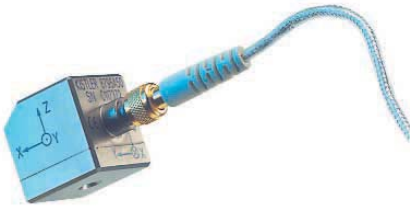
KISTLER

measure. analyze. innovate.

Accelerometers

Providing quick, accurate and reliable motion data



Contents

Kistler Measures Acceleration 4

Design and Use of Piezoelectric Accelerometers 6

Capacitive Accelerometers 8

Acceleration Measuring Systems 10

Accelerometer Mounting 11

Product Information 14–77

Piezoelectric Theory 78

Capacitive Accelerometer Theory 84

Glossary 86

Kistler – Customer Service 88

The Kistler Spectrum 90

Kistler Applications 92

Kistler in Brief 94

Technical Literature 96

Product Information

Product Overview 15

Acceleration (static) 22

Vibration (dynamic) 26

Acoustic Emission 42

Triaxial (static & dynamic) 44

Impulse 52

Measure & Analyze 58

Accessories 68

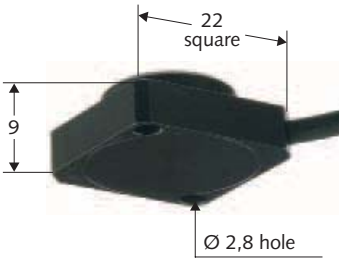
Acceleration (static)

Single axis static/low frequency accelerometer options include integral cable, environmentally sealed and hermetic configurations. Case or base isolation is provided by a durable, hard anodized aluminum construction. Some types operate symmetrically about a 2,5 volt DC voltage and others provide an output symmetric about a zero volt baseline. Integral cable types provide the necessary measurement performance characteristics in an economical package while the four pin connector types provide an improved seal, replaceable cable and some advanced signal conditioning. The 8310's offer an internal temperature sensor thereby providing a means of subsequent temperature compensation.

Acceleration (static)

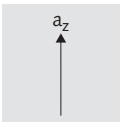
Variable Capacitance Accelerometer

K-Beam Types 8305A…



Specifications		Type 8305A2	Type 8305A10	Type 8305A25
Range	g	±2	±10	±25
Sensitivity, ±5%	mV/g	500	100	40
Output at Zero g, ±5%	V	2,5	2,5	2,5
Frequency Response, +5%	Hz	0 ... 250	0 ... 180	0 ... 100
Non-Linearity	%FSO	±0,8	±0,8	±0,8
Resolution/Threshold	µg	280	1410	3535
Transverse Sensitivity typ.	%	1	1	1
Shock (0,5 ms half sine)	g	6000	6000	6000
Temp. Coeff.: Bias typ.	mg/°C	0,2	1	2,7
Sensitivity typ.	%/°C	0,02	0,02	0,02
Phase Shift max. @ 100 Hz	deg.	20	20	20
Operating Temperature	°C	–40 ... 85	–40 ... 85	–40 ... 85
Power Supply	mA	0,7	0,7	0,7
	VDC	7 ... 16	7 ... 16	7 ... 16
Housing/Base	type	Al., hard anodized		
Sealing	type	epoxy	epoxy	epoxy
Weight	gram	6,5	6,5	6,5

Measuring direction



Connection
Std.: pigtail
M2: pigtail

M2 versions, operate from a single polarity supply and provides a differential output.

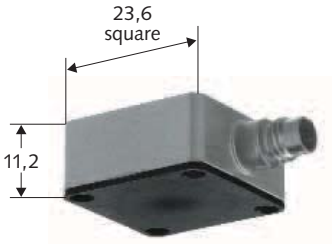
Characteristics
Small, lightweight variable capacitance sensing element, operated from a 9 volt battery, CE compliant

Applications
Low frequency vibration measurements

Accessories
Power supply: Type 5210
Mounting cube: Type 8516

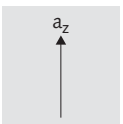
Datasheet 000-217

K-Beam Types 8310A…



Specifications		Type 8310A2	Type 8310A10	Type 8310A25
Range	g	±2	±10	±25
Sensitivity, ±5%	mV/g	1000	200	80
Frequency Response, ±5%	Hz	0 ... 300	0 ... 180	0 ... 100
Non-Linearity	%FSO	±0,8	±0,8	±0,8
Resolution/Threshold	µg	540	2830	8060
Transverse Sensitivity typ.	%	1	1	1
Shock (0,7 ms half sine)	g	6000	6000	6000
Temp. Coeff.: Bias typ.	mg/°C	0,2	1	2,7
Sensitivity typ.	%/°C	0,02	0,02	0,02
Phase Shift max. @ 100 Hz	deg.	20	20	20
Operating Temperature	°C	–40 ... 85	–40 ... 85	–40 ... 85
Power Supply	mA	1,3	1,3	1,3
	VDC	3,8 ... 16	3,8 ... 16	3,8 ... 16
Housing/Insulator Base	type	Titanium/Al., hard anodized		
Sealing	type	hermetic	hermetic	hermetic
Ground Isolation	MΩ	10	10	10
Weight	gram	17	17	17

Measuring direction



Connection
4-pin pos.

Characteristics
Low Power, 1,3 mA, bipolar output, 2 V FS, zero volt output at zero g, CE compliant, temperature output provided
M11: includes integral cable

Applications
Vehicle ride quality studies, structural analysis, building & bridge vibration

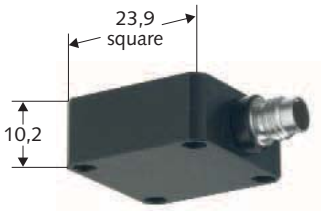
Accessories
Cable: Type 1592A…, 1592M1…, 1786C…
Power supply: Type 5210
Mounting cube: Type 8518

Datasheet 000-218

Acceleration (static)

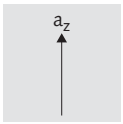
Variable Capacitance Accelerometer

K-Beam Types 8312A…



Specifications		Type 8312A2	Type 8312A10	Type 8312A25
Range	g	±2	±10	±25
Sensitivity, ±5%	mV/g	1000	200	80
Frequency Response, ±5%	Hz	0 … 300	0 … 180	0 … 100
Non-Linearity	%FSO	±0,8	±0,8	±0,8
Resolution/Threshold	µg	540	2830	8060
Transverse Sensitivity typ	%	1	1	1
Shock (500 µs half sine)	g	6000	6000	6000
Temp. Coeff.: Bias typ.	mg/°C	0,2	1	2,7
Sensitivity typ.	%/°C	0,02	0,02	0,02
Phase Shift max. @ 100 Hz	deg.	20	20	20
Operating Temperature	°C	–40 … 85	–40 … 85	–40 … 85
Power Supply	mA	1,3	1,3	1,3
	VDC	3,8 … 16	3,8 … 16	3,8 … 16
Housing/Base	type	Al., hard anodized		
Sealing	type	epoxy	epoxy	epoxy
Ground Isolation	MΩ	10	10	10
Weight	gram	12	12	12

Measuring direction



Connection
4-pin pos.

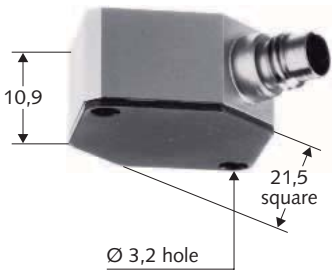
Characteristics
Low power, 1,3 mA, zero volt output at zero g, bipolar output: ±2 V FS, CE compliant

Applications
Vehicle ride quality studies, structural analysis, building & bridge vibration

Accessories
Cable: Type 1592A…, 1592M1…, 1786C…
Power supply: Type 5210
Mounting cube: Type 8518

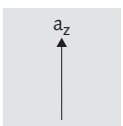
Datasheet 000-219

K-Beam Types 8324A… 2009년 현재 단종



Specifications		Type 8324A20	Type 8324A50
Range	g	±20	±50
Sensitivity, ±5%	mV/g	100	60
Frequency Response, ±5%	Hz	0 … 300	0 … 300
Non-Linearity	%FSO	±1	±1
Resolution/Threshold	µg	100	170
Transverse Sensitivity typ.	%	1	1
Shock (200 µsec half sine)	g	5000	5000
Temp. Coeff.: Bias typ.	mg/°C	10	25
Sensitivity typ.	%/°C	0,05	0,05
Phase Shift max. @ 100 Hz	deg.	< 10	< 10
Operating Temperature	°C	–40 … 85	–40 … 85
Power Supply	mA	7	7
	VDC	11 … 28	11 … 28
Housing/Insulator Base	type	Titanium/Al., hard anodized	
Sealing	type	hermetic	hermetic
Ground Isolation	MΩ	10	10
Weight	gram	15	15

Measuring direction



Connection
4-pin pos.

Characteristics
Extended frequency range, zero volt output at zero g, single supply, bipolar output ground isolated, hermetically sealed design, CE compliant
M11: includes integral cable

Applications
Vehicle ride studies, structural analysis building & bridge vibration

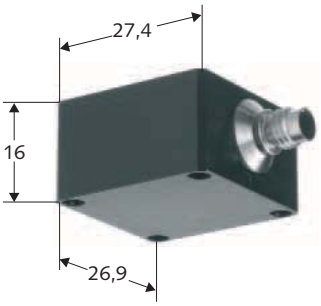
Accessories
Cable: Type 1592A…, 1592M1…, 1786C…
Mounting cube: Type 8516

Datasheet 000-220

Acceleration (static)

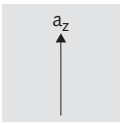
Variable Capacitance Accelerometer

ServoK-Beam Types 8330A…



Specifications		Type 8330A2,5
Range	g	±2,5
Sensitivity, ±5%	mV/g	1500
Frequency Response, ±5%	Hz	0 … 300
Non-Linearity	%FSO	±0,2
Resolution/Threshold	µg	<2,5
Transverse Sensitivity typ.	%	1
Shock (500 µs half sine)	g	1500
Temp. Coeff.: Bias typ.	mg/°C	0,2
Sensitivity typ.	%/°C	0,0055
Phase Shift max. @ 100 Hz	deg.	1
Operating Temperature	°C	–40 ... 85
Power Supply	mA	8,5
	VDC	±6 … ±15
Housing/Base	type	Aluminum, hard anodized
Sealing	type	epoxy
Ground Isolation	MΩ	10
Weight	gram	28,5

Measuring direction



Connection
4-pin pos.

Characteristics
Variable capacitance analogue force feedback operation, zero volt output at zero g, ultra low noise, CE compliant

Applications
Low frequency, low amplitude vibration measurements typical to critical machine process control

Accessories
Cable: Type 1592M1..., 1788A...
Mounting cube: Type 8530

Datasheet 000-242

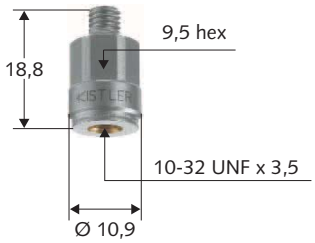
Vibration (dynamic)

Single axis accelerometers are available in many configurations to accommodate the widely varying test conditions. Critical constraints often include size, weight, sensitivity, frequency response, etc. These variables are interrelated, therefore a compromise must be established during the selection process. Accelerometer families have been created with an optimized set of parameters intended for a particular field of testing. Dynamic accelerometer families include PiezoBeam, Ceramic Shear, and the K-Shear constructions. Typically the PiezoBeam family provides high output in an economical, lightweight package tuned for a Modal Analysis environment. Ceramic Shear types, similar in price, but somewhat heavier, provide improved thermal transient characteristics. K-Shear offers high quality, general-purpose capability covering the widest range of applications. Further classification provides focus to important criteria such as miniature size or high temperature capability.

Vibration (dynamic)

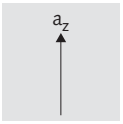
Charge Output

Quartz Shock Type 8044



Specifications		Type 8044
Range	g	–20 k ... 30 k
Sensitivity, ±5%	pC/g	–0,3
Frequency Response, ±5%	Hz	~0 ... 8 k
Threshold	g_{rms}	0,07
Transverse Sensitivity typ.	%	<5
Non-Linearity	%FSO	±1
Shock (1 ms pulse)	g	100 k
Temp. Coeff. of Sensitivity	%/°C	0,02
Operating Temperature	°C	–195 ... 205
Housing/Base	type	St. Stl.
Sealing	type	welded/epoxy
Weight	gram	7

Measuring direction



Connection
10-32 neg.

Characteristics
High impedance charge mode, wide measuring range, stable quartz element, lightweight, miniature package

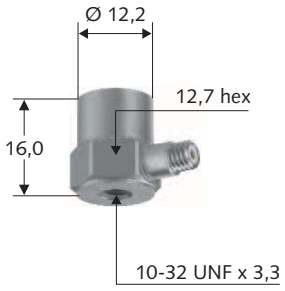
Applications
Measuring and analyzing shock and vibration with very high amplitudes of acceleration

Accessories
Cable: Type 1631C…
Charge amplifier: Type 5000 series

Datasheet 000-209

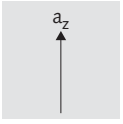
Charge Output, Extreme Temperature

Ceramic Shear Type 8202A…



Specifications		Type 8202A10
Range	g	±2000
Sensitivity, ±5%	pC/g	–10
Frequency Response, ±5%	Hz	5 ... 10 k
Threshold	g_{rms}	0,03
Transverse Sensitivity typ.	%	1,5
Non-Linearity	%FSO	±1
Shock (1 ms pulse)	g	5000
Temp. Coeff. of Sensitivity	%/°C	0,14
Operating Temperature	°C	–70 ... 250
Housing/Base	type	St. Stl.
Sealing	type	hermetic
Weight	gram	14,5

Measuring direction



Connection
10-32 neg.

Characteristics
High impedance, charge mode, high temp 250 °C, ceramic shear sensing element, low transverse sensitivity, two year warranty

Applications
Automotive, aerospace and environmental testing where low impedance sensors are limited by temperature range

Accessories
Cable: Type 1631C…
Charge amplifier: Type 5000 series

Datasheet 000-212

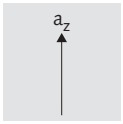
Vibration (dynamic)

Charge Output, Extreme Temperature

Ceramic Shear Type 8203A…

Specifications		Type 8203A50
Range	g	±1000
Sensitivity, ±5%	pC/g	–50
Frequency Response, ±5%	Hz	5 … 4 k
Threshold	g_{rms}	0,006
Transverse Sensitivity typ.	%	1,5
Non-Linearity	%FSO	±1
Shock (1 ms pulse)	g	5000
Temp. Coeff. of Sensitivity	%/°C	0,14
Operating Temperature	°C	–70 … 250
Housing/Base	type	St. Stl.
Sealing	type	hermetic
Weight	gram	44,5

Measuring direction



Connection
10-32 neg.

Characteristics
High impedance, charge mode, high temp 250 °C, ceramic shear sensing element, low transverse sensitivity, two year warranty

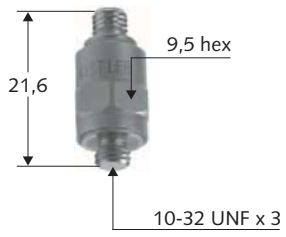
Applications
Automotive, aerospace and environmental testing where low impedance sensors are limited by temperature range

Accessories
Cable: Type 1631C…
Charge amplifier: Type 5000 series

Datasheet 000-212

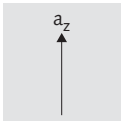
Charge Output

Ceramic Shear Accelerometer Type 8274A…



Specifications		Type 8274A5
Range	g	±2000
Sensitivity	pC/g	–5,5
Frequency Response, ±5%	Hz	1 … 10k
Non-Linearity	%FSO	±1
Resolution/Threshold	g_{rms}	0,01
Transverse Sensitivity typ.	%	1,5
Shock (1 ms pulse)	g	5000
Temp. Coeff. Sensitivity typ.	%/°C	0,10
Operating Temperature	°C	–54 … 165
Housing/Insulator Base	type	titanium
Sealing	type	hermetic
Weight	gram	4

Measuring direction



Connection
10-32 neg.

Characteristics
High impedance, ceramic shear sensing element, wide frequency response, low transverse sensitivity, lightweight, rugged connector, priced for OEM applications

Applications
Impact and vibration related applications including condition monitoring and vehicle testing

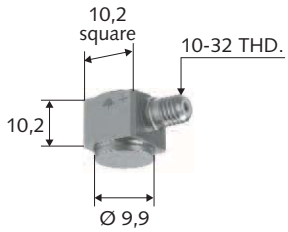
Accessories
Adh. mounting pad: Type 8436
Mounting magnet: Type 8452A
Mounting cube: Type 8524
Mounting cube: Type 8526

Datasheet 000-213

Vibration (dynamic)

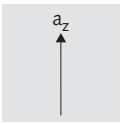
Charge Output

Ceramic Shear Accelerometer Type 8276A…



Specifications		Type 8276A5
Range	g	±2000
Sensitivity	pC/g	–5,5
Frequency Response, ±5%	Hz	1 … 7 k
Non-Linearity	%FSO	±1
Resolution/Threshold	g_{rms}	0,01
Transverse Sensitivity typ.	%	1,5
Shock (1 ms pulse)	g	5000
Temp. Coeff. Sensitivity typ.	%/°C	0,10
Operating Temperature	°C	–54 … 165
Housing/Insulator Base	type	Titanium
Sealing	type	hermetic
Weight	gram	4

Measuring direction



Connection
10-32 neg.

Characteristics
High impedance, ceramic shear sensing element, wide frequency response, low transverse sensitivity, lightweight, rugged connector, priced for OEM applications

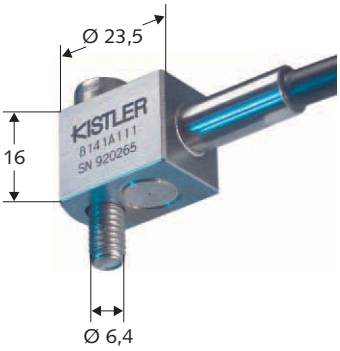
Applications
Impact and vibration related applications including condition monitoring and vehicle testing

Accessories
Adh. mounting pad: Type 8436
Charge amplifier: Type 5000 series
Mounting magnet: Type 8452A
Mounting cube: Type 8524
Mounting cube: Type 8526

Datasheet 000-213

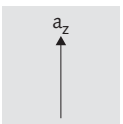
Voltage Output, Piezotron Accelerometer

Ceramic Shear Type 8141



Specifications		Type 8141
Range	g	±50
Sensitivity	mV/g	100
Frequency Response, ±5%	Hz	10 ... 6 k
Threshold	g_{rms}	0,002
Transverse Sensitivity	%	<2
Non-Linearity	%FSO	1
Shock (1 ms pulse)	g	±5000
Temp. Coeff. of Sensitivity	%/°C	0,14
Operating Temperature	°C	–40 ... 80
Power Supply	mA	3 ... 6
	VDC	20 ... 30
Housing/Base	type	St. Stl.
Sealing	type	hermetic
Ground Isolation	MΩ	10
Weight	gram	30

Measuring direction



Connection
pigtails

Characteristics
Rugged, hermetically sealed construction with durable integral cable. A shear mode piezoceramic sensing element provides immunity to base strain and thermal transient effects, CE compliant

Applications
Measurement of vibration on machine structures, bearing monitoring, machine tools or as a built-in integral component of a machine diagnostic system

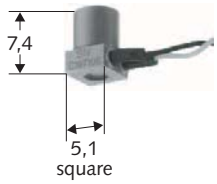
Accessories
Coupler: Type 5127B

Datasheet 000-203

Vibration (dynamic)

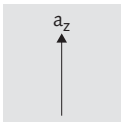
Voltage Output, Piezotron Accelerometer

Quartz Type 8614A…



Specifications		Type 8614A500M1	Type 8614A1000M1
Range	g	±500	±1000
Sensitivity, ±5%	mV/g	4	2,5
Frequency Response, ±5%	Hz	10 ... 25 k	10 ... 25 k
Threshold	g_{rms}	0,025	0,04
Transverse Sensitivity typ.	%	<5	<5
Non-Linearity	%FSO	±1	±1
Shock (1 ms pulse)	g	–500 ... 10 k	±2000
Temp. Coeff. of Sensitivity	%/°C	–0,06	–0,06
Operating Temperature	°C	–55 ... 135	–55 ... 120
Power Supply	mA	2 ... 18	2 ... 18
	VDC	20 ... 30	20 ... 30
Housing/Base	type	Titanium	Titanium
Sealing	type	epoxy	epoxy
Weight	gram	0,7	0,7

Measuring direction



Connection
10-32 neg.

Characteristics
Low impedance voltage mode, small and lightweight, very high resonant frequency, CE compliant

Applications
P.C. board component shock and vibration testing, monitoring missile and aircraft vibration; high speed rotating component equipment performance and wear signature; and vibration responses of thin-walled structures

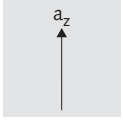
Accessories
Cable: Type 1761B…
Coupler: Type 5100 series

Datasheet 000-225

PiezoBeam Type 8632C…

Specifications		Type 8632C5	Type 8632C10	Type 8632C50
Range	g	±5	±10	±50
Sensitivity, ±5%	mV/g	1000	500	100
Frequency Response, ±5%	Hz	1 ... 3 k	1 ... 5 k	1 ... 6 k
Threshold	g_{rms}	0,0001	0,0003	0,001
Transverse Sensitivity	%	<1	<1	<1
Non-Linearity	%FSO	±1	±1	±1
Shock (0,2 ms pulse)	g	7000	10000	10000
Temp. Coeff. of Sensitivity	%/°C	–0,04	0,08	0,08
Operating Temperature	°C	0 ... 65	0 ... 65	0 ... 65
Power Supply	mA	2 ... 20	2 ... 20	2 ... 20
	VDC	18 ... 30	18 ... 30	18 ... 30
Housing/Base	type	Al., hard anodized		
Sealing	type	epoxy	epoxy	epoxy
Ground Isolation	MΩ	10	10	10
Weight	gram	6	6	6

Measuring direction



Connection
10-32 neg.

Characteristics
Low impedance voltage mode, high sensitivity, small cubic design, ground isolated, CE compliant
M10: TEDS option available

Applications
Modal analysis or structural investigations

Accessories
Cable: Type 1761B…
Coupler: Type 5100 series

Datasheet 000-229

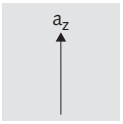
Vibration (dynamic)

Voltage Output, Piezotron Accelerometer

PiezoBeam Type 8636C…

Specifications		Type 8636C5	Type 8636C10	Type 8636C50
Range	g	±5	±10	±50
Sensitivity, ±5%	mV/g	1000	500	100
Frequency Response, ±5%	Hz	1 … 3 k	1 … 5 k	1 … 6 k
Threshold	g_{rms}	0,0001	0,0003	0,001
Transverse Sensitivity	%	<1	<1	<1
Non-Linearity	%FSO	±1	±1	±1
Shock (0,2 ms pulse)	g	7000	10000	10000
Temp. Coeff. of Sensitivity	%/°C	–0,04	0,08	0,08
Operating Temperature	°C	0 … 65	0 … 65	0 … 65
Power Supply	mA	2 … 20	2 … 20	2 … 20
	VDC	18 … 30	18 … 30	18 … 30
Housing/Base	type	Al., hard anodized		
Sealing	type	epoxy	epoxy	epoxy
Ground Isolation	MΩ	10	10	10
Weight	gram	5	5	5

Measuring direction



Connection
10-32 neg.

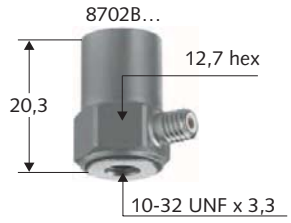
Characteristics
High sensitivity, very low noise, dynamic range > 90 dB, low transverse sensitivity, CE compliant

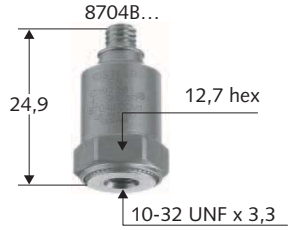
Applications
Low frequency measurements, vibrations & oscillations in mechanical structures and for modal analysis

Accessories
Cable: Type 1761B(X)…
Coupler: Type 5100 series
Adh. mounting pad: Type 8434
Mounting magnet: Type 8450A

Datasheet 000-227

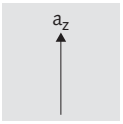
K-Shear Type 8702B…, 8704B…





Specifications		Type 8702/04B25	Type 8702/04B50	Type 8702/04B100
Range	g	± 25	±50	±100
Sensitivity, ±5%	mV/g	200	100	50
Frequency Response, ±5%	Hz	1,0 … 9 k	0,5 … 10 k	0,5 … 10 k
Threshold	g_{rms}	0,003	0,006	0,01
Transverse Sensitivity typ.	%	1,5	1,5	1,5
Non-Linearity	%FSO	±1	±1	±1
Shock (1 ms pulse)	g	2000	2000	2000
Temp. Coeff. of Sensitivity	%/°C	–0,06	–0,06	–0,06
Operating Temperature	°C	–54 … 100	–54 … 100	–54 … 100
Power Supply	mA	2 … 20	2 … 20	2 … 20
	VDC	20 … 30	20 … 30	20 … 30
Housing/Base	type	Titanium	Titanium	Titanium
Sealing	type	hermetic	hermetic	hermetic
Weight	gram	8,6	8,6	8,6

Measuring direction



Connection
10-32 neg.

Characteristics
Low impedance voltage mode, ultra low base strain, low thermal transient response, quartz-shear sensing elements, CE compliant
M1: ground isolated
M10: TEDS option available

Applications
General purpose vibration measurement, vehicle or environmental testing, ESS and modal analysis

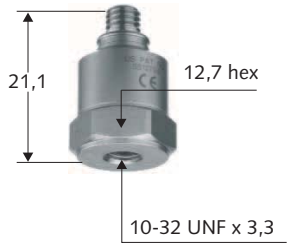
Accessories
Cable: Type 1761B…
Coupler: Type 5100 series

Datasheet 000-239

Vibration (dynamic)

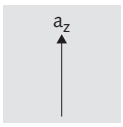
Voltage Output, Piezotron Accelerometer

K-Shear Type 8704B…



Specifications		Type 8704B5000
Range	g	±5000
Sensitivity, ±5%	mV/g	1
Frequency Response, ±5%	Hz	1 … 10 k
Threshold	g_{rms}	0,001
Transverse Sensitivity typ.	%	1,5
Non-Linearity	%FSO	±1
Shock (1 ms pulse)	g	10000
Temp. Coeff. of Sensitivity	%/°C	–0,06
Operating Temperature	°C	–54 … 120
Power Supply	mA	2 … 20
	VDC	20 … 30
Housing/Base	type	Titanium
Sealing	type	hermetic
Weight	gram	7,1

Measuring direction



Connection
10-32 neg.

Characteristics
Low impedance voltage mode, quartz-shear sensing elements ultra-low base strain, ultra low thermal transient response, CE compliant

Applications
Measurement and control during mechanical shock testing

Accessories
Cable: Type 1761B…
Coupler: Type 5100 series

Datasheet 000-240

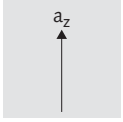
K-Shear Type 8702B…, 8704B…

8702B…

8704B…

Specifications		Type 8702/04B500M1	Type 8702/04B500
Range	g	±500	±500
Sensitivity, ±5%	mV/g	10	10
Frequency Response	Hz	1…10 k	1…10 k
Threshold	g_{rms}	0,01	0,01
Transverse Sensitivity typ.	%	1,5	1,5
Non-Linearity	%FSO	±1	±1
Shock (1 ms pulse)	g	5000	5000
Temp. Coeff. of Sensitivity	%/°C	–0,06	–0,03
Operating Temperature	°C	–54 … 120	–54 … 120
Power Supply	mA	2 … 20	2 … 20
	VDC	20 … 30	20 … 30
Housing/Base	type	Titanium	Titanium
Sealing	type	hermetic	hermetic
Weight	gram	8,6 … 9,6	8,6 … 9,6

Measuring direction



Connection
10-32 neg.

Characteristics
Low impedance voltage mode, ultra low base strain, low thermal transient response, quartz-shear sensing elements, CE compliant
M1: ground isolated
M3: low freq. and ground isolated
M5: high temp. (166 °C)
M8: low temp. (–196 °C)

Applications
General purpose vibration measurement, vehicle or environmental testing, ESS and modal analysis

Accessories
Cable: Type 1761B…
Coupler: Type 5100 series

Datasheet 000-238

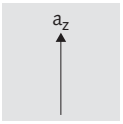
Vibration (dynamic)

Voltage Output, Piezotron Accelerometer

K-Shear Type 8710A…

Specifications		Type 8710A50M1	Type 8710A50M5	Type 8710A50M8
Range	g	±50	±50	±50
Sensitivity, ±5%	mV/g	100	100	100
Frequency Response, ±5%	Hz	0,3 … 7 k	1 … 7 k	1 … 7 k
Threshold	g_{rms}	0,002	0,002	0,002
Transverse Sensitivity typ.	%	1,5	1,5	1,5
Non-Linearity	%FSO	±1	±1	±1
Shock (1 ms pulse)	g	2000	2000	2000
Temp. Coeff. of Sensitivity	%/°C	–0,03	–0,03	–0,03
Operating Temperature	°C	–54 … 120	–54 … 165	–195 … 120
Power Supply	mA	2 … 20	2 … 20	2 … 20
	VDC	20 … 30	20 … 30	20 … 30
Housing/Base	type	St. Stl.	Titanium	Titanium
Sealing	type	hermetic	hermetic	hermetic
Ground Isolation	MΩ	10	10	10
Weight	gram	43	29	29

Measuring direction



Connection
10-32 neg.

Characteristics
Low impedance voltage mode, ultra low thermal transient response, ground isolated, CE compliant
M5: high temp. (166 °C)
M8: low temp. (–196 °C)
M10: TEDs option available

Application
Testing applications where a rugged accelerometer with a wide frequency range is required: Precision automotive testings, ESS and industrial applications

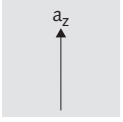
Accessories
Cable: Type 1631C…, 1761B…
Coupler: Type 5100 series

Datasheet 000-241

K-Shear Type 8712A…

Specifications		Type 8712A5M1
Range	g	±5
Sensitivity, ±5%	mV/g	1000
Frequency Response, ±5%	Hz	0,5 … 8 k
Threshold	g_{rms}	0,0004
Transverse Sensitivity typ.	%	1,5
Non-Linearity	%FSO	±1
Shock (1 ms pulse)	g	1000
Temp. Coeff. of Sensitivity	%/°C	–0,06
Operating Temperature	°C	–54 … 100
Power Supply	mA	2 … 20
	VDC	20 … 30
Housing/Base	type	St. Stl.
Sealing	type	hermetic
Ground Isolation	MΩ	10
Weight	gram	51

Measuring direction



Connection
10-32 neg.

Characteristics
Low impedance voltage mode, very high sensitivity, quartz-shear accuracy & stability, high immunity to thermal transients, welded hermetic construction, ground isolated, CE compliant

Applications
Applications involving low amplitude vibrations over a wide frequency range. Examples include heavy structures, suspension vibration building and machines

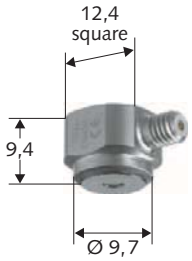
Accessories
Cable: Type 1761B…
Coupler: Type 5100 series

Datasheet 000-244

Vibration (dynamic)

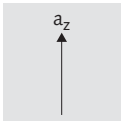
Voltage Output, Piezotron Accelerometer

K-Shear Type 8720A…



Specifications		Type 8720A500
Range	g	±500
Sensitivity, ±5%	mV/g	10
Frequency Response, ±5%	Hz	1 ... 9 k
Threshold	g_{rms}	0,01
Transverse Sensitivity typ.	%	1,5
Non-Linearity	%FSO	±1
Shock (1 ms pulse)	g	5000
Temp. Coeff. of Sensitivity	%/°C	–0,06
Operating Temperature	°C	–54 ... 120
Power Supply	mA	2 ... 20
	VDC	20 ... 30
Housing/Base	type	Titanium/Hard Anod. Aluminium
Sealing	type	hermetic
Ground Isolation	MΩ	10
Weight	gram	4,9

Measuring direction



Connection
10-32 neg.

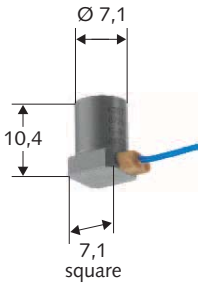
Characteristics
Low impedance, voltage mode, quartz-shear sensing element, ultra low base strain sensitivity, ultra low thermal transients, lightweight, small size, ground isolated, CE compliant

Applications
Modal analysis and measurement on light structures, the small size allows for installation on items with limited mounting space

Accessories
Cable: Type 1761B…
Coupler: Type 5100 series

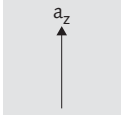
Datasheet 000-246

K-Shear Type 8728A…



Specifications		Type 8728A500
Range	g	±500
Sensitivity, ±5%	mV/g	10
Frequency Response, ±5%	Hz	2 ... 10 k
Threshold	g_{rms}	0,008
Transverse Sensitivity typ.	%	1,5
Non-Linearity	%FSO	±1
Shock (1 ms pulse)	g	5000
Temp. Coeff. of Sensitivity	%/°C	–0,06
Operating Temperature	°C	–54 ... 120
Power Supply	mA	2 ... 20
	VDC	20 ... 30
Housing/Base	type	Titanium
Sealing	type	epoxy
Weight	gram	1,6

Measuring direction



Connection
10-32 neg.

Characteristics
Low impedance voltage mode, small, lightweight. integral cable, quartz-shear stability & precision, CE compliant

Applications
Precision measurements on small, thin-walled structures or where space is limited, ideal for high frequency vibration measurements

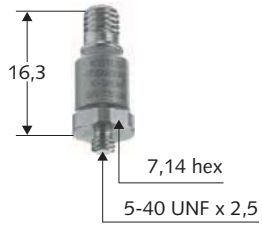
Accessories
Cable: Type 1761B…
Coupler: Type 5100 series

Datasheet 000-247

Vibration (dynamic)

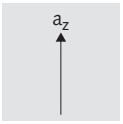
Voltage Output, Piezotron Accelerometer

K-Shear Type 8730A…



Specifications		Type 8730A500	Type 8730A500M1	Type 8730AE500
Range	g	±500	±500	±500
Sensitivity, ±5%	mV/g	10	10	10
Frequency Response, ±5%	Hz	2 ... 10 k	2 ... 7 k	2 ... 10 k
Threshold	g_{rms}	0,01	0,01	0,001
Transverse Sensitivity typ.	%	1,5	1,5	1,5
Non-Linearity	%FSO	±1	±1	±1
Shock (1 ms pulse)	g	5000	5000	5000
Temp. Coeff. of Sensitivity	%/°C	–0,06	–0,06	–0,06
Operating Temperature	°C	–54 ... 120	–195 ... 120	–54 ... 120
Power Supply	mA	2 ... 18	2 ... 18	2 ... 18
	VDC	20 ... 30	20 ... 30	20 ... 30
Housing/Base	type	Titanium	Titanium	Titanium
Sealing	type	hermetic	hermetic	hermetic
Ground Isolation	MΩ	–	10	–
Weight	gram	1,9	1,9	1,9

Measuring direction



Connection
10-32 neg.

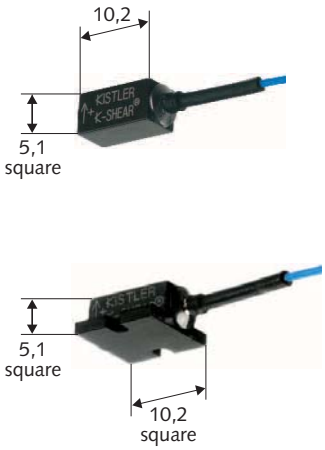
Characteristics
Quartz-shear sensing element, low impedance output, ultra low base strain sensitivity, minimal thermal transient response, CE compliant
M8: low temp. (–195 °C)

Applications
Precision measurements on small, thin-walled structures

Accessories
Cable: Type 1761B…
Coupler: Type 5100 series

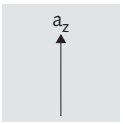
Datasheet 000-248

K-Shear Type 8732A…, 8734A…



Specifications		Type 8732A500	Type 8734A500
Range	g	±500	±500
Sensitivity, ±5%	mV/g	10	10
Frequency Response, ±5%	Hz	2 ... 7 k	2 ... 7 k
Threshold	g_{rms}	0,01	0,01
Transverse Sensitivity typ.	%	3	3
Non-Linearity	%FSO	±1	±1
Shock (1 ms pulse)	g	5000	5000
Temp. Coeff. of Sensitivity	%/°C	–0,06	–0,06
Operating Temperature	°C	–54 ... 120	–54 ... 120
Power Supply	mA	2 ... 20	2 ... 20
	VDC	20 ... 30	20 ... 30
Housing/Base	type	Al., hard anodized	
Sealing	type	epoxy	epoxy
Ground Isolation	MΩ	10	10
Weight	gram	1,2	1,2

Measuring direction



Connection
10-32 neg.

Characteristics
Low impedance voltage mode, quartz-shear element, low profile and lightweight, standard automotive footprint and mounting, CE compliant

Applications
Precision vibration measurement or modal analysis on small, thin-walled structures where space is limited

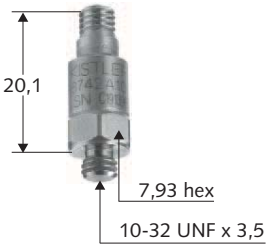
Accessories
Cable: Type 1761B…
Coupler: Type 5100 series

Datasheet 000-249

Vibration (dynamic)

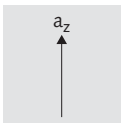
Voltage Output, Piezotron Accelerometer

Quartz Shear Type 8742A…



Specifications		Type 8742A5	Type 8742A10	Type 8742A20
Range	g	±5 k	±10 k	±20 k
Sensitivity, ±5%	mV/g	1	0,5	0,25
Frequency Response, ±7%	Hz	1 ... 10 k	1 ... 10 k	1 ... 10 k
Threshold	g_{rms}	0,13	0,25	0,50
Transverse Sensitivity typ.	%	1,5	1,5	1,5
Non-Linearity	%FSO	±1	±1	±1
Shock (1 ms pulse)	g	50 k	50 k	50 k
Temp. Coeff. of Sensitivity	%/°C	–0,06	–0,06	–0,06
Operating Temperature	°C	–54 ... 120	–54 ... 120	–54 ... 120
Power Supply	mA	2 ... 20	2 ... 20	2 ... 20
	VDC	18 ... 30	18 ... 30	18 ... 30
Housing/Base	type	St. Stl.	St. Stl.	St. Stl.
Sealing	type	hermetic	hermetic	hermetic
Weight	gram	4,5	4,5	4,5

Measuring direction



Connection
10-32 neg.

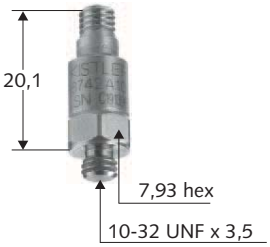
Characteristics
Low impedance voltage mode, unique quartz-shear sensing element, low transverse sensitivity, wide bandwidth, high resonant frequency, CE compliant

Applications
Impact and vibration related applications including shock and vehicle testing

Accessories
Cable: Type 1761B…
Coupler: Type 5100 series

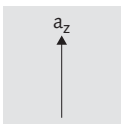
Datasheet 000-250

Quartz Shear Type 8742A…



Specifications		Type 8742A50
Range	g	±50 k
Sensitivity, ±5%	mV/g	0,10
Frequency Response, ±7%	Hz	1 ... 10 k
Threshold	g_{rms}	1,30
Transverse Sensitivity typ.	%	1,5
Non-Linearity	%FSO	±1
Shock (1 ms pulse)	g	100 k
Temp. Coeff. of Sensitivity	%/°C	–0,06
Operating Temperature	°C	–54 ... 120
Power Supply	mA	2 ... 20
	VDC	18 ... 30
Housing/Base	type	St. Stl.
Sealing	type	hermetic
Weight	gram	4,5

Measuring direction



Connection
10-32 neg.

Characteristics
Low impedance voltage mode, unique quartz-shear sensing element, low transverse sensitivity, wide bandwidth, high resonant frequency, CE compliant

Applications
Impact and vibration related applications including shock and vehicle testing

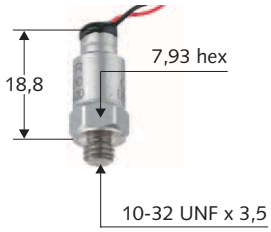
Accessories
Cable: Type 1761B…
Coupler: Type 5100 series

Datasheet 000-250

Vibration (dynamic)

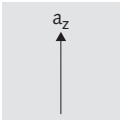
Voltage Output, Piezotron Accelerometer

Quartz Shear Type 8743A…



Specifications		Type 8743A100
Range	g	±100 k
Sensitivity, ±5%	mV/g	0,05
Frequency Response, ±7%	Hz	0,5 … 10 k
Threshold	g_{rms}	2,6
Transverse Sensitivity typ.	%	1,5
Non-Linearity	%FSO	±1
Shock (1 ms pulse)	g	120 k
Temp. Coeff. of Sensitivity	%/°C	–0,06
Operating Temperature	°C	–54 … 120
Power Supply	mA	2 … 20
	VDC	18 … 30
Housing/Base	type	St. Stl.
Sealing	type	hermetic
Weight	gram	4,5

Measuring direction



Connection
10-32 neg.

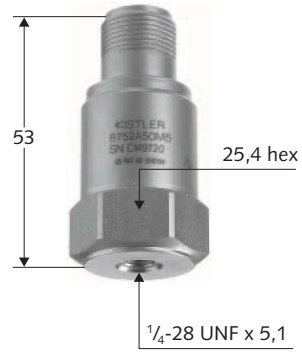
Characteristics
Low impedance, voltage mode, unique quartz sensing element, low transverse sensitivity, wide bandwidth, high resonant frequency, CE compliant

Applications
Impact and vibration related applications including shock and vehicle testing

Accessories
Cable: Type 1761B…
Coupler: Type 5100 series

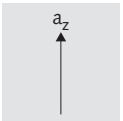
Datasheet 000-250

K-Shear Type 8752A…



Specifications		Type 8752A50	Type 8752A50M5
Range	g	±50	±50
Sensitivity, ±5%	mV/g	100	100
Frequency Response, ±5%	Hz	0,5 … 5 k	1 … 5 k
Threshold	g_{rms}	0,002	0,002
Transverse Sensitivity typ.	%	1,5	1,5
Non-Linearity	%FSO	±1	±1
Shock (1 ms pulse)	g	3000	3000
Temp. Coeff. of Sensitivity	%/°C	–0,03	–0,03
Operating Temperature	°C	–54 … 120	–54 … 165
Power Supply	mA	2 … 20	2 … 20
	VDC	20 … 30	20 … 30
Housing/Base	type	St. Stl.	St. Stl.
Sealing	type	hermetic	hermetic
Ground Isolation	MΩ	10	10
Weight	gram	115	115

Measuring direction



Connection
2-pin
MIL-C-5015

Characteristics
Low impedance voltage mode, quartz-shear stability & precision, insensitive to thermal transients, case and ground isolated, CE compliant

Applications
Industrial applications for machinery monitoring, predictive maintenance and analysis of gears and anti-friction bearings

Accessories
Cable: Type 1770A…, 1772A…, 1776A…, 1778A…
Coupler: Type 5100 series

Datasheet 000-251

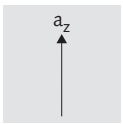
Vibration (dynamic)

Voltage Output, Piezotron Accelerometer/Force

Impedance Head Type 8770A…

Specifications		Type 8770A5	Type 8770A50
ACCELERATION			
Range	g	±5	±50
Sensitivity, ±10%	mV/g	1000	100
Frequency Response, ±5%	Hz	1 ... 4 k	1 ... 4 k
Threshold	g_{rms}	0,0004	0,001
Transverse Sensitivity typ.	%	1,5	1,5
Temp. Coeff. of Sensitivity	%/°C	0,14	0,14
FORCE			
Range	N	22	222
Sensitivity, ±10%	mV/N	225	22,5
Threshold	N	0,0006	0,006
Temp. Coeff. of Sensitivity	%/°C	0,05	0,05
Operating Temperature	°C	–54 ... 80	–54 ... 121
Power Supply	mA	2 ... 30	2 ... 30
	VDC	2 ... 20	2 ... 20
Housing/Base	type	Titanium	Titanium
Sealing	type	hermetic	hermetic
Weight	gram	34	34

Measuring direction



Connection
10-32 neg.

Characteristics
Low impedance voltage mode, sensitivity unaffected by mounting torque wide frequency range, CE compliant

Applications
Modal analysis, typically installed on a test article and connected by a threaded stinger to a shaker

Accessories
Cable: Type 1761B…
Coupler: Type 5100 series

Datasheet 000-252

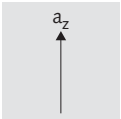
Vibration (dynamic)

Voltage Output, Piezotron Accelerometer

Ceramic Shear Type 8772A…

Specifications		Type 8772A5	Type 8772A10	Type 8772A50
Range	g	±5	±10	±50
Sensitivity, ±5%	mV/g	1000	500	100
Frequency Response, ±5%	Hz	1 … 5 k	1 … 5 k	1 … 5 k
Threshold	g_{rms}	0,0004	0,005	0,0020
Transverse Sensitivity	%	<5	<5	<5
Non-Linearity	%FSO	±1	±1	±1
Shock (0,2 ms pulse)	g	5000	7000	7000
Temp. Coeff. of Sensitivity	%/°C	–0,15	–0,10	–0,10
Operating Temperature	°C	0 … 65	0 … 65	0 … 65
Power Supply	mA	2 … 18	2 … 18	2 … 18
	VDC	20 … 30	20 … 30	20 … 30
Housing/Base	type	Al., hard anodized		
Sealing	type	epoxy	epoxy	epoxy
Ground Isolation	MΩ	10	10	10
Weight	gram	8	8	8
Mounting	type	adhesive/wax	adhesive/wax	adhesive/wax

Measuring direction



Connection
10-32 neg.

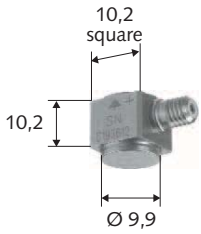
Characteristics
Low impedance voltage mode, lightweight, ceramic shear sensing element, cube shaped for mounting flexibility,
CE compliant
M10: TEDS option available

Applications
Modal analysis applications exposed to environmental factors

Accessories
Cable: Type 1761B…
Coupler: Type 5100 series
Mounting clip: Type 8474

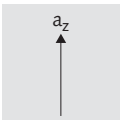
Datasheet 000-253

Ceramic Shear Type 8774A…, 8776A…



Specifications		Type 8774A50	Type 8776A50M1	Type 8776A50M6
Range	g	±50	±50	±50
Sensitivity, ±5%	mV/g	100	100	100
Frequency Response, ±5%	Hz	1 … 10 k	1 … 7 k	1 … 10 k
Threshold	g_{rms}	0,0025	0,0025	0,0025
Transverse Sensitivity typ.	%	1,5	1,5	1,5
Non-Linearity	%FSO	±1	±1	±1
Shock (0,2 ms pulse)	g	5000	5000	5000
Temp. Coeff. of Sensitivity	%/°C	–0,14	–0,14	–0,14
Operating Temperature	°C	–54 … 121	–54 … 121	–54 … 121
Power Supply	mA	2 … 20	2 … 20	2 … 20
	VDC	18 … 30	18 … 30	18 … 30
Housing/Base	type	Titanium	Titanium	Titanium
Sealing	type	hermetic	hermetic	hermetic
Ground Isolation	MΩ	–	10	–
Weight	gram	4,0	4,3	4,5

Measuring direction



Connection
10-32 neg.
Side connector: 8776
Top connector: 8774

Characteristics
Low impedance voltage mode, high sensitivity, high resolution ceramic, shear sensing element, rugged connector, priced for OEM applications,
CE compliant

Applications
Modal analysis where environmental changes or temperature transient are prevalent

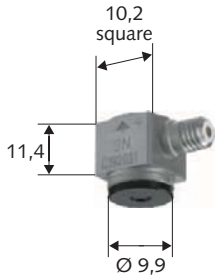
Accessories
Cable: Type 1761B…
Coupler: Type 5100 series

Datasheet 000-255

Vibration (dynamic)

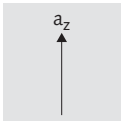
Voltage Output, Piezotron Rotational Accelerometer

Ceramic Shear Type 8776A…



Specifications		Type 8776M3
Range	g	±50
Sensitivity, ±5%	mV/g	100
Frequency Response, ±5%	Hz	0,5 ... 4 k
Threshold	g_{rms}	0,003
Transverse Sensitivity typ.	%	3
Non-Linearity	%FSO	±1
Shock (1 ms pulse)	g	5000
Temp. Coeff. of Sensitivity	%/°C	–0,14
Operating Temperature	°C	–54 ... 120
Power Supply	mA	2 ... 20
	VDC	18 ... 30
Housing/Base	type	Titanium
Sealing	type	hermetic
Ground Isolation	MΩ	10
Weight	gram	4,3
Mounting	type	wax/adhesive

Measuring direction



Connection
10-32 neg.

Characteristics
High sensitivity, high resolution, economical pricing

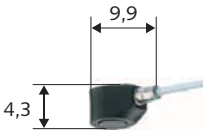
Applications
Low level vibration and where wide bandwidth and rugged construction are required

Accessories
Cable: Type 1761B…
Coupler: Type 5100 series

Datasheet 000-255

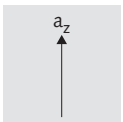
Voltage Output, Piezotron Accelerometer

Ceramic Shear Type 8778A…



Specifications		Type 8778A500
Range	g	±500
Sensitivity, ±5%	mV/g	10
Frequency Response, ±5%	Hz	2 ... 9 k
Threshold	g_{rms}	0,01
Transverse Sensitivity typ.	%	3
Non-Linearity	%FSO	±1
Shock (1 ms pulse)	g	5000
Temp. Coeff. of Sensitivity	%/°C	–0,14
Operating Temperature	°C	–54 ... 121
Power Supply	mA	2 ... 20
	VDC	18 ... 30
Housing/Base	type	Titanium/Hard Anod. Aluminum
Sealing	type	epoxy
Weight	gram	0,29

Measuring direction



Connection
10-32 neg.

Characteristics
Low impedance voltage mode, ultra low base strain and thermal transient response, ground isolated assembly, high 10 mV/g sensitivity, CE compliant
M14: solder pin option available

Applications
Precision vibration measurement, modal analysis on small, thin walled structures or where space is limited and mass loading is of primary concern

Accessories
Cable: Type 1761B…
Coupler: Type 5100 series
Removal Tool: Type 1378

Datasheet 000-256

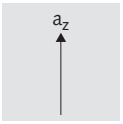
Vibration (dynamic)

Voltage Output, Piezotron Accelerometer

Ceramic Shear Type 8784A…, 8786A…

Specifications		Type 8784A5	Type 8786A5
Range	g	±5	±5
Sensitivity, ±5%	mV/g	1000	1000
Frequency Response, ±5%	Hz	1 ... 6 k	1 ... 6 k
Threshold	g_{rms}	0,0004	0,0004
Transverse Sensitivity typ.	%	1,5	1,5
Non-Linearity	%FSO	±1	±1
Shock (1 ms pulse)	g	2500	2500
Temp. Coeff. of Sensitivity	%/°C	–0,06	–0,06
Operating Temperature	°C	–54 ... 80	–54 ... 80
Power Supply	mA	2 ... 20	2 ... 20
	VDC	18 ... 30	18 ... 30
Housing/Base	type	Titanium	Titanium
Sealing	type	hermetic	hermetic
Weight	gram	21	21

Measuring direction



Connection
10-32 neg.
Side connector: 8786

Characteristics
Ceramic shear sensing element, low impedance, voltage mode, high sensitivity, less than 1 mg resolution, rugged connector for repeated connections, priced for OEM, CE compliant

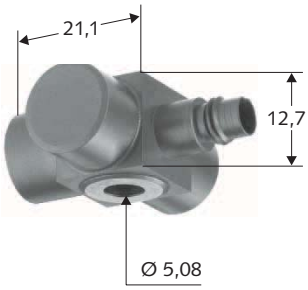
Application
Low impact and vibration related applications including condition monitoring and vehicle testing

Accessories
Cable: Type 1761B…
Coupler: Type 5100 series

Datasheet 000-257

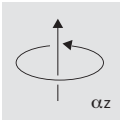
Voltage Output, Piezotron Rotational Accelerometer

K-Shear Type 8838, 8840

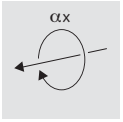


Specifications		Type 8838	Type 8840
Range	krads/s²	±150	±150
Sensitivity	µV/rad/s²	34	34
Frequency Response	Hz	1 ... 2 k	1 ... 2 k
Threshold noise	rad/s²	4	4
Transverse Sensitivity typ.	%	1,5	1,5
Non-Linearity	%FSO	±1	±1
Shock (1 ms pulse)	g	50000	50000
Temp. Coeff. of Sensitivity	%/°C	–0,06	–0,06
Operating Temperature	°C	–54 ... 121	–54 ... 121
Power Supply	mA	2	2
	VDC	20 ... 30	20 ... 30
Housing/Base	type	Titanium	Titanium
Sealing	type	hermetic	hermetic
Ground Isolation	MΩ	10	10
Weight	gram	18,5	18,5
Mounting	type	cap screw	cap screw

Measuring direction 8838



Measuring direction 8840



Connection
4-pin Microtech pos.

Characteristics
Shear quartz piezoelectric, principal, axial or lateral oscillations, hermetic construction, lightweight and convenient thru hole mount, CE compliant

Applications
Axial or shaft type measurements on an oscillating but non-rotating specimen (8838), plate or lateral rotational acceleration measurements with type 8840

Accessories
Cable: Type 1592M1…, 1578A
Capscrew 10-32 x 0,75

Datasheet 000-271

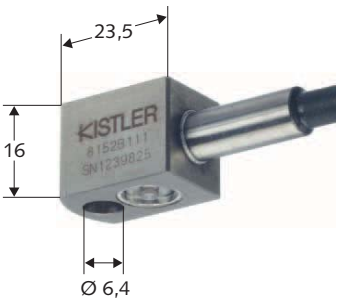
Acoustic Emission

Acoustic Emission (AE) sensors provide a wide frequency band capability at very high frequencies where phenomena such as breakage, fracture, friction, etc. reside. The relatively high sensitivity adapts well to diagnostics of tool wear, process control, and fatigue or crack detection. The sensors are packaged to withstand an aggressive industrial environment.

Acoustic Emission

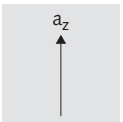
Voltage Output, Piezotron Acoustic Emission Sensor

Types 8152B…



Specifications		Type 8152B1	Type 8152B2
Frequency range, ±10 dB	kHz	50…400	100…900
Sensitivity (nom.)	$dB_{ref\ 1V\ (m/s)}$	57	48
Overload Shock 0,5 ms pulse	g	2000	2000
Overload vibration	g	±1000	±1000
Operating temperature range	°C	–40…60	–40…60
Supply: Constant current	mA	3…6	3…6
Voltage (coupler)	V DC	5…36	5…36
Output: Voltage (full scale)	V	±2	±2
Output bias	V DC	2,5	2,5
Weight	gram	29	29
Case material		St. Stl.	St. Stl.

Measuring direction



Connection
pigtails

Characteristics
High sensitivity and wide frequency range, inherent high-pass-characteristic, robust, suitable for industrial use (Degree of protection IP 65 resp. IP 67), ground isolated, CE compliant

Applications
Measurement of very high frequency phenomena particularly on machine structures. Crack formation investigations, fatigue studies and machine tool diagnostics

Accessories
Magnetic clamp: Type 8443B
AE Coupler: Type 5125

Data sheet 000-204

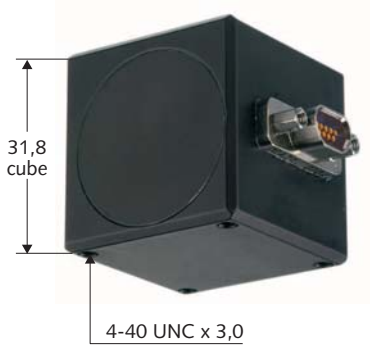
Triaxial (static & dynamic)

The PiezoBeam, Ceramic Shear, K-Shear and K-Beam technologies have been packaged into triaxial assemblies providing a convenient means to obtain three orthogonal data sets from a single sensor. The integral package is less cost than three separate accelerometers mounted to a common center and typically easier to set-up and operate due to mounting and cabling considerations.

Triaxial (static & dynamic)

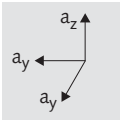
Capacitive Accelerometer

K-Beam Type 8393A…



Specifications		Type 8393A2	Type 8393A10	Type 8393A25
Range	g	±2	±10	±25
Sensitivity, ±5%	mV/g	1000	200	80
Output at Zero g, ±30 mV	V	0	0	0
Frequency Response, ±5%	Hz	0 … 300	0 … 180	0 … 100
Non-Linearity	%FSO	±0,8	±0,8	±0,8
Resolution/Threshold	µg	540	2830	8060
Transverse Sensitivity typ.	%	1	1	1
Shock (700 µs half sine)	g_{pk}	6000	6000	6000
Temp. Coeff.: Bias typ.	mg/°C	0,2	1	2,5
Sensitivity typ.	%/°C	0,02	0,02	0,02
Phase Shift max. @ 100 Hz	deg.	20	20	20
Operating Temperature	°C	–40 … 85	–40 … 85	–40 … 85
Power Supply	mA	4	4	4
	VDC	3,8 … 16	3,8 … 16	3,8 … 16
Housing/Base	type	Al., hard anodized		
Sealing – Housing Connector	type	epoxy	epoxy	epoxy
Ground Isolation	MΩ	10	10	10
Weight	gram	60	60	60

Measuring direction



Connection
9-pin micro D pos.

Characteristics
Excellent thermal performance, operates from 3,8 to 16 VDC, CE compliant

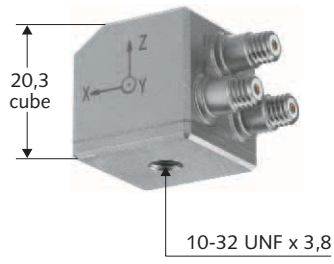
Applications
Structural dynamics for bridges and buildings; transportation, robotics, human motion and seismic ground measurements

Accessories
Cable: Type 1790A…
cap screw 4-40 UNC x 0,19"

Datasheet 000-224

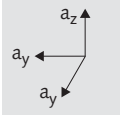
Charge Output, Extreme Temperature

Ceramic Shear Type 8290A…



Specifications		Type 8290A25M5
Range	g	±1000
Sensitivity, ±15%	pC/g	–25
Frequency Response:		
stud mounted ±10%	Hz	5 … 4 k
Transverse Sensitivity typ.	%	1,5
Non-Linearity	%FSO	±1
Shock (1 ms pulse)	g_{pk}	5000
Temp. Coeff. of Sensitivity	%/°C	0,13
Operating Temperature	°C	–70 … 250
Housing/Base	type	St. Stl.
Sealing	type	hermetic/ceramic
Weight	gram	53

Measuring direction



Connection
Type 10-32 neg.

Characteristics
High impedance, charge mode Ceramic Shear sensing element, low transverse sensitivity, long-term stability at extended temperatures

Applications
General vibration measurements with varying test conditions, vehicle vibration and NVH testing, general laboratory and ESS

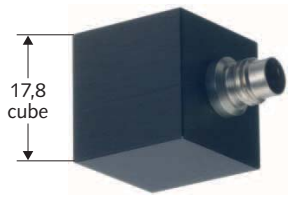
Accessories
Mounting stud:
Type 8402, 8411 (only supplied outside N.A.)
Charge amplifier: Type 5000 series
Cable: Type 1631C…

Datasheet 000-215

Triaxial (dynamic)

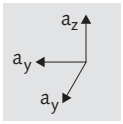
Voltage Output, Piezotron Accelerometer

PiezoBeam Type 8690C…



Specifications		Type 8690C5	Type 8690C10	Type 8690C50
Range	g	±5	±10	±50
Sensitivity, ±5%	mV/g	1000	500	100
Frequency Response, ±5%	Hz	1 … 3 k	1 … 5 k	1 … 6 k
Threshold	g_{rms}	0,0001	0,0003	0,001
Transverse Sensitivity	%	<1	<1	<1
Non-Linearity	%FSO	±1	±1	±1
Shock (0,2 ms pulse)	g	5000	10000	10000
Temp. Coeff. of Sensitivity	%/°C	–0,04	0,08	0,08
Operating Temperature	°C	0 … 65	0 … 65	0 … 65
Power Supply	mA	2 … 20	2 … 20	2 … 20
	VDC	18 … 30	18 … 30	18 … 30
Housing/Base	type	Al., hard anodized		
Sealing	type	epoxy	epoxy	epoxy
Ground Isolation	MΩ	10	10	10
Weight	gram	11,2	11,2	11,2

Measuring direction



Connection
4-pin pos.

Characteristics
Low impedance voltage mode, high sensitivity small, cubic design, thermal stability, CE compliant
M1: available with 10-32 mounting hole
M10: TEDS option available

Applications
Modal analysis or structural testing

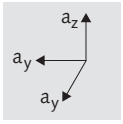
Accessories
Cable: Type 1756B…, 1578A…
Coupler: Type 5100 series
Mounting clip: Type 8476

Datasheet 000-234

PiezoBeam Type 8692C…

Specifications		Type 8692C5	Type 8692C10	Type 8692C50
Range	g	±5	±10	±50
Sensitivity, ±5%	mV/g	1000	500	100
Frequency Response, ±5%	Hz	1 … 3 k	1 … 5 k	1 … 6 k
Threshold	g_{rms}	0,0001	0,0003	0,001
Transverse Sensitivity	%	<1	<1	<1
Non-Linearity	%FSO	±1	±1	±1
Shock (0,2 ms pulse)	g	5000	10000	10000
Temp. Coeff. of Sensitivity	%/°C	–0,04	0,08	0,08
Operating Temperature	°C	0 … 65	0 … 65	0 … 65
Power Supply	mA	2 … 20	2 … 20	2 … 20
	VDC	18 … 30	18 … 30	18 … 30
Housing/Base	type	Al., hard anodized		
Sealing	type	epoxy	epoxy	epoxy
Ground Isolation	MΩ	10	10	10
Weight	gram	11,2	11,2	11,2
Mounting	type	magnetic	magnetic	magnetic

Measuring direction



Connection
4-pin pos.

Characteristics
Low impedance voltage mode, high sensitivity, thermal stability, CE compliant
M1: 10-32 mounting hole option available

Applications
Modal analysis or structural testing

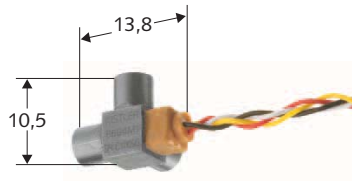
Accessories
Cable: Type 1756B…
Extension cable: Type 1578A…
Coupler: Type 5100 series

Datasheet 000-236

Triaxial (dynamic)

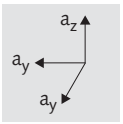
Voltage Output, Piezotron Accelerometer

Quartz Compression Type 8694…



Specifications		Type 8694M1
Range	g	±500
Sensitivity nom.	mV/g	4
Frequency Response, ±5%	Hz	10 ... 20 k
Threshold	g_{rms}	0,025
Transverse Sensitivity	%	≤5
Non-Linearity	%FSO	±1
Shock (1 ms pulse width) max.	g_{pk}	±2000
Temp. Coeff. of Sensitivity	%/°C	–0,06
Operating Temperature	°C	–55 ... 135
Power Supply	mA	2 ... 20
	VDC	12 ... 30
Housing/Base	type	Titanium
Sealing – Housing/Connector	type	epoxy
Weight	gram	2,5

Measuring direction



Connection
4-pin neg.

Characteristics
Low impedance voltage mode, small size and lightweight, less than 2,5 grams, very high resonant frequency, CE compliant

Applications
Dynamic characteristics of very light test objects, measuring of vibrations on thin-walled structures, modal testing

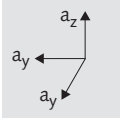
Accessories
Anodized adaptor: Types 8493, 8440 for ground isolation
Cable: Type 1578A…, 1576…
Coupler: Type 5100 series

Datasheet 000-237

Quartz Shear Type 8791A…

Specifications		Type 8791A250
Range	g	±250
Sensitivity, ±15%	mV/g	20
Frequency Response,		
±5%, adhesive mount	Hz	2 ... 2 k
±10%, adhesive mount	Hz	1 ... 4,5 k
Threshold	g_{rms}	0,006
Transverse Sensitivity max.	%	5
Non-Linearity	%FSO	±1
Shock (1 ms pulse)	g	3000
Temp. Coeff. of Sensitivity	%/°C	–0,06
Operating Temperature	°C	–55 ... 120
Power Supply	mA	2 ... 20
	VDC	18 ... 30
Housing/Base	type	Titanium
Sealing – Housing/Connector	type	epoxy
Weight without cable	gram	4

Measuring direction



Connection
4-pin pos.

Characteristics
Quartz shear sensing elements, high immunity to thermal transients, ultra-low base strain sensitivity, CE compliant

Applications
The extremely low mass is highly attractive where mass loading of specimens is a concern

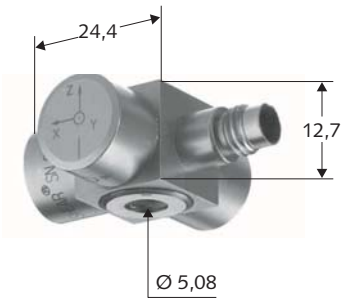
Accessories
Mounting wax: Type 8432
Cable: Type 1578A…, 1756B…
Coupler: Type 5100 series

Datasheet 000-259

Triaxial (dynamic)

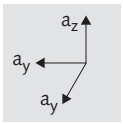
Voltage Output, Piezotron Accelerometer

K-Shear Type 8792A…



Specifications		Type 8792A25	Type 8792A50	Type 8792A100
Range	g	±25	±50	±100
Sensitivity, ±5%	mV/g	200	100	50
Frequency Response, ±5%	Hz	1,0 ... 5 k	0,5 ... 5 k	0,5 ... 10 k
Threshold	g_{rms}	0,003	0,005	0,009
Transverse Sensitivity typ.	%	1,5	1,5	1,5
Non-Linearity	%FSO	±1	±1	±1
Shock (1 ms pulse) max.	g	2000	2000	2000
Temp. Coeff. of Sensitivity	%/°C	–0,06	–0,06	–0,06
Operating Temperature	°C	–55 ... 100	–55 ... 100	–55 ... 100
Power Supply	mA	2 ... 18	2 ... 18	2 ... 18
	VDC	2 ... 20	2 ... 20	2 ... 20
Housing/Base	type	St. Stl.	St. Stl.	St. Stl.
Sealing	type	hermetic	hermetic	hermetic
Ground Isolation	MΩ	10	10	10
Weight	gram	29	29	29

Measuring direction



Connection
4-pin pos.

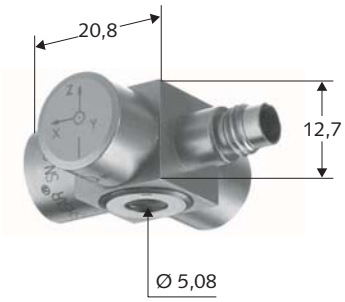
Characteristics
High immunity to thermal transients, ultra-low base strain sensitivity, wide frequency range, ground isolated, low profile design, CE compliant

Applications
Center hole mounting capability allows orientation of exit cable or axis alignment. The low profile package accommodates restricted space environments

Accessories
Socket cap head screw, 10-32 x 0,75" and M5 x 20mm
Cable: Type 1578A…, 1756B…
Coupler: Type 5100 series

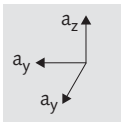
Datasheet 000-260

K-Shear Type 8792A…



Specifications		Type 8792A500
Range	g	±500
Sensitivity, ±5%	mV/g	10
Frequency Response, –5, + 10%	Hz	1 ... 5000
Threshold	g_{rms}	0,01
Transverse Sensitivity typ.	%	1,5
Non-Linearity	%FSO	±1
Shock (1 ms pulse) max.	g	5000
Temp. Coeff. of Sensitivity	%/°C	–0,06
Operating Temperature	°C	–55 ... 100
Power Supply	mA	2 ... 18
	VDC	2 ... 20
Housing/Base	type	St. Stl.
Sealing	type	hermetic
Ground Isolation	MΩ	10
Weight	gram	29

Measuring direction



Connection
4-pin pos.

Characteristics
High immunity to thermal transients, ultra-low base strain sensitivity, wide frequency range, ground isolated, low profile design, CE compliant

Applications
Center hole mounting capability allows orientation of exit cable or axis alignment. The low profile package accommodates restricted space environments

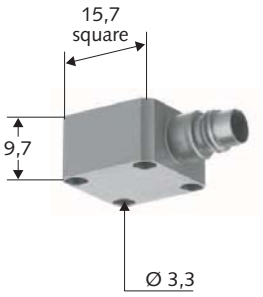
Accessories
Socket cap head screw, 10-32 x 0,75" and M5 x 20mm
Cable: Type 1578A…, 1756B…
Coupler: Type 5100 series

Datasheet 000-260

Triaxial (dynamic)

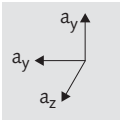
Voltage Output, Piezotron Accelerometer

K-Shear Type 8793A…



Specifications		Type 8793A500	Type 8793A500M5	Type 8793A500M8
Range	g	±500	±500	±500
Sensitivity	mV/g	10	10	10
Frequency Response, ±5%	Hz	2,5 ... 10 k	2,5 ... 10 k	2,5 ... 10 k
Threshold	g_{rms}	0,002	0,002	0,002
Transverse Sensitivity typ.	%	1,5	1,5	1,5
Non-Linearity	%FSO	±1	±1	±1
Shock (1 ms pulse) max.	g_{pk}	5000	5000	5000
Temp. Coeff. of Sensitivity	%/°C	–0,03	–0,03	–0,03
Operating Temperature	°C	–55 ... 120	–55 ... 165	–195 ... 120
Power Supply	mA	2 ... 20	2 ... 20	2 ... 20
	VDC	20 ... 30	20 ... 30	20 ... 30
Housing/Base	type	St. Stl.	St. Stl.	St. Stl.
Sealing	type	hermetic	hermetic	hermetic
Weight	gram	11	11	11

Measuring direction



Connection
4-pin pos.

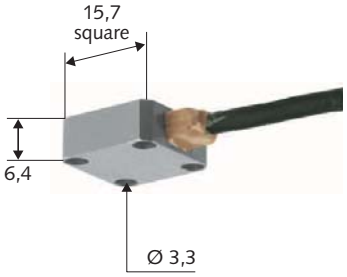
Characteristics
Low impedance voltage mode, low profile design, quartz shear accuracy and stability, hermetically sealed, CE compliant
M3: low frequency 1 Hz option available
M10: TEDS option available

Applications
Useful for measuring small and lightweight structures, where mass loading must be kept at a minimum

Accessories
Cap screws 4-40 x 0,5" and M2,5 x 12 mm
Cable: Type 1756B…, 1578A…
Coupler: Type 5100 series

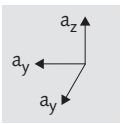
Datasheet 000-261 and 000-262

K-Shear Type 8794A…



Specifications		Type 8794A500	Type 8794A500M5
Range	g	±500	±500
Sensitivity	mV/g	10	10
Frequency Response, ±5%	Hz	2,5 ... 10 k	2,5 ... 10 k
Threshold	g_{rms}	0,002	0,002
Transverse Sensitivity typ.	%	1,5	1,5
Non-Linearity	%FSO	±1	±1
Shock (1 ms pulse) max.	g_{pk}	5000	5000
Temp. Coeff. of Sensitivity	%/°C	–0,03	–0,03
Operating Temperature	°C	–55 ... 120	–55 ... 165
Power Supply	mA	2 ... 20	2 ... 20
	VDC	20 ... 30	20 ... 30
Housing/Base	type	St. Stl.	St. Stl.
Sealing – Housing/Connector	type	welded/epoxy	welded/epoxy
Weight	gram	7,6	7,6

Measuring direction



Connection
4-pin pos.

Characteristics
Low impedance voltage mode, low profile design, quartz shear accuracy and stability, CE compliant, ground isolation version available
M3: low frequency 1 Hz option available

Applications
Measurements in confined spaces. The low profile design provides an aerodynamic advantage for in-flight flutter testing

Accessories
Mounting screw 4-40 x 0,375" and M2,5 x 10 mm
Cable: Type 1756B…, 1578A…
Coupler: Type 5100 series

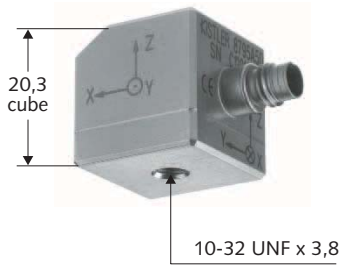
Datasheet 000-263

Triaxial (dynamic)

Voltage Output, Piezotron Accelerometer

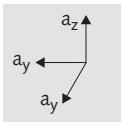
K-Shear Type 8795A…

2009년 현재 단종



Specifications		Type 8795A50	Type 8795A50M5	Type 8795A50M8
Range	g	±50	±50	±50
Sensitivity, ±10%	mV/g	100	100	100
Frequency Response, ±5%, stud mount	Hz	1 … 4 k	1 … 4 k	1 … 4 k
Threshold	g_{rms}	0,001	0,001	0,001
Transverse Sensitivity typ.	%	1,5	1,5	1,5
Non-Linearity	%FSO	±1	±1	±1
Shock (1 ms pulse) max.	g_{pk}	5000	5000	5000
Temp. Coeff. of Sensitivity	%/°C	–0,03	–0,03	–0,03
Operating Temperature	°C	–55 … 120	–55 … 165	–195 … 120
Power Supply	mA	2 … 20	2 … 20	2 … 20
	VDC	20 … 30	20 … 30	20 … 30
Housing/Base	type	Titanium	Titanium	Titanium
Sealing – Housing/Connector	type	hermetic	hermetic	hermetic
Weight	gram	32	32	32

Measuring direction



Connection
4-pin pos.

Characteristics
Titanium case, patented K-Shear design, hermetically sealed, CE compliant
M10: TEDS option available

Applications
Vehicle vibration and NVH testing, general laboratory and modal testing

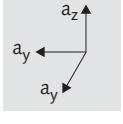
Accessories
Mounting stud: Type 8402, 8411
Cable: Type 1578A…, 1756B…
Coupler: Type 5100 series

Datasheet 000-264

Ceramic Shear Type 8798A…

Specifications		Type 8798A5	Type 8798A10	Type 8798A50
Range	g	±5	±10	±50
Sensitivity, ±5%	mV/g	1000	500	100
Frequency Response, ±5%	Hz	1 … 5 k	1 … 5 k	1 … 5 k
Threshold	μg_{rms}	400	500	2000
Transverse Sensitivity	%	<5	<5	<5
Non-Linearity	%FSO	±1	±1	±1
Shock (0,2 ms pulse) max.	g_{pk}	5000	7000	7000
Temp. Coeff. of Sensitivity	%/°C	–0,15	–0,10	–0,10
Operating Temperature	°C	0 … 65	0 … 65	0 … 65
Power Supply	mA	2 … 18	2 … 18	2 … 18
	VDC	20 … 30	20 … 30	20 … 30
Housing/Base	type	Al., hard anodized		
Sealing – Housing/Connector	type	epoxy	epoxy	epoxy
Weight	gram	22	22	22
Mounting	type	stud/wax	stud/wax	stud/wax

Measuring direction



Connection
4-pin pos.

Characteristics
Low thermal transient response, durable hard anodized and ground isolated aluminum housing, CE compliant
M10: TEDS option available

Applications
Highly suited for multi-channel measurements; modal analysis on automotive bodies and aircraft structures; general vibration measurements

Accessories
Mounting stud: Type 8402
Mounting wax: Type 8432
Cable: Type 1578A…, 1756B…
Coupler: Type 5100 series

Datasheet 000-266

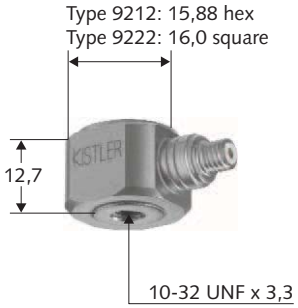
Impulse

A selection of Impulse Hammers is available covering ranges of applications from small to very large mechanical structures. The force-instrumented hammer contains a load cell at the impact end where a variety of tips can be attached. The input power spectrum provided to a test structure can be controlled by appropriate selection of hammer and contact tip. The hammer designs are rugged with the cabling conveniently exiting the rear of the handle. Hammer mass and tip inter-changes are accommodated by simple threaded engagement to the hammerhead.

Impulse

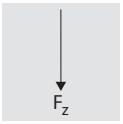
Charge Output Force Sensor

Sensor Types 9212, 9222



Specifications		Type 9212	Type 9222
Range Compression	N	20 000	20 000
Range Tension	N	2000	2000
Threshold	mN	4,45	8,9
Sensitivity (nom.)	pC/N	–50	–19
Non-Linearity	%FSO	±0,5	±0,5
Rigidity	kN/µm	>0,8	>0,8
Temp. Coeff. of Sensitivity	%/°C	0,018	0,036
Operating Temperature	°C	–195 ... 150	–195 ... 150
Insulation Resistance	Ω	10^{13}	10^{13}
Capacitance	pF	58	23
Housing/Base	type	St. Stl.	St. Stl.
Sealing	type	welded/epoxy	welded/epoxy
Weight	gram	19	19

Measuring direction



Connection
10-32 neg.

Characteristics
High impedance, charge mode output, rugged quartz sensor, wide measuring ranges for compression and tension, quasi-static response

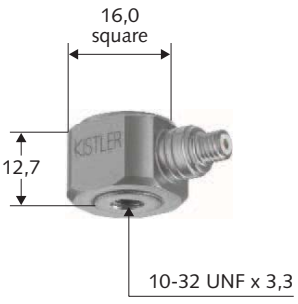
Applications
Force applications such as press fit assembly, crimping and impact force testing; can be used with shakers for modal analysis, machine tool measurements or various automotive, aerospace and robotic testing

Accessories
Cable: Type 1631A...
Charge amplifier: Type 5000 series
Impact pad: Type 900A3

Datasheet 000-418

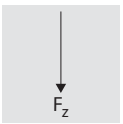
Voltage Output Force Sensor

Sensor Type 9712B...



Specifications		Type 9712B5	Type 9712B50	Type 9712B250
Range Compression	N	22,2	222	1,11 kN
Range Tension	N	22,2	222	1,11 kN
Threshold	mN	0,445	4,45	22,2
Sensitivity (nom.)	mV/N	200	20	4
Non-Linearity	%FSO	±1	±1	±1
Rigidity	kN/µm	>0,8	>0,8	>0,8
Temp. Coeff. of Sensitivity	%/°C	–0,018	–0,018	–0,018
Operating Temperature	°C	–50 ... 120	–50 ... 120	–50 ... 120
Power Supply	mA	4	4	4
	VDC	20 ... 32	20 ... 32	20 ... 32
Housing/Base	type	St. Stl.	St. Stl.	St. Stl.
Sealing	type	hermetic	hermetic	hermetic
Weight	gram	19	19	19

Measuring direction



Connection
10-32 neg.

Characteristics
Low impedance voltage mode, rugged quartz sensor, wide measuring range, uses standard low cost cables, CE compliant

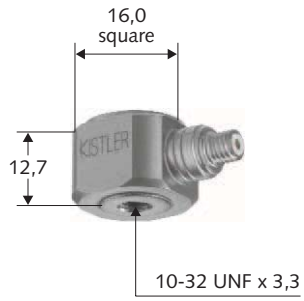
Applications
Force applications where high sensitivity, high rigidity and fast responses are required

Accessories
Cable: Type 1761B...
Charge amplifier: Type 5100 series

Datasheet 000-417

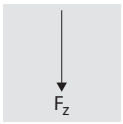
Voltage Output Force Sensor

Sensor Type 9712B…



Specifications		Type 9712B500	Type 9712B5000
Range Compression	N	2000	20 000
Range Tension	N	2000	2000
Threshold	mN	44,5	445
Sensitivity (nom.)	mV/N	2	0,2
Non-Linearity	%FSO	±1	±1
Rigidity	kN/µm	>0,8	>0,8
Temp. Coeff. of Sensitivity	%/°C	–0,018	–0,018
Operating Temperature	°C	–50 ... 120	–50 ... 120
Power Supply	mA	4	4
	VDC	20 ... 32	20 ... 32
Housing/Base	type	St. Stl.	St. Stl.
Sealing	type	hermetic	hermetic
Weight	gram	19	19

Measuring direction



Connection
10-32 neg.

Characteristics
Low impedance, voltage mode, rugged quartz sensor, wide measuring ranges, uses standard low cost cables, CE compliant

Applications
Force applications where high sensitivity, high rigidity and fast responses are required

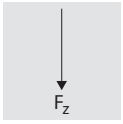
Accessories
Cable: Type 1761B…
Coupler: Type 5100 series

Datasheet 000-417

Impulse Hammer Type 9722A…

Specifications		Type 9722A500	Type 9722A2000
Force Range	N	0 ... 500	0 ... 2000
Frequency Range	Hz	8200	9300
Resonant Frequency	kHz	27	27
Sensitivity (nom.)	mV/N	10	2
Rigidity	kN/µm	0,8	0,8
Time Constant	s	500	500
Operating Temperature	°C	–20 ... 70	–20 ... 70
Power Supply	mA	2 ... 20	2 ... 20
	VDC	20 ... 30	20 ... 30
Length of handle	mm	188	188
Hammer Head Dimensions:			
Diameter	mm	17,5	17,5
Length	mm	61	61
Weight	gram	100	100

Measuring direction



Connection
BNC neg.

Characteristics
Low impedance voltage mode, quartz force sensing element guarantees long-term stability, sensor cable integrated to hammer handle, CE compliant

Applications
Analyze the dynamic behavior of mechanical structures

Accessories
Cable: Type 1601B…
Coupler: Type 5100 series

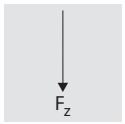
Datasheet 000-272

Voltage Output Force Sensor

Impulse Hammer Type 9724A...

Specifications		Type 9724A2000	Type 9724A5000
Force Range	N	0 ... 2000	0 ... 5000
Frequency Range	Hz	6600	6900
Resonant Frequency	kHz	27	27
Sensitivity (nom.)	mV/N	2	1
Rigidity	kN/µm	0,8	0,8
Time Constant	s	500	500
Operating Temperature	°C	–20 ... 70	–20 ... 70
Power Supply	mA	2 ... 20	2 ... 20
	VDC	20 ... 30	20 ... 30
Length of handle	mm	231	231
Hammer Head Dimensions:			
Diameter	mm	23	23
Length	mm	89	89
Weight	gram	250	250

Measuring direction



Connection
BNC neg.

Characteristics
Low impedance voltage mode, quartz force sensing element guarantees long-term stability, sensor cable integrated to handle of hammer, CE compliant

Applications
Analyze the dynamic behavior of mechanical structures

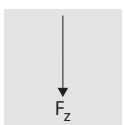
Accessories
Cable: Type 1601B...
Coupler: Type 5100 series

Datasheet 000-273

Impulse Hammer Type 9726A...

Specifications		Type 9726A5000	Type 9726A20000
Force Range	N	0 ... 5000	0 ... 20 000
Frequency Range	Hz	5000	5400
Resonant Frequency	kHz	27	27
Sensitivity (nom.)	mV/N	1	0,2
Rigidity	kN/µm	0,8	0,8
Time Constant	s	500	500
Operating Temperature	°C	–20 ... 70	–20 ... 70
Power Supply	mA	2 ... 20	2 ... 20
	VDC	20 ... 30	20 ... 30
Length of handle	mm	236	236
Hammer Head Dimensions:			
Diameter	mm	32	32
Length	mm	94	94
Weight	gram	500	500

Measuring direction



Connection
BNC neg.

Characteristics
Low impedance voltage mode, quartz force sensing element guarantees long-term stability, sensor cable integrated to hammer handle, CE compliant

Applications
Analyze the dynamic behavior of mechanical structures

Accessories
Cable: Type 1601B...
Coupler: Type 5100 series

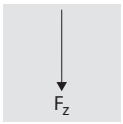
Datasheet 000-274

Voltage Output Force Sensor

Impulse Hammer Type 9728A...

Specifications		Type 9728A20000
Force Range	N	0 ... 20 000
Frequency Range	Hz	1000
Resonant Frequency	kHz	20
Sensitivity (nom.)	mV/N	0,2
Rigidity	kN/µm	2,7
Time Constant	s	500
Operating Temperature	°C	–20 ... 70
Power Supply	mA	2 ... 20
	VDC	20 ... 30
Length of handle	mm	343
Hammer Head Dimensions:		
Diameter	mm	51
Length	mm	154
Weight	gram	1500

Measuring direction



Connection
BNC neg.

Characteristics
Low impedance voltage mode, quartz force sensing element guarantees long-term stability, sensor cable integrated to handle of hammer, CE compliant

Applications
Analyze the dynamic behavior of mechanical structures

Accessories
Cable: Type 1601B...
Coupler: Type 5100 series

Datasheet 000-275

Measure & Analyze

Powering, conditioning and computer interface solutions are available from a suite of electronic equipment tailored to provide measurement flexibility with utmost quality and integrity. Couplers from inexpensive single channel to large, modular, multi-channel platforms can be selected. Charge amplifiers with dual mode (low and high impedance) capability offer adaptability to a variety of sensor configurations. Gain, filtering, and conditioning aspects of the measurement chain are contained in this section of the catalogue.

Signal Conditioner

Charge Meter Type 5015A

Specifications		Type 5015A
Measuring Range	pC	±2 ... 2 200 000
Frequency Response (wide band)	Hz	~0 ... 200 k
Output Voltage	V	±10 ... ±2
Output Current	mA	2
Accuracy (range dependent)	%	<±3 ... <±0,5
Power	VAC	115/230
Temperature Range	°C	0 ... 50
Dimensions with frame	mm	105,3 W x 142 H x 253,15 D
Weight	kg	2,3

Connection
Input & output:
BNC neg.
Remote control:
6 pin; DIN 45322

Characteristics
Single-Channel charge amplifier Piezotron input (option), menu-driven operation, direct signal evaluation, CE compliant

Applications
Measure dynamic pressure, force strain and acceleration from piezoelectric sensors

*Contact Kistler for different versions of this Charge Meter

Datasheet 000-297

Signal Conditioner

Piezotron Coupler Type 5108A

Specifications		Type 5108A
Sensor Supply Current	mA	4
Sensor Signal Voltage	Vpp	20
Frequency Response, (5 Vpp & 2 m cable)	Hz	0,02 ... 87 k
Output Voltage	Vpp	20
Gain		1
Power	VDC	22 ... 30
Temperature Range	°C	0 ... 50
Power	type	Banana jacks
Dimensions	mm	57,2 L x 22,2 H x 22,2 W
Weight	gram	65

Connection
Input: BNC neg.
Output: BNC pos.
Power: banana jacks, polarity (+ red, – black)

Characteristics
Simple to operate, AC coupled, reverse polarity protection, CE compliant

Use
Use with low impedance Piezotron sensors with built-in electronics

Accessories
Cable: Type 1761B…

Datasheet 000-328

Piezotron Coupler Type 5114

Specifications		Type 5114
Sensor Excitation Current	mA	2
Sensor Excitation Voltage	VDC	20
Frequency Response	Hz	0,07 … 60 k
Output Voltage	Vpp	20
Gain		1
Power	VDC	9
Temperature Range	°C	–10 … 54
Weight	gram	250

Connection
Input & output: BNC neg.
External power: 2,1 mm jack

Characteristics
Provides constant current excitation, monitors condition and sensors and cables, 3,5 digit LCD display AC-DC or battery powered, CE compliant

Application
Power and monitor Piezotron sensors

Accessories
AC-DC power adaptor:
Type 5752 (120 V)
Type 5757 (230 V)

Specify Version
5114: supplied with 9 V alkaline battery
5114S1: supplied with 9 V alkaline battery, 115 VAC power adaptor and carrying case
5114S1(E): same as S1 only with 230 VAC power adaptor, 9 V alkaline battery

Datasheet 000-330

Signal Conditioner

Piezotron Coupler Type 5118B…

Specifications		Type 5118B2
Sensor Supply Current	mA	2
Sensor Signal Voltage	Vpp	10
Frequency Response, ±5	Hz	0,02 ... 40 k
Output Voltage	Vpp	20
Gain		1, 10, 100
Power Supply	Battery	4 x 1,5 V AA, alkaline
Temperature Range	°C	–20 ... 50
Dimensions	mm	91 W x 46 H x 191 D
Weight	kg	0,5

Connection
Input & output:
BNC neg.

Characteristics
Selectable gain and low pass, plug-in filters, high pass filtering, panel selectable, exclusive "Rapid Zero" feature AC-DC or battery powered, CE compliant

Applications
Powering low impedance sensors where test conditions require flexible signal conditioning

Optional Accessories
AC-DC power adaptor (115 VAC): Type 5752
AC-DC power adaptor (230 VAC): Type 5757
Panel mounting kit: Type 5702
Low/high pass filters:
see accessories section

Datasheet 000-331

Coupler Type 5125B…, 5127B…

Specifications		Type 5125B	Type 5127B
Sensor Excitation Current	mA	4	4
Sensor Signal Voltage	Vpp	16	20
Frequency Response, ±5	Hz	15 ... 1 k	0,1 ... 30 k
Output Voltage	Vpp	10	20
Gain		10, 106	1, 10
Power	mA	< 70	50
	VDC	15 ... 36	22 ... 30
Temperature Range	°C	0 ... 60	0 ... 60
Housing	type	aluminum	aluminum
Dimensions	mm	114 W x 147 H x 36 D	114 W x 147 H x 36 D
Weight	kg	0,270	0,270

Connection
Input: BNC neg. or stuffing box
Output: 8-pole round connector DIN 45326

Characteristics
Built-in RMS converter and limit monitor, plug-in filter elements, rugged case, vibration-proof construction, CE compliant

Applications
Vibration and acoustic emission (AE) sensors,
5125B AE coupler,
5127B Piezotron coupler

Accessories
8-pole round connector:
Type 1500A57
Low/high pass filters:
see accessories section

Specify Version
request data sheet below for all ordering options

Datasheet 000-323

Signal Conditioner

Four Channel Piezotron Coupler Type 5134A

Specifications		Type 5134A
Sensor Excitation Current	mA	4
Sensor Excitation Voltage	VDC	20
Frequency Response	Hz	0,04 ... 30 k
Output Voltage	Vpp	20
Gain (7 set points)		1, 2, 5, 10, 20, 50, 100
Power	VAC	115/230
Temperature Range	°C	0 ... 50
Dimensions	mm	94 W x 150 H x 196 D
Weight	kg	1,8

Connection
Input & output:
BNC neg.

Characteristics
RS-232C interface for remote control and monitoring, sensors circuit open/short alarm, non volatile memory for set parameters, seven selectable gains, four selectable low pass filters, CE compliant

Applications
General vibration lab use with single axis or triaxial accelerometers

Specify Version
Without case: Type 5134A0

Datasheet 000-332

16 Channel Piezotron Coupler Type 5148

Specifications		Type 5148
Sensor Excitation Current	mA	4
Sensor Excitation Voltage	VDC	24
Frequency Response, ±5	Hz	0,05 ... 50 k
Output Voltage	Vpp	20
Gain		1
Power	VDC	115/230
Temperature Range	°C	0 ... 50
Dimensions	mm	483 W x 45 H x 222 D
Weight	kg	2,5

Connection
Input rear:
16 BNC neg.

Output rear:
16 BNC neg.

Output front:
16 BNC neg.

Characteristics
Provides constant current excitation for Piezotron and voltage mode piezoelectric sensors, LED indicate circuit integrity, convenient front/rear BNC connectors, standard rack mountable, CE compliant

Applications
Multi-channel low impedance sensor power at economical price per channel

Datasheet 000-333

Signal Conditioner

Signal Conditioning Platform (SCP) Type 2853AY45

Specifications		Type 2853AY45
Power	VAC	115/230
Temperature Range	°C	0 ... 60
Remote control	type	RS 232
Dimensions with case	mm	495 W x 290 H x 140 D
Weight	kg	5,81

Connection
Input: BNC neg.
Output:
37 pin Dsub

Characteristics
A modular system supporting up to eight plug in cards containing four channels each. The system automatically detects the cards (plug & measure) and is supported by the visual interface provided in the 2884 software package.

Applications
Multi-channel systems are easily managed when the TEDS compliant sensors are integrated into a system configuration. This minimizes error during test set-up in a very efficient process. Varying test configurations are easily accommodated when the wide functionality of the plug in cards is exploited.

Supplied Accessories
RS-232 cable: Type 1500A80, 3 m length
Visual interface software: Type 2884

Optional Accessories
Piezotron Module: Type 5150
Blank Panel: Type 5714
Output cables series 37 pin: Type 1500
Cable BNC – BNC: Type 1601
Cable 10-32 pos. to BNC: Type 1761B...
Breakout junction box: Type 5886

Datasheet 000-410

PiezoSmart Signal Conditioning Module Type 5150A

Specifications		Type 5150A
Sensor Excitation Current (selectable)	mA	1 ... 15
Sensor Excitation Voltage	VDC	24
Channels		4
Frequency Response	Hz	0,01 ... 75 k
Output Range	Vpp	10
Gain (selectable)		0 ... 150
Time Constant	s	20/2
Channel Indicators	type	LED

Connection
BNC neg.

Characteristics
TEDS capable, IEEE 1451,4, (4) channel conditioning within each card, programmable current, gain and optional filtering, set up parameters are stored for future use

Applications
Large channel sensor requirements are well managed with this flexible, modular, configurable card, use with 2853AY45 chasis

Accessories
Cable: Type 1761A…

Datasheet 000-384

Signal Conditioner

External Impedance Converter Type 557, 558

Specifications		Type 557, 558
Sensor Signal Voltage	Vpp	10
Output Signal Voltage	Vpp	10
Gain		0,97
Excitation Voltage	VDC	20 ... 30
	mA	4
Range Capacitance (nom.)	pF	3
Input Resistance	µ	5 x 1010
Temperature Range	°C	–55 ... 120
Sealing	type	welded/epoxy
Mounting – 557	type	on sensor
558	type	in-line

Connection
557
10-32 pos.
10-32 neg.

558
10-32 pos.

Characteristics
Compatible with high impedance, miniature construction In-line or direct attachment to sensor, optional range capacitors to tailor output signal, two wire constant current, source operation

Application
Conversions of charge signals from piezoelectric sensors into proportional voltage signals. High temperature installations requiring charge output sensors

Accessoires
571 Range capacitors available

Datasheet 000-388

K-Beam Power Supply Type 5210

Specifications		Type 5210
Sensor Excitation Current	mA	25
Sensor Excitation Voltage	V	9
Frequency Response	Hz	0 ... 750
Output Voltage	V	±8
Gain		1, 2, 10, 20
Power	Battery	9 V
Temperature Range	°C	–10 ... 54
external DC input	type	2,1 mm jack
Dimensions	mm	146 L x 91,4 W x 32,8 H
Weight	gram	260

Connection
Sensor: 4-pin, Microtech pos.
Output signal: BNC neg.
External DC input: 2,1 mm jack (tip+)

Characteristics
Adjustable offset control for higher resolution measurements, battery or external power, gain and filtering options; low battery indicator, complete kit available, CE compliant

Applications
Power any single K-Beam accelerometer from a casual check to an in-depth study

Accessories
AC-DC power adaptor (115 VAC): Type 5752
AC-DC power adaptor (230 VAC): Type 5757

Specify Version
5210: supplied with 9 V battery
5210S1: supplied with 9 V battery, 115 V power adaptor 5752 and carrying case
5210S1(E): same as S1 only with 230 V power adaptor, 9 V battery and carrying case

Datasheet 000-334

Signal Conditioner

Insulation Tester Type 5493

Specifications		Type 5493
Measuring Range	Ω	1011 to 4 x 1013
Measuring Voltage	V	5
Frequency Response, ±5	V	700
Measurement display		logarithmic
Battery Power	VDC	9
Dimensions	mm	150 L x 79 W x 36 H
Weight	gram	290

Connection
BNC neg.

Characteristics
Small, robust, also for measuring on the spot; low measuring voltage of 5 V, logarithmic indication avoids the need for range switching, automatic switchoff, CE compliant

Applications
Measure integrity of high impedance sensors and cables

Datasheet 000-354

Vibration Switch Type 8810

Specifications		Type 8810
Frequency Range –3 dB	Hz	10 ... 1000
Velocity Range	mm/sec	100
Setpoint Range	mm/sec	2 ... 50
Setpoint Accuracy	%	±10
Sensitivity	mV/mm/sec	50
Operating Temperature	°C	0 ... 60
Power Supply	mA	50
	VDC	18 ... 30
Humidity	%	10 ... 90
Integral Cable Length	m	3
Weight	gram	400

Connection
pigtails

Characteristics
Solid state velocity trip, monitor outputs, reliable accurate and rugged, adjustable time delay, small size and lightweight, CE compliant

Applications
Vibration monitoring on cooling towers and machinery such as fans, motors, conveyers, motor/generator sets, centrifugal pumps, and other types of industrial machinery

Datasheet 000-268

Calibration

Reference Shaker Type 8921

Specifications		Type 8921Y26
Frequency	Hz (rads)	159,2 (1000)
Acceleration	g	1
Velocity rms, ±3%	mm/sec	10
Displacement rms, ±3%	µm	10
Max. Load	gram	300
Operating Temp.	°C	10 ... 40
Power Supply	mA	300
	VDC	12
Battery	type	built-in rechargeable
Weight	kg	2
Dimensions	mm	76,2 H x 107 W x 178 D

Characteristics
Test measurement system integrity, convenient self-contained and portable, rechargeable battery, tests sensors up to 300 g of weight, CE compliant

Applications
The 8921 reference shaker can be used to confirm the sensitivity of acceleration, velocity, and displacement sensors

Accessories
10-32 to M5 stud: Type 8451
1/4-28 to M5 stud: Type 8453

Specify Version
8921Y26: supplied with 115 VAC battery charger
8921: supplied with 230 VAC battery charger

Datasheet 000-362