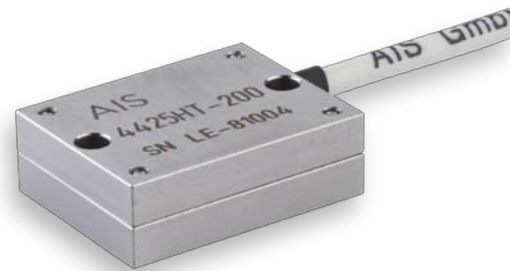


AIS 4425HT

Capacitive Accelerometer Uniaxial, screw mounting



Features

The Model **AIS 4425HT** is an uniaxial, capacitive accelerometer. The sensor is over a wide range temperature compensated. The AIS 4425HT was designed for vibration monitoring with 5 Volt regulation inside sensor housing and high temperature up to 150°C. The sensor is adaptive for different areas of vibration control. The AIS 4425HT has a low noise performance and improved scale factor stability and temperature behavior due to drop in next generation of MEMS Technology.

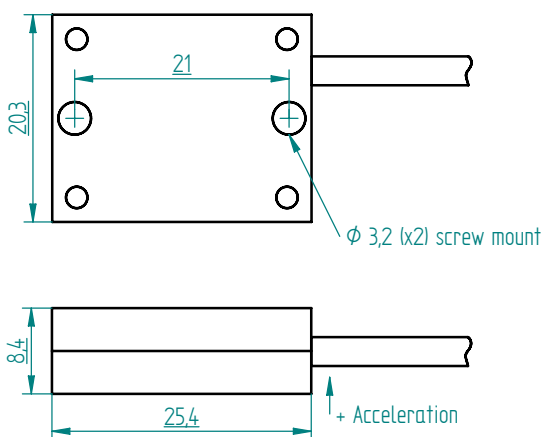
- Range $\pm 2g$ to $\pm 400g$
- Integrated 5 Volt regulation
- Temperature Compensated from -55°C to $+125^{\circ}\text{C}$
- Operating Temperature up to 150°C
- Differential or Single Ended Mode
- Responds to DC and AC Acceleration
- Amplified Output
- Improved Scale Factor Stability
- Low Noise: $7\mu\text{g}/\sqrt{\text{Hz}}$ typical for 2g FSO
- Stainless Steel Housing

Applications

- Vibration Monitoring
- Vehicle Dynamics
- Machine Control
- Truck Testing

Service

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



AIS 4425HT Capacitive Accelerometer / Uniaxial, screw mounting

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

AIS 4425HT 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 4425HT Performance				
		min.	typ.	max.
Bias Calibration Error	(% of Span)			
	$\pm 2 \text{ g} - \pm 400 \text{ g}$	-	0.2	0.5
Bias Temperature Shift (-55 °C – +125 °C)	(ppm of Span/°C)			
	$\pm 2 \text{ g} - \pm 400 \text{ g}$	-	50	+200
Scale Factor Temperature Shift (-55 °C – +125 °C)	(ppm/°C)			
	$\pm 2 \text{ g} - \pm 400 \text{ g}$	-200	0	+200
Non-Linearity (-90 to +90% of span)	($\pm\%$ of span)			
	$\pm 2 \text{ g} - \pm 400 \text{ g}$	-	0.15	0.5
Long Term Scale Factor Stability	($\pm\text{ppm}$)			
	$\pm 2 \text{ g} - \pm 400 \text{ g}$	-	500	1000

Order Information		
AIS 4425HT-XXX-XXX		
1	2	3
1 Model		
2 Range		
3 Cable Length and Pinout		

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

General Technical Data

AIS 4425HT 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		Stainless Steel		
Weight Sensor	(g)	22		
Material Cable		Polyurethane ^{4,6}		
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)
 $\pm 002 \text{ g}$ to $\pm 005 \text{ g} = 2000 \text{ g}$
 $\pm 010 \text{ g}$ to $\pm 400 \text{ g} = 5000 \text{ g}$
- 4) With high temperature cable up to 150 °C
- 5) Operating current chip typ. 5 mA, in modul typ 20 mA
- 6) Optional low impedance output driver