

Type 8795A50M10

8795A50M10 PiezoSMART™ TRIAXIAL ACCELEROMETER

The 8795A50M10 PiezoSMART Accelerometer simultaneously measures shock and vibration in three orthogonal axis. The accelerometer features high sensitivity and can operate both as a standard low impedance, voltage mode sensor with a conventional analog output signal 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.

For installation ease, the sensor is housed in a convenient cube-shaped package. The notched corner allows for convenient identification of the sensor's orientation when working in blind spots, such as under dashboards, etc. Permanent laser-etched markings on five sides clearly identify the three axes. The smart sensor

- Low impedance voltage mode
- Incorporates "TEDS" smart sensor technology
- Light 32 gram weight titanium case
- Ideal for vehicle testing
- High sensitivity, excellent thermal stability
- Hermetically sealed
- Conforming to CE

Continued



Technical Data	Units	8795A50M10
Acceleration Range	<i>g</i>	±50
Acceleration Limit	<i>g</i> _{pk}	±100
Threshold nom.	<i>g</i> _{rms}	0.001
Sensitivity ±10% @ 10 <i>g</i> _{rms} & 100Hz	mV/ <i>g</i>	100
Resonant Frequency nom.	kHz	20
Frequency Response ±5%, stud mount	Hz	1 ... 4000
	Hz	1 ... 2000
Time Constant nom.	s	0.5
Transverse Sensitivity typ. (max.)	%	1.5 (3)
Amplitude Non-linearity	%FSO	±1
Environmental:		
Base Strain Sensitivity @250 µε	<i>g</i> /µε	0.01
Vibration max.	<i>g</i>	2000
Shock (1 ms pulse width) max.	<i>g</i> _{pk}	5000
Long Term Stability	%	±1
Temperature Coefficient of Sensitivity	%/°F	-0.017
	%/°C	-0.03
Temperature Range Operating	°F	-65 ... 250
	°C	-40 ... 120
Storage	°F	-65 ... 255
	°C	-55 ... 125
Output		
Bias nom.	VDC	11
Impedance max.	Ω	<100
Current	mA	2
Voltage F.S., nom.	V	±5
Source		
Voltage	VDC	20...30
Constant Current	mA	2 ... 20
Impedance	kΩ	>100

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

Technical Data	Units	8795A50M10
Construction		
Sensing Element	type	quartz/shear
Housing	material	titanium
Sealing-Housing/Connector	type	hermetic
Connector	type	4-pin pos. Microtech Equivalent
Weight	gram	32
Mounting Torque	lbf-in (Nm)	18 (2)

operating mode allows information regarding accelerometer location and position direction to be entered and accessed by a host signal/data acquisition processor.

The K-SHEAR design is insensitive to thermal transients and base strain. Quartz sensing elements provide years of accurate and repeatable measurements. A low impedance, voltage output is provided by the embedded Kistler Piezotron® electronic impedance converter. This output does not require special low noise cable and provides high noise immunity and insensitivity to cable motion. The low impedance output is also desirable for operation in a humid environment. Constructed in a heavy duty, hermetically sealed titanium case, the 8795A50M10 accelerometer can withstand varied environmental conditions. The unit can be stud or adhesive mounted.

Applications

Applications of this sensor include vehicle vibration and NVH testing, general laboratory, as well as modal testing.

Related Products

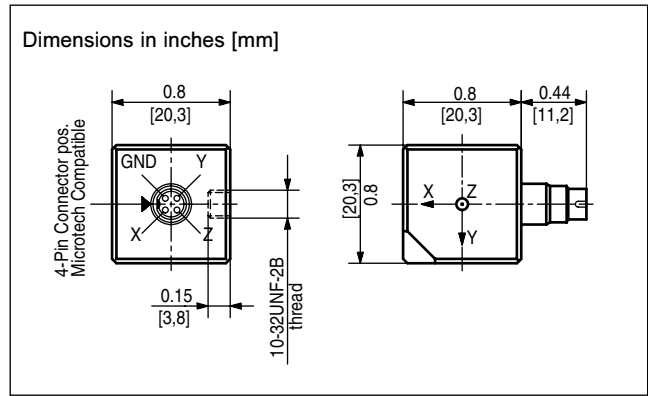
8792A	25 to 500g ranges, through-hole mounting
8793A500	11 gram, 0.63 square, 4-pin Microtech connector
8794A500	7.6 gram 0.63 square, low profile, integral cable
8791A250	4 gram, 0.40 cube, integral cable

Supplied Accessories

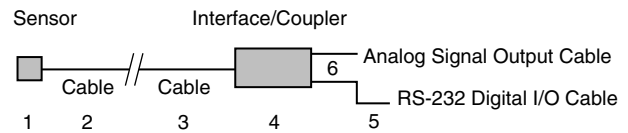
8402	10-32 mounting stud
8411	10-32 to M6 mounting stud; shipped only outside N.A.

TEDS Data Editing

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 - 8795A50M10 PiezoSMART triaxial accelerometer
- 2 - 1578... Extension cable, 4-pin pos. Microtech equivalent to 4-pin neg. Microtech equivalent, 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

000-265e-10.02 (DBK8.8795M10e)