

Type 8794A500, 8794A500M3, 8794A500M5

8794A K-SHEAR® TRIAXIAL ACCELEROMETERS

The 8794A500 is a triaxial accelerometer that measures shock and vibration in three mutually perpendicular axes. It is designed in a unique flat package and built in a welded, environmentally sealed, stainless steel case, providing years of reliable operation. This sensor is available as a 8794A500M5 version, featuring a higher operating temperature up to 330°F (165°C) and in a 8794A500M3 version with a low end frequency point of 1Hz. Kistler's K-SHEAR design provides

a wide operating frequency range along with extremely low sensitivity to thermal transients and transverse acceleration. Quartz sensing elements are used in this sensor to ensure long-term stability superior to other sensing materials. Three integral Piezotron® impedance converters provide a low impedance voltage output, eliminating the need for charge amplifiers. The voltage output also eliminates the need for expensive, highly insulated low-noise cables. The output

Continued

- Low impedance voltage mode
- Low profile design
- Quartz shear accuracy and stability
- High temperature (330°F) version available
- Conforming to CE



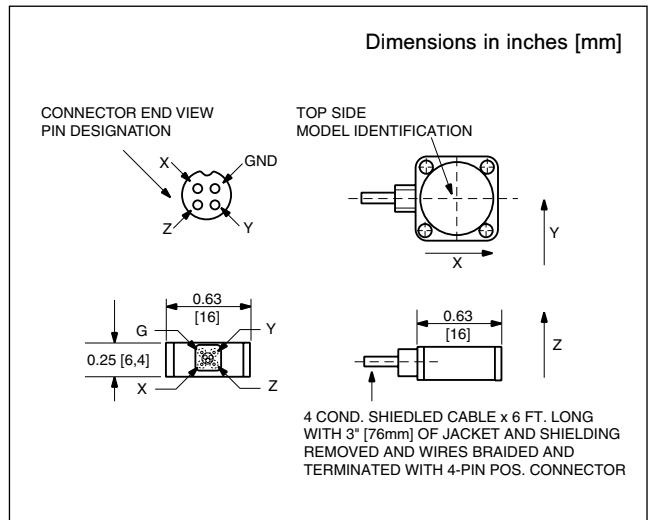
Technical Data	Units	8794A500 8794A500M3 8794A500M5
Acceleration Range	<i>g</i>	±500
Acceleration Limit	<i>g_{pk}</i>	±1000
Transverse Acceleration Limit	<i>g_{pk}</i>	±1000
Threshold	<i>g_{rms}</i>	0.002
Sensitivity nom.	mV/ <i>g</i>	10
Resonant Frequency nom., mounted	kHz	80
Frequency Response ±5% (8794A500, M5)	Hz	2.5 ... 10000
±5% (8794A500M3)	Hz	1 ... 10000
x Amplitude Non-Linearity	%FSO	±1
Time Constant nom. (8794A500, M5)	s	0.5
(8794A500M3)	s	2
Transverse Sensitivity typ. (max.)	%	1.5 (3)
Base Strain Sensitivity @250 µε	<i>g/µε</i>	0.120
x Shock (1ms pulse width) max.	<i>g_{pk}</i>	5000
Temperature Coefficient of Sensitivity	%/°F	-0.017
	%/°C	-0.03
x Temperature Range Operating (4mA supply current)		
8794A500, M3	°F	-65 ... 250
	°C	-54 ... 120
8794A500M5	°F	-65 ... 330
	°C	-54 ... 165
Storage		
8794A500, M3	°F	-105 ... 300
	°C	-75 ... 150
8794A500M5	°F	-75 ... 330
	°C	-60 ... 165

1 *g* = 9.80665 m/s², 1 inch = 25.4 mm, 1 gram = 0.03527 oz

Kistler Instrument Corporation reserves the right to discontinue or change specifications, designs or materials without notice consistent with sound engineering principles and quality practices.

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Technical Data	Units	8794A500 8794A500M3 8794A500M5
Output		
Bias nom.	VDC	11
Impedance	Ω	< 100
Voltage F.S., nom.	V	± 5
Current	mA	2
Source		
Voltage	VDC	20 ... 30
Constant Current	mA	2 ... 20
Impedance	k Ω	> 100
Construction		
Sensing Element	type	quartz/shear
Housing	material	St. Stl.
Sealing-housing/connector	type	welded/epoxy
Connector	type	4-pin pos .Microtech Equivalent
Weight	grams	7.6



wires are soldered to terminals outside the case and covered by a molded strain relief cover. This unique electrical connection provides the advantages of an integral cable but permits replacement of damaged output wires.

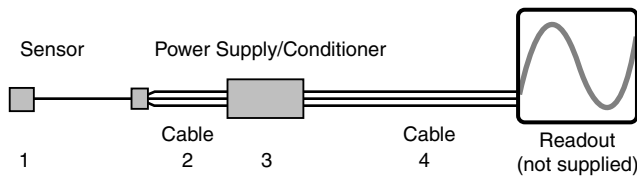
Supplied Accessories

- 431-0475-002 (4) mounting screws 4-40 x 0.375 in. long
- 431-0475-001 (4) mounting screws M2.5 x 10 mm long

Applications

Use this sensor for general vibration measurements in confined spaces. The low profile design provides an aerodynamic advantage for in-flight flutter and vibration testing. Four mounting holes provide secure attachment.

Ordering Information



Specify:

- 1 - 8794A500 accelerometer or
8794A500M3 accelerometer with low end 1Hz point
8794A500M5 high temperature accelerometer
- 2 - 1756B(x) breakout cable, 4-pin neg. Microtech
Equivalent to 3x BNC pos.
- 3 - 5100 coupler series or
5134A four-channel coupler
- 4 - 1511 output cable, BNC pos. to BNC pos., specify
length in meters

000-263e-10.02 (DBK8.8794e)