non-Linearity (-90 to +90% of span)	($\pm\%$ of span)			
	$\pm 2 g - \pm 400 g$	-	0.15	0.5
Long Term Scale Factor Stability	($\pm\text{ppm}$)			
	$\pm 2 g - \pm 400 g$	-	500	1000

Cable Code ⁷
12 Wire Code
X-Axis
Supply + = red
Supply - = black
Output + = green
Output - = white
Y-Axis
Supply + = red
Supply - = black
Output + = green
Output - = white
Z-Axis
Supply + = red
Supply - = black
Output + = green
Output - = white

Order Information
AIS 5525L-XXX-XXX
1 2 3
1 Model
2 Range
3 Cable Length and Pinout

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

General Technical Data

AIS 5525L Performance				
		min.	typ.	max.
Supply Voltage	(V) ¹	9	-	24
Cross Axis Sensitivity	(%) ²	-	2	3
Output Impedance	(Ω) ³	-	90	-
Operating Current ($I_{DD} + I_{VR}$)	(mA) ⁶	-	5	6
Max. Mechanical Shock (0.1 ms)	(g) ³	-	-	5000
Operating Temperature	(°C) ⁴	-45	-	+95
Material Housing		Stainless Steel ⁵		
Weight Sensor	(g)	39		
Material Cable		Polyurethane		
Weight Cable nom. each meter	(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