

Type 8704B5000

## 8704B5000 K-SHEAR® ACCELEROMETER

The 8704B5000 accelerometer accurately measures mechanical shock up to 5000 g. The unique K-SHEAR sensing system is insensitive to base strain, transverse acceleration and thermal transients. Quartz sensing crystals ensure the long-term stability not achievable with other sensing materials. The sensor is constructed in a hermetically sealed, welded, titanium case. The 10-32 thread top connector is specially designed to provide years of reliable operation under conditions where repeated shock and vibration is

encountered. The base of the accelerometer contains 10-32 threaded hole for stud mounting the unit to the test structure. The built-in Piezotron® electronic impedance converter, provides a low impedance voltage output signal allowing the use of inexpensive coaxial cable. The shock accelerometer can be powered by a Kistler 5100 series coupler/signal conditioner or by any commercially available voltage mode piezoelectric sensor power supply.

- Quartz-shear sensing elements
- Ultra-low base strain
- Ultra low thermal transient response
- Hermetically sealed
- Conforming to CE



Technical Data	Units	8704B5000
<b>Acceleration Range</b>	<i>g</i>	±5000
<b>Acceleration Limit</b>	<i>g</i> <sub>pk</sub>	±10000
<b>Threshold</b>	<i>g</i> <sub>rms</sub>	0.001
<b>Sensitivity</b> (±5%)	mV/ <i>g</i>	1
<b>Resonant Frequency</b> nom., mounted	kHz	54
<b>Frequency Response</b> ± 5%	Hz	1 ... 10 000
<b>Amplitude Non-linearity</b>	%	±1
<b>Time Constant</b> nom.	s	1.5
<b>Transverse Sensitivity</b> typ. (max.)	%	1.5 (3)
<b>Shock</b> (1 ms pulse), max.	<i>g</i> <sub>pk</sub>	10000
<b>Temperature Coefficient of Sensitivity</b>	%/°F	-0.03
	%/°C	-0.06
<b>Temperature Range Operating</b> (4 mA supply current)	°F	-65 ... 250
	°C	-55 ... 120
<b>Storage</b>	°F	-100 ... 300
	°C	-75 ... 150
<b>Output</b>		
<b>Bias</b> nom.	VDC	11
<b>Voltage</b> F.S.	V	±5
<b>Current</b>	mA	2
<b>Impedance</b>	Ω	100
<b>Source</b>		
<b>Voltage</b>	VDC	20 ... 30
<b>Constant Current</b>	mA	2 ... 20
<b>Impedance</b> min.	kΩ	100
<b>Construction</b>		
<b>Sensing Element</b>	type	quartz/shear
<b>Housing/Base</b>	material	titanium
<b>Sealing</b> -Housing Connector	type	hermetic
<b>Connector</b>	type	10-32 neg.
<b>Weight</b>	g	7.1
<b>Mounting Torque</b>	lbf-in (Nm)	18 (2)

1 *g* = 9.80665 m/s<sup>2</sup>, 1 inch = 25.4 mm, 1 gram = 0.03527 oz, 1 lbf-in = 0.1129 Nm

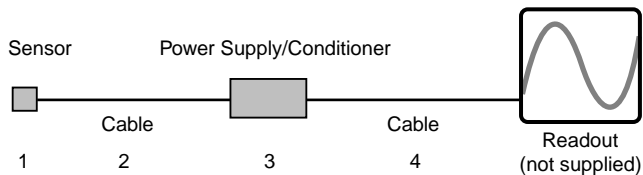
## Related Products

The wide acceleration range makes the 8704B5000 ideal for measurement and control during mechanical shock testing. Because of the low impedance Piezotron output, distortion is eliminated from tri-boelectric cable noise (caused by cable whip) encountered in high impedance accelerometer systems.

## Related Products

8742A series	voltage mode, shock accelerometers, 5k, 10k, 20k, 50k <i>g</i> ranges
8743A100	voltage mode, 100,000 <i>g</i> , 0.05 mV/ <i>g</i>
8042	charge mode, 100,000 <i>g</i> , 0.5 pC/ <i>g</i>
8044	charge mode, 30,000 <i>g</i> , 0.3 pC/ <i>g</i>

## Ordering Information



Specify:

- 1 - 8704B5000 shock accelerometer
- 2 - 1761B... economy cable, 10-32 pos. to BNC pos., specify length in meters,
- 3 - 5100 coupler series or dual mode amplifier
- 4 - 1511... output cable, BNC pos. to BNC pos., specify length in meters.

## Supplied Accessories

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

## Dimensions in inches [mm]

