KISTLER
measure. analyze. innovate.

PiezoSmart™

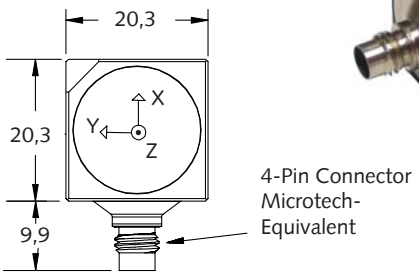
Type 8762A....M10

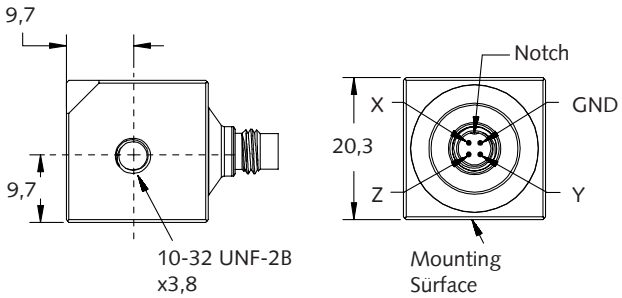
Annular Shear, Modal Triaxial Accelerometer

A ceramic shear designed triaxial accelerometer with TEDS Smart Sensor operating capability simultaneously measures vibration in three, mutually perpendicular axis (x, y and z).

Designed primarily for modal analysis applications, this high sensitivity triaxial accelerometer features three tapped mounting surfaces that allow each axis to be hard mounted for calibration.

- Incorporates "TEDS" smart sensor technology
- Low impedance, voltage mode
- Cube shaped, ceramic shear triaxial design
- Ultra low thermal transient response
- Durable hard anodized, ground isolated aluminum housing
- Conforming to CE





Description

The 8762A(X)M10 accelerometer can operate both as a standard low impedance, voltage mode sensor with a conventional analog output signal or in a digital "PiezoSmart Sensor Mode" capable of providing pertinent information stored with in its memory module. Since the design of the accelerometer conforms to a universal standard (IEEE 1451.4), any commercially manufactured TEDS Signal Conditioner, or Kistler's 5150/2853A...Y45 Signal Conditioning Platform along with a host computer, will retrieve the stored information. The smart sensor operating mode allows information regarding accelerometer performance specification, location and position direction to be entered and accessed by a host signal/data acquisition processor.

Internal of the 8762A(X)M10 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 light weight aluminum housing is epoxy sealed and hard anodized coated to provide ground isolation.

Application

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

Accessing TEDS Data

Type 8762A(X)M10 is a PiezoSmart variant of the standard version incorporating the "Smart Sensor" technology. Viewing an accelerometer's data sheet requires an Interface/Coupler such as Kistler's Model 5150A PiezoSmart Signal Conditioning Module, 2853A...Y45 Signal Conditioning Platform and the SCP Visual Interface (Windows™ based) software. The Interface/Coupler 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.

000-457e-05.03 (K8.8762M10)

KISTLER
measure. analyze. innovate.

Technical Data

Type	Units	8762A5M10	8762A10M10	8762A50M10
Acceleration Range	g	±5	±10	±50
Acceleration Limit	g_{pk}	±8	±16	±80
Threshold nom.	μg_{rms}	300	350	1200
Sensitivity ± 5% (at 100 Hz, 3 g_{rms})	mV/g	1000	1000	500
Resonant Frequency mounted, nom.	kHz	30	30	30
Frequency Response ±5%	Hz	0,5 ... 6000	0,5 ... 6000	0,5 ... 6000
Phase Shift, < 5°	Hz	2 ... 3000	2 ... 3000	2 ... 5000
Amplitude Non-linearity, nom.	%FSO	±1	±1	±1
Time Constant nom.	s	1	1	1
Transverse Sensitivity	%	≤5	≤5	≤5
Environmental:				
Base Strain Sensitivity @ 250 με	g/με	< 0,004	< 0,004	< 0,004
Shock Limit (0.2 ms pulse width) max.	g_{pk}	5000	7000	7000
Temperature Coefficient of Sensitivity	%/°C	–0,05	–0,02	–0,02
Temperature Range Operating (4mA supply current)	°C	–40 ... 80	–40 ... 80	–40 ... 80
Output:				
Bias nom.	VDC	11	11	11
Impedance	Ω	<500	<500	<100
Voltage full scale	V	±5	±5	±5
Source:				
Voltage	VDC	20 ... 30	20 ... 30	20 ... 30
Constant Current	mA	2 … 18	2 … 18	2 … 18
Construction:				
Sensing Element	type	ceramic/shear	ceramic/shear	ceramic/shear
Case	material	Al / hard anodized	Al / hard anodized	Al / hard anodized
Sealing housing/connector	type	epoxy	epoxy	epoxy
Connector	type Microtech Equivalent	4-Pin pos, Microtech Equivalent	4-Pin pos, Microtech Equivalent	4-Pin pos,
Ground Isolation min.	MΩ	10	10	10
Weight	gram	23	23	23
Mounting	type	stud	stud	stud
Mounting Torque	Nm	2	2	2

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

000-457e-05.03 (K8.8762M10)

KISTLER
measure. analyze. innovate.

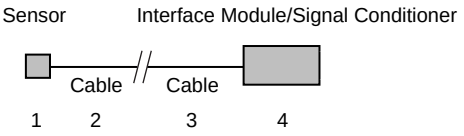
Mounting

The 8762M10 accelerometer series can be attached to the test surface by using a 10-32 stud in any one of the three threaded mounting holes. Reliable and accurate measurements require that the mounting surface be clean and flat. The Operating Instruction Manual for the 8762M10 series provides detailed information regarding mounting surface preparation.

Related Products

8772A…	series accelerometer, single axis, adhesive mount cube
8772A…M10	series accelerometer, single axis cube, TEDS compatible
8762A	series accelerometer, triaxial cube,
8798A…	series accelerometer, triaxial
8798A…M10	series accelerometer, triaxial, TEDS compatible

Ordering Information



sp = specify cable length in meters
X = specify range 5g, 10g, 50g

1 - 8762A(X)M10	triaxial TEDS accelerometer
2 - 1578Asp	optional extension cable, 4-pin pos. Microtech equivalent to 4-pin neg. Microtech equivalent,
3 - 1756Bsp	cable, 4-pin Microtech neg., to 3x BNC pos.
4 - 5150/2853A...Y45	interface module/signal conditioner
SCP	visual interface software

Supplied Accessories

8402	mounting stud, 10-32 UNF-2A
8411	mounting stud, 10-32 to M6, shipped only outside N.A.

000-457e-05.03 (K8.8762M10)