KISTLER
measure. analyze. innovate.

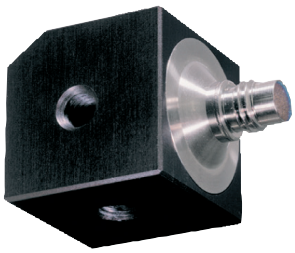
Annular Ceramic Shear Sensor

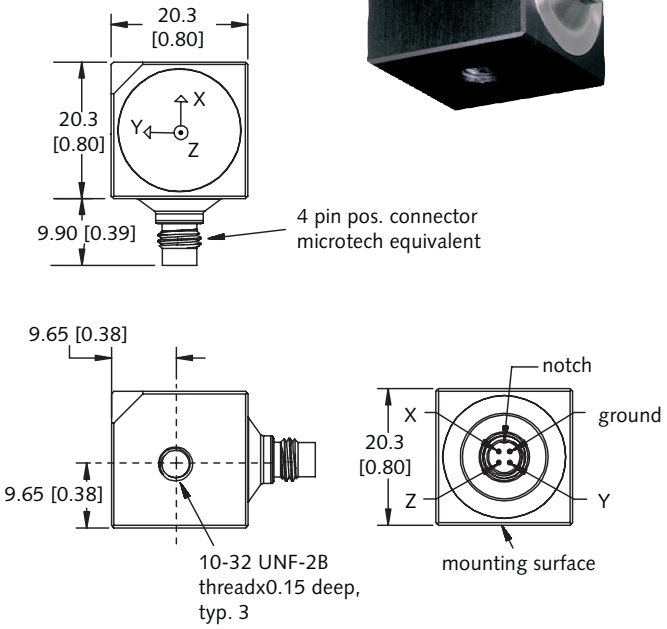
Type 8762A...

Lightweight, Voltage Mode, Triaxial Accelerometer

High sensitivity triaxial accelerometers that simultaneously measure vibration in three, mutually perpendicular axis (x, y and z). Designed primarily for modal analysis applications, the triaxial accelerometer features three tapped mounting surfaces that allow each axis to be hard mounted for calibration.

- Low impedance voltage mode
- Cube shaped, ceramic shear sensor
- Ultra-low thermal transient response
- Durable hard anodized, ground isolated aluminium housing
- Conforming to CE





Outline drawing for Type 8762A... (units in mm [in])

Description

The Type 8762A… accelerometer is a unique annular, shear sensor element that features extremely low thermal transient response, a high immunity to base strain, and transverse acceleration. An advanced hybrid charge amplifier design provides outstanding phase response, as well as a wide operating frequency range. The lightweight, aluminum housing is epoxy sealed and hard anodized coated to provide ground isolation.

Each of the three sensing elements is internally connected to a microelectronic circuit that converts the charge from the ceramic piezoelectric elements into a useable high level voltage signal at a low impedance output. The Type 8762A… accelerometer series will operate directly from the internal power source found in most FFT analyzers; from several Kistler Piezotron® power supply couplers or any industry standard IEPE (Integrated Electronic Piezo-Electric) compatible power source.

Application

The lightweight Type 8762A… triaxial accelerometer series is highly desirable for measurement applications on lightweight structures where mass loading must be kept to a minimum. The accelerometers are well-suited for multi-channel measurements, modal analysis measurements on automotive bodies and aircraft structures, and general vibration measurements.

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 a TEDS compatible data acquisition system. Their 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

The Type 8762A… accelerometer series can be attached to the test surface by using a 10-32 stud inserted in any one of the three threaded mounting holes. Reliable and accurate measurements require that the mounting surface be clean and flat. The instruction manual for Type 8762A… (8762A_002-233) provides detailed information regarding mounting surface preparation.

KISTLER
measure. analyze. innovate.

Technical Data

Specification	Unit	Type 8762A5	Type 876A10	Type 8762A50
Acceleration range	g	±5	±10	±50
Acceleration limit	g	±8	±16	±80
Threshold, nom.	grms	0.0003	0.00035	0.0012
Sensitivity, ±5 %	mV/g	1,000	500	100
Resonant frequency, mounted, nom.	kHz	30		
Frequency response, ±5 %	Hz	0.5 ... 6,000		
Amplitude non-linearity	%FSO	±1		
Time constant, nom.	s	1		
Transverse sensitivity, nom.	%	<5		
Environmental				
Base strain sensitivity @ 250 με	g/με	0.004		
Shock limit (0.2 ms pulse)	gpk	5,000	7,000	7,000
Temperature coeff. of sensitivity	%/°C [%/°F]	–0.06 [–0.03]	–0.02 [–0.01]	–0.02 [–0.01]
Operating temperature range TEDS option	°C [°F] °C [°F]	–55 ... 80 [–67...175] –40 ... 80 [–40 ... 175]		
Output				
Bias, nom.	VDC	11		
Impedance	Ω	≤500	≤500	≤100
Voltage full-scale	V	±5		
Source				
Voltage	VDC	20 ... 30		
Constant current	mA	2 ... 18		
Construction				
Sensing element	type	ceramic shear		
Case/base	material	aluminum hard anodized		
Degree of protection case/connector (EN 60529)		IP66		
Connector	type	¼–28, 4 pin pos.		
Ground isolated	yes/no	yes		
Mass	grams	23		
Mounting (10-32 thd. x4 dp)	type	stud		

1 g = 9.80665 m/s^2, 1 in = 25.4 mm, 1 gram = 0.03527 oz, 1 lbf-in = 0.1129 N·m

8762A_000-456e-04.17

KISTLER
measure. analyze. innovate.

Included Accessories	Type
• Isolated stud mounting base, 10-32	8400K07
• Mounting stud, 10-32 to M6	8411

Optional Cables	Type/Art No.
• Fluoropolymer jacketed breakout cable, ¼–28, 4 pin (neg.) to 3x BNC (pos.); (xx = length: 3, 5 and 10 meters , for other special length , use 1756CK04sp)	1756CxxK04
• Flexible silicone jacketed breakout cable, ¼–28, 4 pin (neg.) to 3x BNC (pos.); (xx = length: 1, 3, 5, 10 meters)	1734AxxK04

Ordering Key

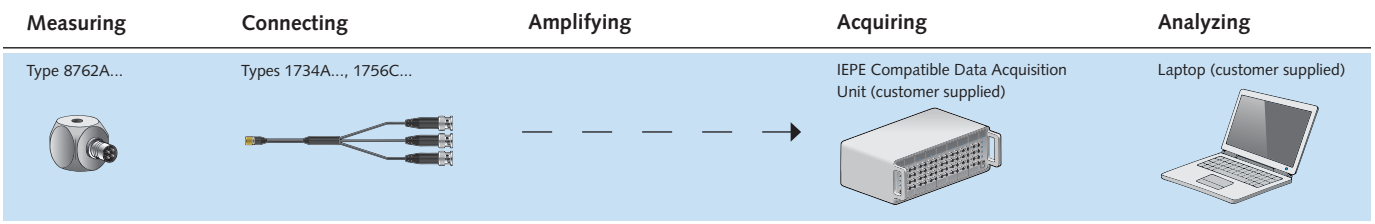
Type 8762A □ □

Range	
±5 g	**5**
±10 g	**10**
±50 g	**50**

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 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 Chains

IEPE Sensor and Customer IEPE Compatible DAQ



IEPE Sensor and Kistler LabAmp