

AIS 3520L

Capacitive Accelerometer Uniaxial, Screw Mount



Features

The Model **AIS 3520L** is an uniaxial, capacitive accelerometer. The sensor is over a wide range temperature compensated. The 3520L was designed with a protective circuit for overvoltage protection up to 600 Volt. The cube form allows multiple screw mounting. The sensor is adaptive for automotive and industrial applications. The model AIS 3520L has a low noise performance and improved scale factor stability and temperature behavior due to drop in next generation of MEMS Technology.

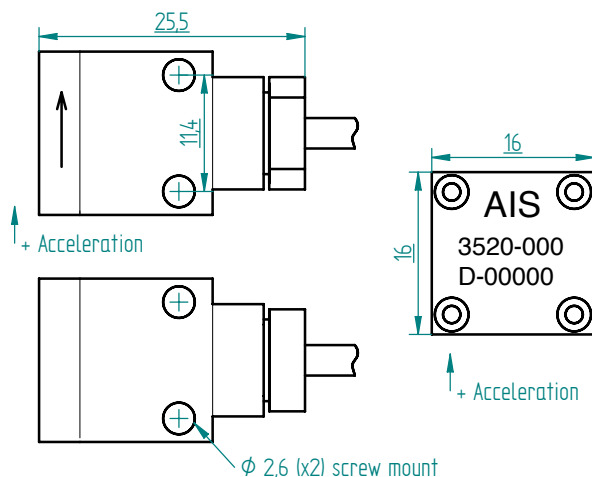
- ☐ Range $\pm 2g$ to $\pm 400g$
- ☐ Temperature Compensated from -55°C to $+125^{\circ}\text{C}$
- ☐ Differential or Single Ended Mode
- ☐ Responds to DC and AC Acceleration
- ☐ Amplified Output
- ☐ Improved Scale Factor Stability
- ☐ Low Noise: $7\mu\text{g}/\sqrt{\text{Hz}}$ typical for 2g FSO
- ☐ Excellent Long Term Stability
- ☐ Overvoltage Protection up to 600 Volt
- ☐ Aluminium Housing

Applications

- ☐ Vibration Monitoring
- ☐ Seismic Monitoring
- ☐ Vehicle Dynamics
- ☐ Machine Control
- ☐ Helicopter Monitoring

Service

- ☐ Sinusoidal Calibration
- ☐ Different cable length
- ☐ Repairable
- ☐ Signal Conditioning
- ☐ Protective Circuit



AIS 3520L Capacitive Accelerometer / Uniaxial, Screw Mount

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

AIS 3520L 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

Cable Code	
Supply +	Red
Supply -	Black
Output +	Green
Output -	White

New „Wide Band“ sensor by next year 2017

AIS 3520L 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

Order Information			
AIS 3520L-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 3520L Performance				
		min.	typ.	max.
Supply Voltage (V) ¹		9	–	30
Cross Axis Sensitivity (%) ²		–	2	3
Output Impedance (Ω)		–	90	–
Operating Current ($I_{DD}+I_{VR}$) (mA) ⁴		–	5	6
Max. Mechanical Shock (0.1 ms) (g) ³		–	–	5000
Operating Temperature (°C)		-45	–	+95
Material Housing ⁵		Aluminium		
Weight Sensor (g)		13		
Material Cable		Polyurethane		
Weight Cable nom. each meter (g)		14		

- 1) Performance chip 5.0VDC, additional circuit for 9 to 24VDC, optional 30VDC
- 2) Max. 3% after assembling in housing
- 3) Max. Mechanical Shock (0.1 ms)
 $\pm 002 g$ to $\pm 005 g = 2000 g$
 $\pm 010 g$ to $\pm 400 g = 5000 g$
- 4) Operating current chip typ. 5 mA, in modul typ 20 mA
- 5) Optional low impedance output driver and overvoltage protection circuit