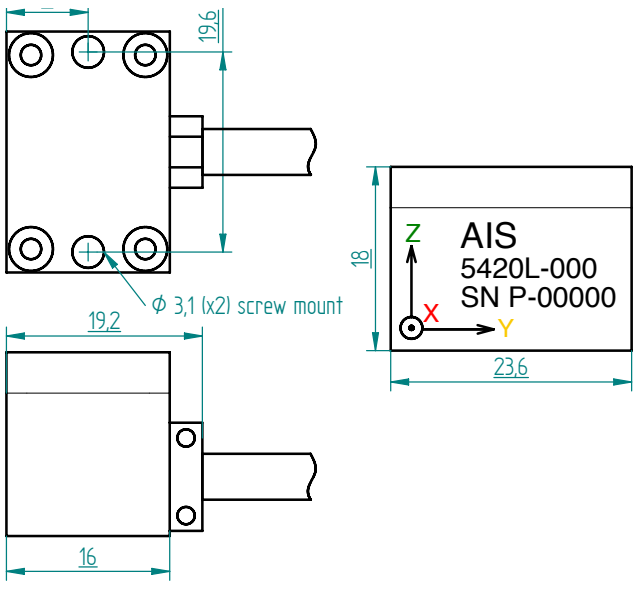
AIS 5420L

Capacitive Accelerometer
Triaxial, screw mount

Features

The **AIS 5420L** model is a triaxial , capacitive accelerometer designed for high performance applications. Ranges from ±2g to ±400g are available with high frequency response.
The LowNoise performance is a drop in next generation with excellent 0G Bias, scale factor stability and temperature behavior. The sensor is equipped with cable split for axes x,y and z.

- ❑ Capacitive Technology
- ❑ Ranges ±2 g to ±400 g
- ❑ Temperature Compensated from -55 °C to +125 °C
- ❑ Working Temperature -45 °C to +95 °C
- ❑ Excellent Scale Factor Stability
- ❑ Low Noise: 7µg/√Hz typical for 2 g FSO
- ❑ Excellent Linearity typ. 0.15 % of FSO
- ❑ Optional with Skintop Feedthrough



Applications

- ❑ Vibration Monitoring
- ❑ Automotive Dynamics
- ❑ Machine Control
- ❑ Automotive Comfort Testing
- ❑ Truck Testing

Service

- ❑ Sinusoidal Calibration
- ❑ Pendulum Calibration
- ❑ Connector Options
- ❑ Signal Conditioning
- ❑ Repair Options
- ❑ Protective Circuits

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Individual Technical Data $V_{DD}=V_R=5.0$ VDC, $T_C=25°C$, Differential. Span = ±g range = 8000mV

AIS 5420L Performance			
Range (g)	**Sensitivity** (mV/g)	**Frequency Response (Minimum 3 dB)** (Hz)	**Output Noise** (µg/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 5420L Performance				
		min.	**typ.**	**max.**
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)	(±% of span)			
	±2 g – ±400 g	–	0.15	0.5
Long Term Scale Factor Stability	(±ppm)			
	±2 g – ±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 5420L-XXX-XXX
1 2 3
1 **Model**
2 **Range**
3 **Cable Length and Pinout**

Export Classification: EAR99 for ±2g to ±100g

General Technical Data

AIS 5420L 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)[5, 6]	–	5	6
Max. Mechanical Shock (0.1 ms)	(g)[3]	–	–	5000
Operating Temperature	(°C)[4]	-45	–	+95
Material Housing			Aluminium	
Weight Sensor	(g)		16	
Material Cable			Polyurethane[7]	
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
±2 g to ±5 g = 2000 g
±10 g to ±400 g = 5000 g

4) With high temperature cable up to 125 °C

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

6) Optional low impedance output driver

7) With customized products please ask for cable code

Subject to change April 2016