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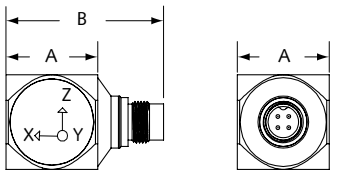
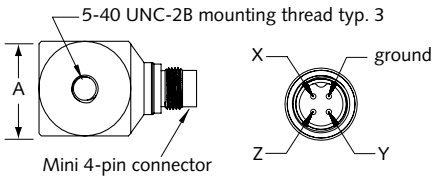
Ceramic Shear Accelerometer

Type 8763A…

Miniature Voltage Mode Triaxial Accelerometer, with TEDS Option

The 8763A… triaxial accelerometer measures shock and vibration in three orthogonal axes. This 0,4 inch cube accelerometer, has a ±50, 500 or 1000g measuring range with a 4,5 , 3,3 or 3 gram mass respectively.





- Miniature. low mass cube
- (3) 5-40 threaded holes
- Mini 4-pin connector
- Hermetic, Titanium construction
- Low base strain sensitivity
- Low impedance voltage output
- Ceramic Shear sensing element
- TEDS option
- Conforming to CE

Description

The 8763A… is an IEPE triaxial accelerometer permitting simultaneous shock and vibration measurements in three mutually perpendicular axes: X, Y and Z.

The 8763A… 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, the 8763A… has three 5-40 threaded holes for flexible stud mounting on a test object, fully utilizing each mounting side of the cube design. In addition, the three threaded holes provide reliable mounting for calibration of each orthogonal axis.

Dimensions

Dim	A	B
8763A…	10,2	17,5
8763A…T	10,9	18,3

Application

The 8763A… provides wide frequency response in each axis, which is ideal for dynamic vibration and shock measurement especially for lightweight structures and drop testing for the packaging industry. Kistler Type 1784A…K03 is a mini 4-pin to 3x BNC breakout cable. In addition, the Kistler mini 4-pin sensor connector can also be adapted for use with traditional 4-pin Microtech compatible cables, using Kistler Type 1784AK02 extension cable.

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 Model 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.

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Technical Data

Type	Unit	8763A50	8763A500	8763A1000
Acceleration Range	g	±50	±500	±1000
Acceleration Limit	gpk	±100	±1000	±2000
Threshold nom. (noise μVrms)	grms	0,0003 (30)	0,01 (100)	0,02 (100)
Sensitivity, ±15%	mV/g	100	10	5
Resonant Frequency mounted, nom.	kHz	55	55	55
Frequency Response, ±5%	Hz	0,5 … 7000	1 … 12000	1 … 10000
Amplitude Non-linearity	%FSO	±1	±1	±1
Time Constant nom.	s	≥ 0,5	≥ 0,5	≥ 0,5
Transverse Sensitivity nom., (5 max.)	%	2,5	2,5	3,5
Environmental:				
Base Strain Sensitivity @ 250με	g/με	0,001	0,002	0,0005
Shock Limit (1 ms pulse)	gpk	500	5000	5000
Temperature Coeff. of Sensitivity	%/°C	-0,05	-0,15	-0,15
Temperature Range Operating	°C	-54 … 121	-54 … 121	-54 … 121
Output:				
Bias nom.	VDC	11	11	11
Impedance	Ω	≤ 100	≤ 100	≤ 100
Voltage full scale	V	±5	±5	±5
Source:				
Voltage	VDC	18 … 30	18 … 30	18 … 30
Constant Current	mA	2 … 20	2 … 20	2 … 20
Construction:				
Sensing Element	type	Ceramic Shear	Ceramic Shear	Ceramic Shear
Housing/Base	material	Titanium	Titanium	Titanium
Sealing-housing/connector	type	Hermetic	Hermetic	Hermetic
Connector	type	4-pin pos. mini	4-pin pos. mini	4-pin pos. mini
Weight	grams	4,5	3,3	3
Mounting (thread)	type	5-40 UNC-2B	5-40 UNC-2B	5-40 UNC-2B
Mounting Torque	Nm	0,8	0,8	0,8

1 g = 9,80665 m/s², 1 inch = 25,4 mm, 1 gram = 0,03527 oz, 1 lbf-in = 0,1129 Nm

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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 screw. The Operating Instruction Manual for the 8763A… provides detailed information regarding mounting surface preparation.

Accessories Included	Type
• Mounting wax	8432
• Screw mounting adaptor, 5-40 to 10-32	8416

Optional Accessories	Type
• Mini 4-pin neg. to (3x) BNC pos.	1784A…K03
• Mini 4-pin neg. to 4-pin Microtech pos., 0.5 meter	1784A…K02
• Cable, break out, 4-pin Microtech neg., to (3x) BNC pos.	1756Bsp
• 5-40 to M6 stud	8418
• 5-40 to 5-40 stud	8420
• Adhesive, off ground mounting base, 5-40	8434
• Adhesive, off ground mounting base, 10-32	8436
• Magnetic, thd. hole, 5-40	8450
• Magnetic, thd. hole, 10-32	8452
• Stud adaptor, 5-40 to 10-32	8484

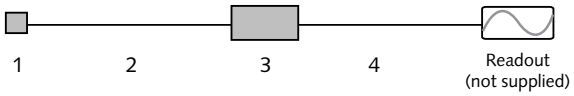
Ordering Key

8763A □ □

Measuring Range	
±50	50
±500	500
±1000	1000

TEDS Templates	
Standard	-
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

Measuring Chain		Type
1	Low impedance sensor	8763A…
2	Sensor cable, mini 4-pin neg. to (3) BNC pos.	1784A…K
3	Power supply/Signal conditioner	51…
4	Output cable, BNC pos. to BNC pos.	1511



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