

Type 8793A500, 8793A500M3, 8793A500M5, 8793A500M8

## 8793A QUARTZ K-SHEAR® TRIAXIAL ACCELEROMETERS

The 8793A500 triaxial accelerometer family of models measure shock and vibration in three mutually perpendicular axes. They are available in two extended operating temperature ranges; the 8793A500M5 for high temperature 330°F (high) operation and the 8793A500M8 for low temperature -320°F (low) cryogenic operation. All types are of stainless steel welded construction, hermetically sealed in a unique flat package design that will provide many years

of reliable operation. Kistler's K-SHEAR sensing elements provides long term stability, a wide operating frequency range along with extremely low sensitivity to thermal transients and transverse acceleration. Three integral Piezotron® impedance converters provide a low voltage output, eliminating the need for charge amplifiers. The voltage output also eliminates the need for expensive, highly insulated low noise cables.

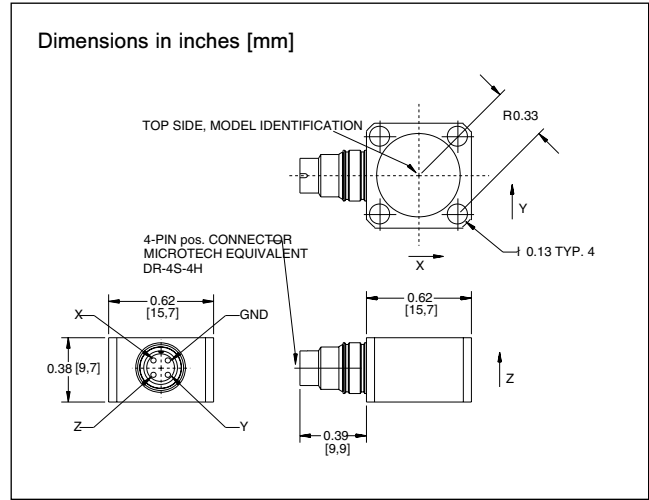
- Low impedance voltage mode
- Low profile design
- Extended operating temperature
- Quartz shear accuracy and stability
- High (330°F) and low (320°F) temperature versions
- Hermetically sealed versions
- Conforming to CE



Technical Data	Units	8793A500, M3, M5, M8
<b>Acceleration Range</b>	<i>g</i>	±500
<b>Acceleration Limit</b>	<i>g</i> pk	±1000
<b>Transverse Acceleration Limit</b>	<i>g</i> pk	±1000
<b>Threshold</b> nom.	<i>g</i> rms	0.002
<b>Sensitivity</b> nom.	mV/ <i>g</i>	10
<b>Resonant Frequency</b> mounted, nom.	kHz	>80
<b>Frequency Response</b> ± 5% (8793A500,M5,M8)	Hz	2.5 ... 10 000
	Hz	1 ... 10000
<b>Amplitude Non-linearity</b>	%FSO	±1
<b>Time Constant</b> nom. (8793A500,M5,M8)	s	0.5
	s	2
<b>Transverse Sensitivity</b> typ. (max.)	%	1.5 (3)
<b>Shock</b> (1ms pulse width) max.	<i>g</i> pk	5000
<b>Long Term Stability</b>	%	±1
<b>Temperature Coefficient of Sensitivity</b>	%/°F	-0.017
	%/°C	-0.03
<b>Temperature Range Operating</b> (4 mA supply current)	8793A500, M3	° F -65 ... 250
		° C -54 ... 120
	8793A500M5	° F -65 ... 330
		° C -54 ... 165
	8793A500M8	° F -320 ... 250
		° C -195 ... 120
<b>Storage</b>	8793A500, M3	° F -105 ... 305
		° C -75 ... 150
	8793A500M5	° F -65 ... 330
		° C -54 ... 165
	8793A500M8	° F -320 ... 250
		° C -195 ... 120

1 *g* = 9.80665 m/s<sup>2</sup>, 1 inch = 25.4 mm, 1 gram = 0.03527 oz, 1 lbf-in = 0.1129 Nm

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<b>Output</b>		
Bias nom.	VDC	11
impedance	$\Omega$	<100
Voltage F.S.	V	$\pm 5$
Current	mA	2
<b>Source</b>		
Voltage	VDC	20 ... 30
Constant Current	mA	2 ... 20
Impedance	k $\Omega$	>100
<b>Construction</b>		
Sensing Element	type	quartz/shear
Housing/Base	material	St. Stl.
Sealing-housing/connector		
8793A500, M3	type	hermetic
8793A500M5, M8	type	welded/epoxy
Connector	type	4-Pin pos. Microtech Equivalent
Weight	grams	11



### Applications

The sensor measures simultaneously the three components of the acting acceleration (i.e., shock or vibration), permitting the resulting vector to be determined, magnitude and direction. Because of its low weight, the sensor is especially useful for measuring on small and lightweight structures, where mass loading must be kept at a minimum. It can also be used for drop tests, e.g., on electric equipment.

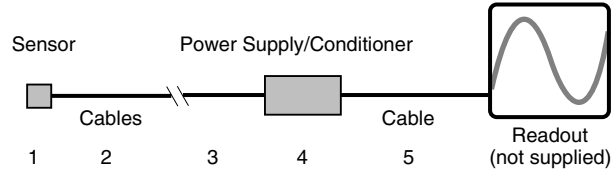
### Mounting

Reliable and accurate measurements require that the mounting surface be clean and flat. The sensor can be fixed on the structure with screws.

### Supplied Accessories

431-0375-005	(4) cap screws 4-40 UNC-2A x 0.5 inch long
431-0475-004	(4) cap screws M2,5 x 12mm long

### Ordering Information



Specify:

- 1 - 8793A500 triaxial accelerometer or
- 8794A500M3 triaxial accelerometer with low end 1Hz point
- 8793A500M5 high temperature accelerometer
- 8793A500M8 low temperature accelerometer
- 2 - 1578A... optional extension cable with Microtech equivalent connector 4-pin neg. to Microtech 4-pin neg., specify length in meters
- 3 - 1756B(X) break out cable, 4-pin neg. Microtech equivalent connector neg.-3x BNC pos. (X = 0.5, 3, 10m)
- 4 - 5100 coupler series or
- 5134A four-channel coupler
- 5 - 1511... output cable, BNC pos. to BNC pos., specify length in meters.