

Type 8791A250

8791A250 K-SHEAR® MINIATURE TRIAXIAL ACCELEROMETER

The 8791A250 shear triaxial is a low impedance, voltage mode accelerometer in a miniature, cube-shaped enclosure and designed for adhesive mounting. The triaxial design permits simultaneous impact and vibration measurements in three mutually perpendicular axes: X, Y and Z.

Kistler's K-SHEAR® design provides a wide operating frequency range along with extremely low sensitivity to thermal transients, base strain and transverse acceleration. Quartz sensing crystals ensure the long-term stability not achievable with other sensing materials. Three Piezotron® electronic impedance converters provide a low

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- Low impedance voltage output
- Quartz shear sensing elements
- High immunity to thermal transients
- Ultra-low base strain sensitivity
- Miniature cube design
- Light weight
- Conforming to CE



Technical Data	Units	8791A250
Acceleration Range	<i>g</i>	±250
Acceleration Limit	<i>g</i> _{pk}	±500
Threshold noise 130 μV _{rms}	<i>g</i> _{rms}	0.006
Sensitivity ±15% @ 100Hz, 10 <i>g</i> _{rms}	mV/ <i>g</i>	20
Resonant Frequency mounted, nom.	kHz	18
Frequency Response ± 5%, adhesive mount	Hz	2 ... 2000
±10%, adhesive mount	Hz	1 ... 4500
Amplitude Non-linearity	%FSO	±1
Time Constant nom.	s	0.3
Transverse Sensitivity max.	%	5
Environmental:		
Base Strain Sensitivity @ 250 με	<i>g</i> /με	0.01
Shock Limit (1ms pulse)	<i>g</i>	3000
Temperature Coefficient of Sensitivity	%/°F	-0.03
	%/°C	-0.05
Temperature Range Operating (4 mA supply current)	°F	-65 ... 250
	°C	-54 ... 121
Output:		
Bias nom.	VDC	11
Impedance	Ω	100
Voltage full scale	V	±5
Source:		
Voltage	VDC	18 ... 30
Constant current	mA	2 ... 20
Impedance min.	kΩ	100
Construction:		
Sensing Element	type	quartz/shear
Housing/Base	material	titanium
Sealing - housing/connector	type	epoxy
Connector	type	4-pin pos. Microtech Equivalent
Weight without cable	<i>g</i>	4
Mounting	type	adhesive/wax

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

impedance voltage output allowing the use of low-cost cables and eliminate the need for charge amplifiers. Another advantage of a low impedance output is the ability to drive long cable lengths with low-noise susceptibility. The unit is housed in a titanium case and epoxy sealed to IP67 protection.

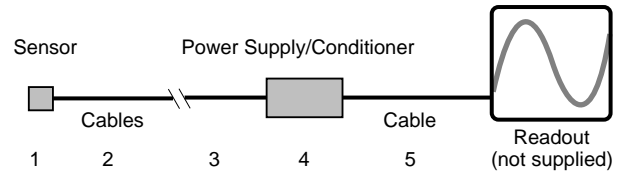
Applications

The extremely low mass of the 8791A250 accelerometer is highly attractive where mass loading of specimens is a concern. The compact size offers high accessibility and convenient locating where critical placement is required. The sensor is highly suited for modal analysis applications and general vibration measurements where the advantage of compactness is a plus.

Supplied Accessory

8432 mounting wax

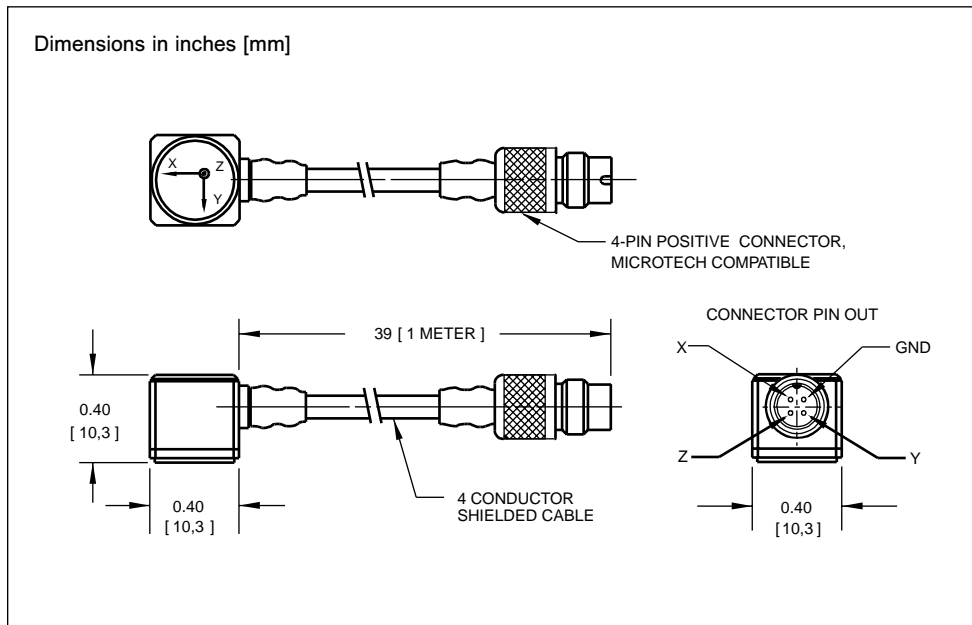
Ordering Information



- Specify:
- 1 - 8791A250 accelerometer with integral cable
 - 2 - 1578A... optional extension cable, specify length in meters
 - 3 - 1756B(X) four-pin neg. to 3X BNC, (x = 0.5, 3, 10 meters)
 - 4 - 5100 series coupler or dual mode amplifier or 5134A1 four-channel coupler
 - 5 - 1511... output cable, BNC pos. to BNC pos., specify length in meters

Related Products

- 8790A500 miniature, triaxial accelerometer, $\pm 500g$
- 8792A... triaxial accelerometer, specify range, $\pm 50g$ and $500g$
- 8793A500 miniature, triaxial accelerometer, $\pm 500g$
- 8794A500 miniature, triaxial accelerometer, $\pm 500g$
- 8795A50 triaxial accelerometer, $\pm 50g$



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