

Miniature IEPE accelerometer



Features

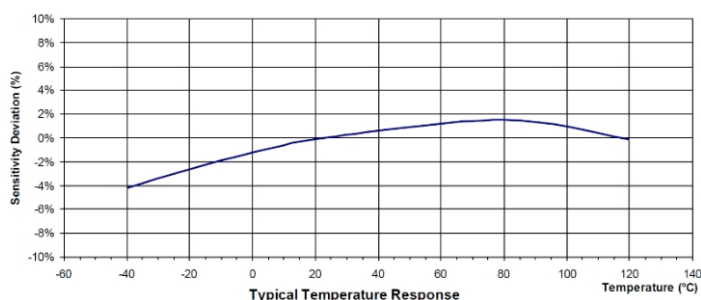
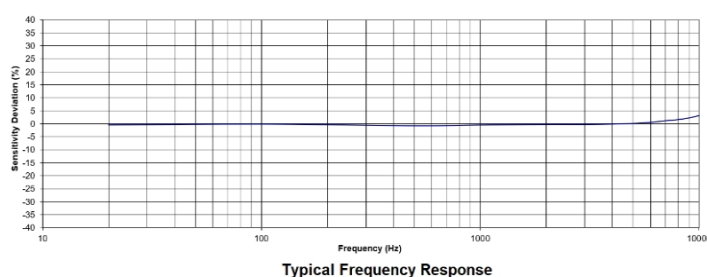
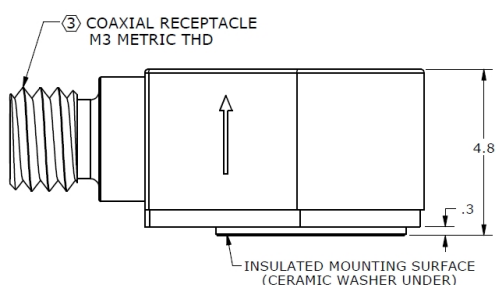
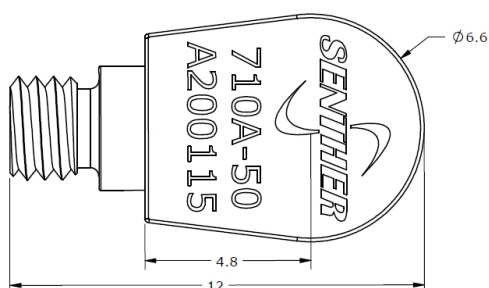
- Miniature Size
- Adhesive mounting
- Hermetic seal
- Annular shear mode
- Wide frequency response
- Shock duration

Application

- Vibration monitoring
- Shock testing
- Satellite testing
- Modal analysis
- Aircraft testing

Description

Model 710A is a miniature IEPE single axial accelerometer permitting simultaneous shock and vibration measurements. 710A features an annular shear ceramic crystal which exhibits excellent output stability over time. The accelerometer incorporates an internal circuit in a two-wire IEPE system which transmits its low impedance voltage output through the same cable that supplies the constant current power. Signal ground is connected to the outer case of the unit. Isolated mounting adapter is available. Polarity inversion protection for the amplify circuit is inherent in the circuit design. The welded titanium construction provides a lightweight hermetic housing. The miniature M3 glass insulated connector provides long-term stability over the operating temperature range. The 710A provides wide frequency response, which is ideal for dynamic vibration and shock measurement especially for lightweight structures and drop testing for the packaging industry. Senter's model 12-3 is a M3 to BNC breakout cable for the sensor.



Specification

Typical at +24°C (+75°F), 24Vdc, 4 mA and 100Hz, unless otherwise stated.

Part Number	-50	-100	-200	-500	-1000	-2000	
Measurement Range	50	100	200	500	1000	2000	g
Sensitivity, $\pm 15\%$	100	50	25	-	-	-	mV/g
Sensitivity, $\pm 10\%$	-	-	-	10	5	2.5	mV/g
Frequency Response, $\pm 5\%$	1~10000	0.5~10000	2~10000	1~10000	1~10000	1~10000	Hz
Frequency Response, $\pm 3\text{dB}$	0.5~15000	0.3~15000	1~15000	0.5~15000	0.5~15000	0.5~15000	Hz
Resonant Frequency	48	48	48	48	48	48	KHz
Transverse Sensitivity	<5	<5	<5	<5	<5	<5	%
Temperature Response, -55 to +125°C	± 10	± 10	± 10	± 10	± 10	± 10	%
Non-Linearity	± 1	± 1	± 1	± 1	± 1	± 1	%FSO
Residual Noise (2 Hz to 20 kHz)	0.0016	0.002	0.002	0.002	0.006	0.006	Equiv. g RMS
Shock Limit	5000	5000	5000	5000	5000	5000	g



Parameters	Value	Units
Bias Voltage (Room Temperature)	8 To 12	Vdc
Bias Voltage (-55°C To 125°C)	6 To 13	Vdc
Output Impedance	<100	Ω
Full Scale Output Voltage	± 5	V
Insulation Resistance (@100Vdc)	>100	M Ω
Supply (Compliance) Voltage	18 to 30	Vdc
Supply Current	2 to 10	mA
Operating & Storage Temperature	-55 to +125°C	°C
Humidity	Hermetically Sealed	
Case Material	Titanium Alloy	
Sensing Element	Piezo Ceramic	
Weight	0.9	Grams
Mounting	Adhesive	

Accessories

Calibration certificate included.

Part Number	Description	Availability
PF0033	Double adhesive tape-3M® #300SLE	Optional
PF0095	Adhesive epoxy-Loctite® #401	Optional
12-3	3 meter mating cable with M3(male) to BNC(male) connector	Optional
14-3	3 meter mating cable with M3(male) to 10-32(male) connector	Optional
IN-03	3 channels IEPE signal conditioner	Optional
IN-91	Portable vibration analyzer	Optional
IN-3062	8 channels data acquisition system	Optional

Measurement configuration

Sensor	Mating cable	Signal conditioner	BNC cable	Data acquisition	Computer
					

Ordering information

710	A	-	50
Model	Output signal	-	Range
710	A=IEPE output	-	50=50g 100=100g 250=250g 500=500g 1000=1000g 2000=2000g



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