The triaxial accelerometer Type 8793A... measures shock and vibration in three mutually perpendicular axis. They are available in two extended operating temperature ranges; the Type 8793A500M5 for high temperature operation and the Type 8793A500M8 for low temperature cryogenic operation. The Type 8793A500M3 extends the low end frequency response of the basic Type 8793A... down to 1 Hz.

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

**Description**

Contained within the housing of the accelerometer Type 8793A... are three individual shear sensitive quartz elements oriented such that they only respond to a vibration component occurring in the x, y and z axis. Each sensing element is internally connected to a Piezotron® microelectronic circuit that converts the charge signal from the quartz piezoelectric element into a low impedance voltage output signal.

Kistler’s K-Shear sensing elements are hermetically sealed in a stainless steel housing and provide long term stability, a wide operating frequency range along with extremely low sensitivity to thermal transients and transverse acceleration.

**Application**

The accelerometer 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 and finds application in a wide variety of vehicle vibration studies, modal analysis, product development and aerospace testing.

**Accessing TEDS Data**

Accelerometers with a "T" suffix are variants of the standard version incorporating the "Smart Sensor" design. Viewing an accelerometer’s data sheet requires an Interface/Coupler such as Kistler's Type 5134B... or 5000M04 with TEDS Editor software. The Interface provides negative current excitation (reverse polarity) altering the operating mode of the PiezoSmart® sensor allowing the program editor software to read or add information contained in the memory chip.

**Mounting**

Reliable and accurate measurements require that the mounting surface be clean and flat. The sensor can be attached to the structure with supplied screws. The operating instruction manual for the Type 8793A... provides detailed information regarding mounting surface preparation.
### Technical Data

<table>
<thead>
<tr>
<th>Specification</th>
<th>Unit</th>
<th>Type 8793A500</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acceleration range</td>
<td>g</td>
<td>±500</td>
</tr>
<tr>
<td>Acceleration limit</td>
<td>gpk</td>
<td>±1000</td>
</tr>
<tr>
<td>Transverse acceleration limit</td>
<td>gpk</td>
<td>±1000</td>
</tr>
<tr>
<td>Threshold (noise 200 μVrms), nom.</td>
<td>gms</td>
<td>0.002</td>
</tr>
<tr>
<td>Sensitivity, ±5 %</td>
<td>mV/g</td>
<td>10</td>
</tr>
<tr>
<td>Resonant frequency mounted, nom.</td>
<td>kHz</td>
<td>&gt;80</td>
</tr>
<tr>
<td>Frequency response, ±5 %</td>
<td>Hz</td>
<td>2.5 ... 10000</td>
</tr>
<tr>
<td>Type 8793A500M3</td>
<td>Hz</td>
<td>1 ... 10000</td>
</tr>
<tr>
<td>Amplitude non-linearity</td>
<td>%FSO</td>
<td>±1</td>
</tr>
<tr>
<td>Time constant, nom.</td>
<td>s</td>
<td>0.5</td>
</tr>
<tr>
<td>Type 8793A500M3</td>
<td>s</td>
<td>1</td>
</tr>
<tr>
<td>Transverse sensitivity, (max. 3)</td>
<td>%</td>
<td>1.5</td>
</tr>
<tr>
<td>Long term stability</td>
<td>%</td>
<td>±1</td>
</tr>
</tbody>
</table>

### Included Accessories

- 4 cap screws 4-40 UNC-2Ax1/2" long
- 4 cap screws M2.5x12 mm long

### Ordering Key

<table>
<thead>
<tr>
<th>Range</th>
<th>Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>±500 g</td>
<td>500</td>
</tr>
</tbody>
</table>

### TEDS Templates

- Standard
- Extended lower cut-off frequency: M3
- High temperature: M5
- Low temperature: M8
- Default, IEEE 1451.4 V0.9 Template 0 (UTID 1): T
- IEEE 1451.4 V0.9 Template 24 (UTID 116225): T01
- LMS Template 117, T02
- Free format Point ID: T03
- LMS Template 118, Automotive Format (Field 14 Geometry = 0): T04
- LMS Template 118, Aerospace Format (Field 14 Geometry = 1): T05
- P1451.4 v1.0 template 25 - Transfer Function Disabled: T06
- P1451.4 v1.0 template 25 - Transfer Function Enabled: T07

### Measuring Chain

1. Low impedance sensor
2. Sensor cable, 4-pin neg. to 3x BNC pos.
3. Power supply/signal conditioner
4. Output cable, BNC pos. to BNC pos.

### Construction

- Sensing element: quartz-shear
- Case/base material: stainless steel
- Degree of protection: hermetic
- Connector: 4-pin pos.
- Ground isolated: with pad
- Mass: 11 grams
- Mounting (ø0.13 hole): cap screw
- Tightening torque: 0.45 ... 0.56 N-m

1 g = 9.80665 m/s², 1 Inch = 25.4 mm, 1 gram = 0.03527 oz, 1 lbf-in = 0.113 N·m