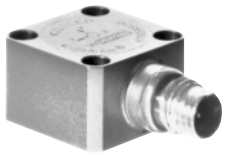
8793A500M10 PiezoSMART® TRIAXIAL ACCELEROMETERS

The 8793A500 PiezoSMART Accelerometer simultaneously measure vibration and shock in three, mutually perpendicular axes (x, y and z). The K-SHEAR quartz sensing elements contained within the accelerometer provide long term operational stability, a wide operating frequency range along with extremely low sensitivity to thermal transients and transverse acceleration. The 8793 can operate both as a standard low impedance, voltage mode accelerometer with a conventional analog output or in a digital "PiezoSMART Sensor Mode" capable of providing pertinent information stored with in its memory module. Since the design of the accelerometer conforms to a universal standard (IEEE P1451.4),any commercially manufactured TEDS Signal Conditioner, along with a host computer, will address and retrieve the stored information.

The light weight, low profile design of the 8793 is ideally suited for multi-channel modal applications where mass loading of the test structure is a concern. The smart sensor operating mode allows information regarding accelerometer location and position direction to be entered and accessed by a host signal/data acquisition processor. The stainless steel housing is welded to provide hermetic sealing for reliable operation in adverse environments

- Low impedance, voltage mode
- Incorporates "TEDS" smart sensor technology
- Lightweight, quartz shear design
- Excellent thermal stability
- Hermetically sealed
- Conforming to CE



Technical Data	Units	8793A500M10
Acceleration Range	*g*	±500
Acceleration Limit	g_{pk}	±1000
Transverse Acceleration Limit	g_{pk}	±1000
Threshold nom.	g_{rms}	0.002
Sensitivity nom.	mV/*g*	10
Resonant Frequency mounted, nom.	kHz	>80
Frequency Response ± 5%	Hz	2.5 ... 10 000
Amplitude Non-linearity	%FSO	±1
Time Constant nom.	s	0.5
Transverse Sensitivity typ. (max.)	%	1.5 (3)
Shock (1ms pulse width) max.	g_{pk}	5000
Long Term Stability	%	±1
Temperature Coefficient of Sensitivity	%/°F	–0.017
	%/°C	–0.03
Temperature Range Operating (4 mA supply current)	° F	–40 ... 250
	°C	–40 ... 120
Storage		
	° F	–65 ... 255
	°C	–55. ... 125
Output		
Bias nom.	VDC	11
impedance	Ω	<100
Voltage F.S.	V	±5
Current	mA	2

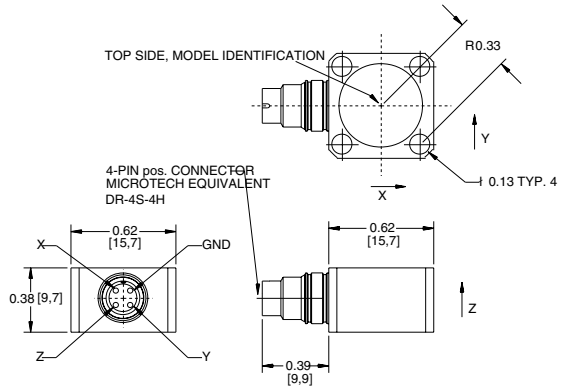
1 *g* = 9.80665 m/s², 1 inch = 25.4 mm, 1 gram = 0.03527 oz, 1 lbf-in = 0.1129 Nm

Kistler Instrument Corporation, 75 John Glenn Drive, Amherst NY 14228
Phone 716-691-5100, Fax 716-691-5226, e-mail: sales.us@kistler.com, www.kistler.com

000-262e-10.02 (DBK8.8793M10e)

Technical Data	Units	8793A500M10
Source		
Voltage	VDC	20 ... 30
Constant Current	mA	2 ... 20
Impedance	kΩ	>100
Construction		
Sensing Element	type	quartz/shear
Housing/Base	material	St. Stl.
x **Sealing**-housing/connector	type	hermetic
Connector	type	4-pin pos. Microtech Equivalent
Weight	grams	11

Dimensions in inches [mm]



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..

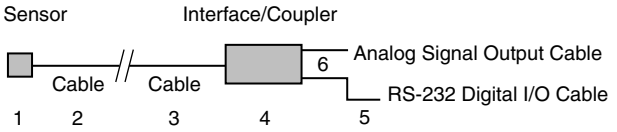
Mounting

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

TEDS

A 5142 smart sensor coupler/programming tool provides for convenient entry of the data fields that are defined during sensor installation or test preparation. A complete system requires a Windows-based PC software, to provide appropriate TEDS editing capability. This portable coupler is used to prepare the sensor for information handling by large TEDS capable analysis systems.

Ordering Information



Specify:

1 - 8793A500M10	triaxial accelerometer
2 - 1578...	Extension cable, 4-pin Microtech pos. to 4-pin Microtech neg., specify length in meters
3 - 1756B(x)	cable, 4-pin Microtech neg., to 3x BNC pos., length x = 0.5, 3, 10 meters
4 - 5142	PiezoSMART, IEEE 1451.4 interface/coupler
5 - 1500A20	Cable RS-232, DB-9 male to DB-9 male, 6 ft (1.8m)
6 - 1511...	Output cable, BNC pos. to BNC pos., specify length in meters.
2860xxxx	Software, TEDS Programmer Editor

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

000-262e-10.02 (DBK8.8793M10e)

Kistler Instrument AG Winterthur, Postfach 304, CH-8408 Winterthur
Tel + 41 - 052 - 224 11 11, Fax + 41 - 052 - 224 14 14, sales@kistler.ch, www.kistler.com

Kistler Instrument Corporation, 75 John Glenn Drive, Amherst NY 14228
Phone 716-691-5100, Fax 716-691-5226, e-mail: sales.us@kistler.com, www.kistler.com