

Ceramic Shear Triaxial Accelerometer

Type 8763B...

Miniature IEPE Triaxial Accelerometer, with TEDS Option

The Type 8763B... triaxial accelerometer measures shock and vibration in three orthogonal axes. This 0.43 in cube accelerometer has a ± 50 , 100, 250, 500, 1,000 and 2,000 g measuring range with a low mass.

- Miniature, low mass cube
- Qty 3, 5-40 threaded holes for mounting ease
- M4.5 and 1/4-28, 4 pin connector options
- Hermetic, titanium construction
- Low base strain sensitivity
- Voltage output
- Ceramic shear sensing element
- TEDS option
- Conforming to CE

Description

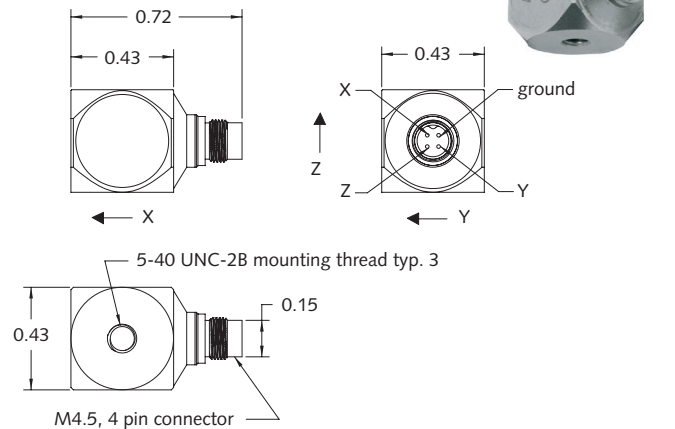
Type 8763B... is an IEPE (Integrated Electronics Piezoelectric) triaxial accelerometer permitting simultaneous shock and vibration measurements in three mutually perpendicular axes: X, Y and Z.

Type 8763B... uses Kistler shear element technology, assuring high immunity to base strain. The welded titanium construction provides a lightweight hermetic housing. The miniature 4-pin ceramic insulated connector provides long-term stability over the operating temperature range. In addition to adhesive mounting, Type 8763B... has three 5-40 threaded holes for flexible stud mounting on a test object, fully utilizing each mounting side of the cube design. Additionally, three threaded holes provide reliable mounting for calibration of each orthogonal axis. See PiezoStar® triaxial Type 8766A... for high temperature (+330 °F) and other frequency response options.

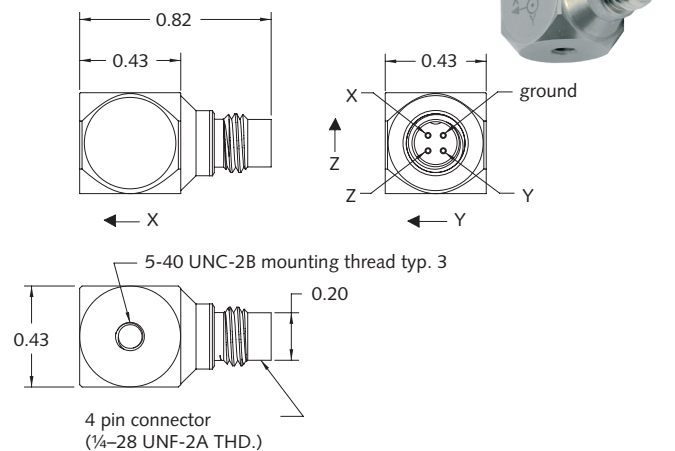
Application

Type 8763B... provides wide frequency response in each axis, ideal for dynamic vibration and shock measurement. It is well-suited for lightweight structures and drop testing for the packaging industry. Kistler Type 1784A...K03 is a M4.5 4 pin to 3x BNC breakout cable. In addition, the Kistler M4.5 4 pin sensor connector can be adapted for use with traditional 1/4-28, 4 pin compatible cables, using the Kistler Type 1784AK02 extension cable. Other 1/4-28, 4 pin breakout cables include: Type 1756B... and flexible Type 1734A...K03 cables.

Type 8763B...A



Type 8763B...B



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 while allowing the program editor software to read or add information contained in the memory chip.

8763B_000-928a-03.14

Technical Data

Specification:	Unit	Type 8763B050...	Type 8763B100...	Type 8763B250...	Type 8763B500...	Type 8763B1K0A...	Type 8763B2K0A...
Acceleration range	g	±50	±100	±250	±500	±1,000	±2,000
Acceleration limit	g	±100	±200	±500	±1,000	±2,000	±2,000
Threshold (1 Hz to 10 kHz), nom.	g rms	< 0.0004	< 0.0006	< 0.0015	< 0.0025	< 0.0035	< 0.0045
Sensitivity, at 100 Hz, 10 grams	mV/g	100	50	20	10	5	2.5
Resonant frequency, nom.	kHz	35	35	55	55	55	55
Frequency response, ±5 % ±10 %	Hz	0.5 ... 7,000 0.3 ... 10,000	0.5 ... 7,000 0.3 ... 10,000	1 ... 10,000 0.7 ... 15,000	1 ... 10,000 0.7 ... 15,000	1 ... 10,000 0.7 ... 15,000	1 ... 10,000 0.7 ... 15,000
Amplitude linearity	%FSO	±1	±1	±1	±1	±1	±1
Transverse sensitivity, max. 5 %	%	2.5	2.5	2.5	2.5	2.5	2.5

Environmental

Base strain sensitivity @250 µε	g/µε	0.002	0.002	0.005	0.005	0.005	0.005
Shock (1 ms pulse width), max.	g	5,000	5,000	5,000	5,000	5,000	5,000
Vibration, max.	g	200	400	1,000	2,000	2,000	2,000
Operating temperature range	°F	-65 ... 210	-65 ... 210	-65 ... 250	-65 ... 250	-65 ... 250	-65 ... 250
Time constant	s	≥ 0.8	≥ 0.8	≥ 0.4	≥ 0.4	≥ 0.4	≥ 0.4
Temp. coef. of sens., -65 ... 75 °F 70 ... 210 °F	%/°F	0.10 0.005	0.10 0.005	0.10 -0.02	0.10 -0.02	0.10 0.01	0.10 0.01

Output

Bias, nom.	VDC	13	13	13	13	13	13
Impedance	Ω	<100	<100	<100	<100	<100	<100
Current	mA	2	2	2	2	2	2
Voltage, F.S., nom.	V	±5	±5	±5	±5	±5	±5

Supply

Current, nom.	mA	2 ... 18	2 ... 18	2 ... 18	2 ... 18	2 ... 18	2 ... 18
Voltage	VDC	22 ... 30	22 ... 30	22 ... 30	22 ... 30	22 ... 30	22 ... 30

Construction

Weight	8763BxAx 8763BxBx	g	4.5 5.0	4.5 5.0	3.6 4.1	3.6 4.1	3.6 4.1	3.6 4.1
Case material			Titanium	Titanium	Titanium	Titanium	Titanium	Titanium
Sealing-housing/connector		Seal	Hermetic	Hermetic	Hermetic	Hermetic	Hermetic	Hermetic
Mounting torque		N·m	0.7±, 0.07	0.7±, 0.07	0.7±, 0.07	0.7±, 0.07	0.7±, 0.07	0.7±, 0.07
Connector	8763BxAx 8763BxBx	Type	M4.5, 4 pin ¼-28, 4 pin	M4.5, 4 pin ¼-28, 4 pin	M4.5, 4 pin ¼-28, 4 pin	M4.5, 4 pin ¼-28, 4 pin	M4.5, 4 pin ¼-28, 4 pin	M4.5, 4 pin ¼-28, 4 pin

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

Mounting

Reliable and accurate measurements require that the mounting surface be clean and flat. The sensor can be attached to the structure with wax or adhesive or using the supplied adaptor stud. The instruction manual for Type 8763B... provides detailed information regarding mounting surface preparation.

Accessories Included

	Type
• Mounting stud, 5-40 to 10-32	8416
• Mounting wax	8432
• Mounting stud, 5-40 to M6 (supplied only outside of N.A.)	8418

Optional Cables

	Type
• Fluoropolymer jacketed breakout cable - 1/4-28, 4 pin (neg.) to 3x BNC (pos.)	1756C...
• Fluoropolymer jacketed breakout cable - M4.5 4 pin (neg.) to 3x BNC (pos.), 1, 3, 5 & 10 meters	1784B...K03
• Fluoropolymer jacketed cable, M4.5, 4 pin neg. to 1/4-28, 4 pin (pos.)	1784AK02sp...
• Flexible silicone jacketed breakout cable - 1/4-28, 4 pin (neg.) 3x BNC (pos.)	1734A...K03

Optional Accessories

	Type
• 5-40 stud to 10-32 stud, ground isolated mounting base	8400K06
• 5-40 stud to M6 stud, ground isolated mounting base	8400K04
• 5-40 stud, ground isolated mounting base	8440K01
• 5-40 stud to M6 stud	8418
• 5-40 stud to 5-40 stud	8420
• Adhesive, off ground mounting base, 5-40 threaded hole	8434
• Magnetic mounting base, thd. hole, 5-40	8450A

Ordering Key

Type 8763B...

Measuring Range

±50 g	050
±100 g	100
±250 g	250
±500 g	500
±1000 g	1K0
±2000 g	2K0

Connector

M4.5, 4 pin (pos.)	A
Standard, 1/4-28, 4 pin (pos.) *only in 50, 100, 250 & 500 g ranges	B

Variants/TEDS Templates

Base model (without TEDS)	B
Default, IEEE 1451.4 V0.9 Template 0 (UTID 1)	T
IEEE 1451.4 V0.9 Template 24 (UTID 116225)	T01
LMS Template 117, Free format Point ID	T02
LMS Template 118, Automotive Format (Field 14 Geometry = 0)	T03
LMS Template 118, Aerospace Format (Field 14 Geometry = 1)	T04
P1451.4 v1.0 template 25 - Transfer Function Disabled	T05
P1451.4 v1.0 template 25 - Transfer Function Enabled	T06

