

# Ceramic Shear Accelerometer

Type **8774A...**,  
**8776A...**

## Light Weight, Voltage Mode, Accelerometer

Small envelop size and light weight, the 8774A... and the 8776A... series are general purpose vibration measuring accelerometers designed for OEM applications. Containing identical sensing elements, the five models in this family of accelerometers differ in mounting attachment (adhesive or stud), envelope configuration ( side or top connector) and frequency response.

- Low impedance voltage mode
- High sensitivity, high resolution, low transverse sensitivity
- Rugged connector for repeated connections
- Priced for OEM or low cost/channel applications
- Conforming to CE

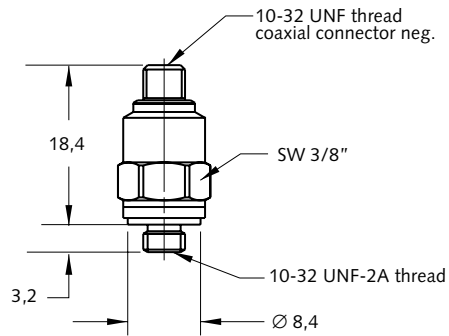
### Description

The 8774A..., 8776A... series are low impedance, voltage mode accelerometers designed for vibration measurement in single or multichannel applications. The unique connector design is rugged and maintains excellent integrity with repeated connections. The ceramic sensing element components are carefully designed to provide the level of performance most often required in general purpose vibration measurements. Kistler's shear technology assures high immunity to base strain, thermal transients and transverse accelerations. Other outstanding features include high frequency response, lightweight and hermetic sealing.

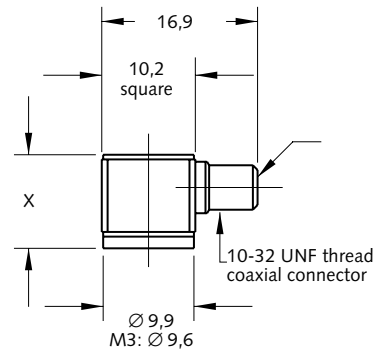
A low impedance, voltage output is provided by the internal electronic impedance converter. This output allows for the use of an inexpensive coaxial cable, while providing high noise immunity and insensitivity to cable motion. Power this accelerometer with one of Kistler's couplers, signal conditioners or from any voltage mode piezoelectric sensor supply.

### Application

Types 8774A... and 8776A... are multipurpose accelerometers, useful for many applications. These accelerometers provide 2,5 milli g threshold suitable for use in low level measurement applications. The wide bandwidth and rugged construction are ideal for impact and vibration related applications including condition monitoring and vehicle testing.



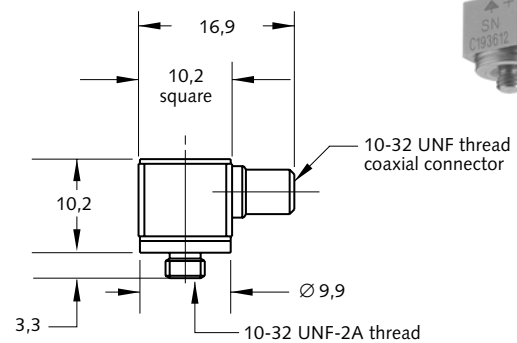
8774A50



8776A50: x = 10,2



8776A50M3: x = 11,4  
8776A50M1: x = 11,4



8776A50M6

8774A\_000-255 e-05.07

**Technical Data**

Type	Unit	8774A50	8776A50...
Acceleration Range	g	±50	±50
Acceleration Limit	gpk	±500	±500
Threshold nom. (noise 300µVrms)	grms	0,0025	0,0025
Sensitivity (±15%)	mV/g	100	100
Resonant Frequency mounted, nom. 8776A50M3	kHz	44	40 38
Frequency Response, ±5%	Hz	1 ... 10000	1 ... 7000
8776A50M3 (8776A50M6)	Hz	--	0.5 ... 4000 (1 ... 10000)
Phase Shift, <5°	Hz	4 ... 2000	4 ... 2000
Amplitude Non-linearity	%FSO	±0,5	±1
Time Constant nom.	s	≥ 0,5	≥ 0,5
Transverse Sensitivity nom., (max. 5)	%	1,5	1,5
Environmental:			
Base Strain Sensitivity @ 250µε	g/µε	0.002	0,0005
8776A...M1, M3	g/µε	--	0,001
8776A...M6	g/µε	--	0,002
Shock Limit (1ms pulse)	gpk	5000	5000
Temperature Coeff. of Sensitivity	%/°C	-0,14	-0,14
Temperature Range Operating	°C	-54 ... 121	-54 ... 121
Output:			
Bias nom.	VDC	11	11
Impedance	Ω	≤100	≤100
Voltage full scale	V	±5	±5
Current	mA	2	2
Source:			
Voltage	VDC	18 ... 30	18 ... 30
Constant Current	mA	2 ... 20	2 ... 20
Construction:			
Sensing Element	type	Ceramic Shear	Ceramic Shear
Housing/Base	material	Titanium	Titanium
Sealing-housing/connector	type	Hermetic	Hermetic
Connector	type	10-32 UNF neg.	10-32 UNF neg.
Ground Isolation (8776A50M1/M3)	MΩ	--	≥ 10
Weight	grams	4	4
Mounting (thread/stud)	type	stud (10-32 UNF-2A)	Wax/Adhesive
Mounting, 8776A50M6	type	--	10-32 UNF-2A (stud)
Mounting Torque	Nm	2	--

 1 g = 9,80665 m/s<sup>2</sup>, 1 Inch = 25,4 mm, 1 gram = 0,03527 oz, 1 lbf-in = 0,1129 Nm

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**Mounting**

Reliable and accurate measurements require that the mounting surface be clean and flat. The sensors can be attached to the structure utilizing the integral stud, wax or adhesive. The operating instruction manual for the 8774A... and 8776A... series provides detailed information regarding mounting surface preparation and proper application of adhesive.

**Accessories Included**

- Mounting wax **Type** 8432

**Optional Accessories**

- Adhesive mounting pad **Type** 8436
- Mounting magnet **Type** 8452
- Mounting cube for 8774A... **Type** 8524
- Cube for adhesive mounting 8776A... **Type** 8526

**Ordering Key**

<b>Measuring Range</b>		8774A <input type="checkbox"/>
±50g, top connector	50	↑

**Ordering Key**

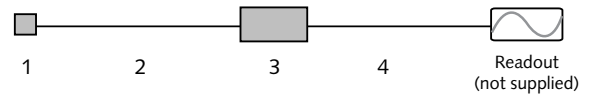
<b>Measuring Range</b>		8776A <input type="checkbox"/>
±50g, side connector	50	↑

**Variants**

Standard	-
Ground isolated	M1
Ground isolated/ Long Time Constant	M3
Integral stud	M6

**Measuring Chain**

- |          |                                      |                    |
|----------|--------------------------------------|--------------------|
| <b>1</b> | Low Impedance Sensor                 | <b>Type</b> 8774/6 |
| <b>2</b> | Sensor cable, 10-32 pos. to BNC pos. | 1761B...           |
| <b>3</b> | Power Supply/Signal Conditioner      | 51...              |
| <b>4</b> | Outout cable, BNC pos. to BNC pos.   | 1511               |



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