

K-Shear® Accelerometers

Type 8732A...
8734A...

Micro Shear, Voltage Mode Accelerometers

Low profile, less than 1,5 gram weight accelerometers for measuring shock and vibration on very small objects. Available with or without a mounting flange, this ultra light weight sealed accelerometer features a wide frequency response and an integral cable.

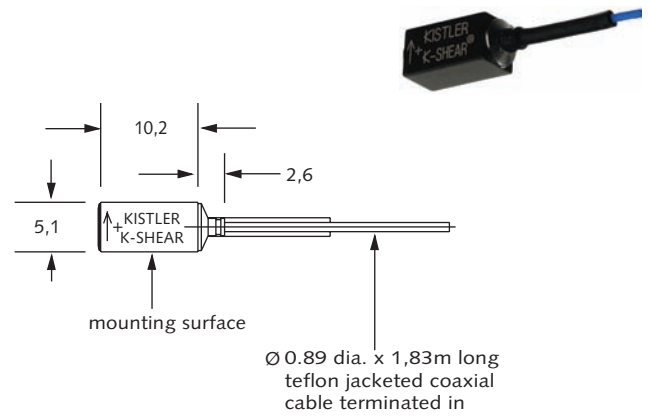
- Low impedance voltage mode
- Quartz shear element
- Low profile and lightweight
- Ultra-low base strain and thermal transient response
- Ground isolated
- Standard automotive footprint & mounting
- Conforming to CE

Description

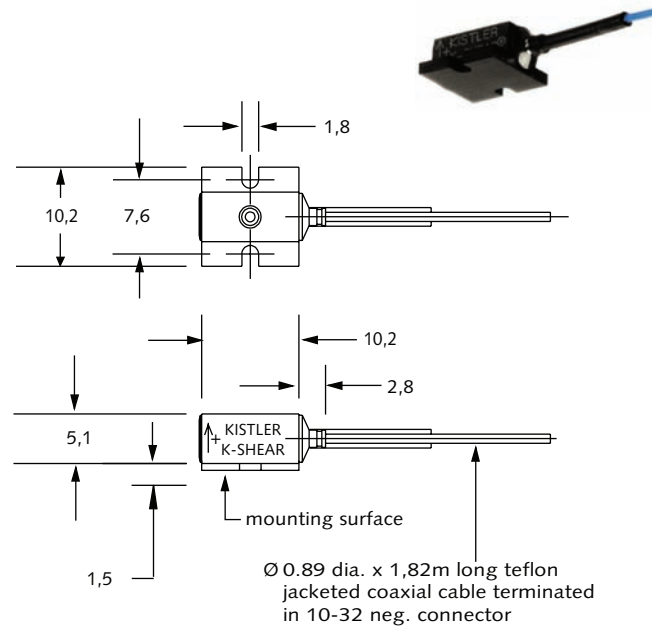
The 8732A... and 8734A... micro K-Shear accelerometers use Kistler's uniquely designed quartz sensing element. Operating in the shear mode with precisely cut quartz plates, assures that the accelerometer will exhibit an insensitivity to base strain, thermal transients and transverse (cross-axis) acceleration. Quartz sensing elements afford excellent long-term stability to ensure repeatable, accurate measurements for many years.

The rectangular body shape of the 8732A... allows for easy adhesive mounting on any side particularly in tight locations. The mounting flanges of the 8734A... Accelerometer allow for rigid mounting with fastener during shock testing and its automotive industry standard "footprint" makes it ideal for vehicle testing. The hard anodized case is constructed of titanium and aluminum that provides ground isolation and a lightweight package. An integral Teflon jacketed cable, 6 ft. in length, is terminated in a 10-32 negative connector.

An internal microelectronic Piezotron® signal conditioning circuit converts the charge developed in the quartz element as a result of the accelerometer being subjected to a vibration, into a useable high level voltage output signal at a low impedance output. The low impedance output provides high immunity to noise and insensitivity to cable motion.



8732A...



8734A...

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Technical Data

Type	Unit	8732A/8734A500
Acceleration Range	g	±500
Acceleration Limit	gpk	±1000
Threshold nom. (noise 130µVrms)	grms	0,01
Sensitivity (±10%)	mV/g	10
Resonant Frequency mounted, nom.	kHz	76
Frequency Response, (-5 ... +12%)	Hz	2 ... 10000
Amplitude Non-linearity	%FSO	±1
Time Constant nom.	s	0,5
Transverse Sensitivity nom., (max.)	%	1,5 (5)
Long Term Stability	%	±1
Environmental:		
Base Strain Sensitivity @ 250µε	g/µε	0,04
Shock Limit (1ms pulse)	gpk	5000
Temperature Coeff. of Sensitivity	%/°C	-0,054
Temperature Range Operating	°C	-53 ... 120
Temperature Range Storage	°C	-73 ... 120
Output:		
Bias nom.	VDC	11
Impedance	Ω	<100
Voltage full scale	V	±5
Current	mA	2
Source:		
Voltage	VDC	20 ... 30
Constant Current	mA	2 ... 18
Impedance min.	kΩ	>100
Construction:		
Sensing Element	type	Quartz Shear
Housing/Base	material	Al. / Titanium
Sealing	type	Welded/Epoxy
Connector	type	10-32 UNF neg.
Ground Isolated min.	MΩ	10
Weight	grams	1,1
Mounting	type	Wax/Adhesive

1 g = 9,80665 m/s², 1 Inch = 25.4 mm, 1 gram = 0,03527 oz, 1 lbf-in = 0,113 Nm

Application

The small lightweight, low profile of both Micro K-Shear units make them ideal for precision vibration measurements or modal analysis on small, thin-walled structures or where space is limited. The footprint of the 8734A... is compatible with the automotive standard, ensuring mechanical compatibility. The 8732A... can be used in place of Piezoresistive Accelerometers (when measuring dynamic acceleration) to obtain a higher output signal and improved thermal performance. Changes in dynamic response of the test article due to accelerometer mass loading are minimized by these lightweight sensors.

Mounting

The 8732A... can be attached to the test structure with wax or adhesive. The 8734A... is designed with mounting flanges and can be attached to the test structure by screw, wax or adhesive. Reliable and accurate measurements require that the mounting surface be clean and flat. The Operating Instruction Manual for the 8732A... and 8734A... accelerometers provides detailed information regarding mounting surface preparation.

Accessories Included

- mounting wax

Type

8432

Optional Accessories

- sensor cable, 10-32 pos. to BNC pos., specify length in meters
- coupler series or dual mode amplifier
- cable BNC pos. to BNC pos., specify length in meters

Type

1761B

51...

1511

Ordering Key

Option		873	<input type="checkbox"/>	<input type="checkbox"/>
Standard Unit	2A			
Unit with mounting flanges	4A			
Measuring Range				
±500g	500			

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