

Quartz

Type 8076K

Vibration Standard

Type 8076K is a high precision laboratory accelerometer used primarily as a transfer standard for back-to-back calibrations.

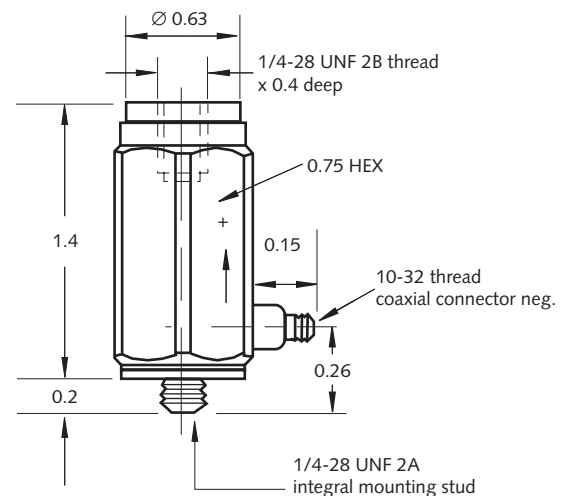
- High impedance charge mode
- Quartz accuracy and stability
- Rugged design
- Low base strain sensitivity, and mass loading
- Ground isolated

Description

The Type 8076K accelerometer is Kistler's most accurate and repeatable laboratory vibration calibration transfer standard. It features low base strain and mass loading sensitivities, a rugged stainless steel housing, ground isolation and an integral mounting stud. A beryllium mounting base, lapped optically flat, provides optimum coupling between the 8076K and the test unit. Contained within the housing is a piezoelectric assembly consisting of a seismic mass, preloaded to a quartz element stack. The force acting on the quartz measuring element is proportional to the acceleration in accordance with Newton's Law: $F=ma$. This element in turn, gives an electrical charge signal proportional to the force and, therefore, to the acceleration. The charge signal is conducted through a low noise coaxial cable, such as the 1631 series, then converted and amplified to a proportional output voltage in a charge amplifier (such as Type 5010). Direct measurements can be made with a 5022 calibration charge amplifier.

Application

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CE Compliant Information

Because high impedance, charge mode accelerometers contain no electronics, CE certification to the EMC Directive is not appropriate. When a high impedance accelerometer is used with a CE certified signal conditioner (i.e., charge amplifier 5022), it is said that this system is CE compliant.

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Technical Data

Type	Units	8076K
Acceleration Range	g	±1000
Acceleration Limit	g _{pk}	±2000
Sensitivity*	pC/g	1.0 ± 0.10
Resonant Frequency mounted, nom.	kHz	33
Frequency Response ±4%	Hz	0.5...5000
Amplitude Non-Linearity	%FSO	± 0.5
Insulation Resistance @ R.T	Ω	≥10 ¹³
Capacitance	pF	100
Transverse Sensitivity*	%	≤2
Environmental:		
Base Strain Sensitivity @250μ in/in	g	0.0005
Electromagnetic Susceptibility	g/gauss	0.0005
Shock Limit (1ms pulse)	g _{pk}	1000
Temperature Coefficient of Sensitivity	%/°F	0.01
Temperature Range Operating	°F	-5 ... 150
Temperature Range Storage	°F	-50 ... 200
Mounting Error:		
Test Transducer 12 ... 24	In-lb	none
To exciter 18 ... 30	In-lb	none
Construction:		
Sensing Element	type	quartz/ compression
Housing/Base	material	stainless steel
Sealing - Housing/Connector	type	epoxy
Connector	type	10-32 neg.
Ground Isolation min.	MΩ	10
Weight	grams	80

* at 100 Hz, R.T. 10 grms

1 g = 9.80665 m/s², 1 inch = 25.4 mm, 1 gram = 0.03527 oz, 1 lbf-in = 0.1129 Nm

Mounting

The calibration standard is attached to the vibration source by means of the integral mounting stud. Mounting studs and a stud adaptor afford extreme flexibility for back-to-back mounting between the calibration standard and test accelerometer configurations.

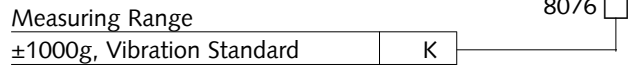
Accessories Included **Type**

- (2) mounting studs, 1/4-28 to 10-32 thread 8410
- (2) mounting studs ,1/4-28 thread 8412
- (1) thread converter, 10-32 internal to 1/4-28 external thread 8414
- thread converter wrench 8552

Optional Accessories **Type**

- mounting base with 1/4-28 internal 8442

Ordering Key



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