

## Statics response IEPE accelerometer

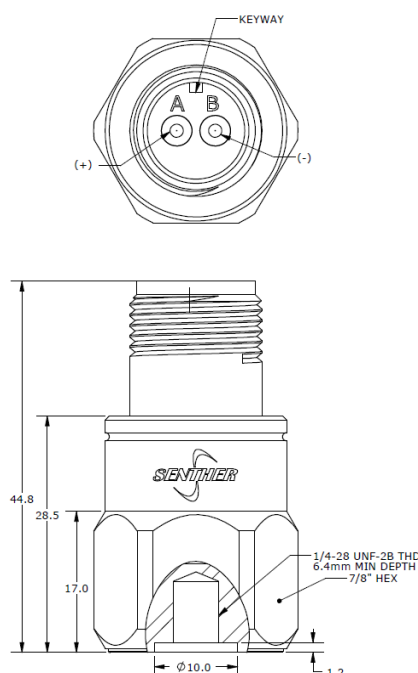


### Features

- IEPE excitation
- Internally shielded
- Corrosion resistant
- Hermetic seal
- Case isolated
- DC response
- Fast shock recovery

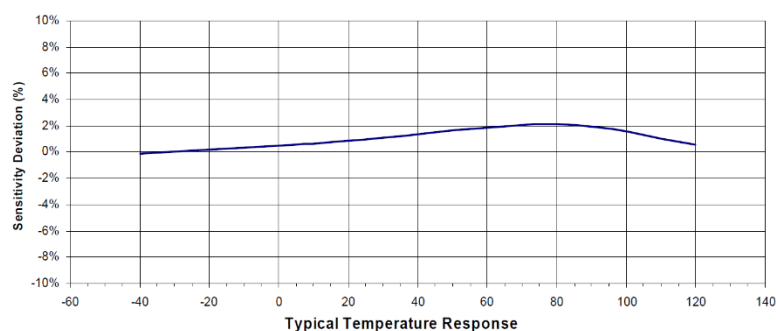
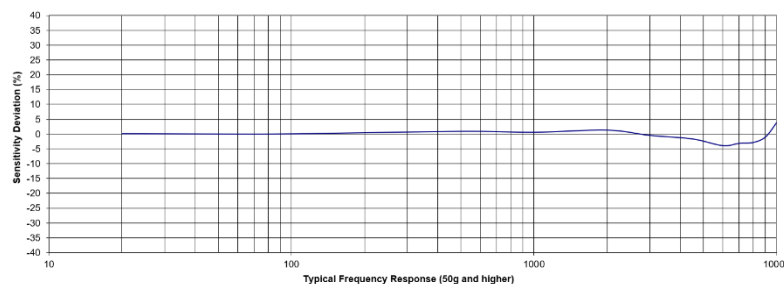
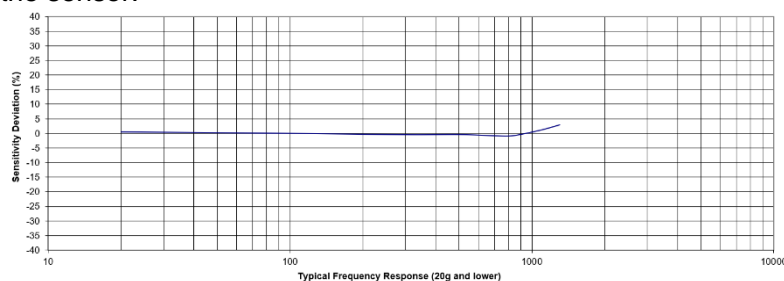
### Application

- Low frequency measurement
- Tower monitoring
- Industrial applications
- Wind-turbine blade monitoring
- Static/dynamic testing



### Description

Model 870X is an IEPE single axial accelerometer with static and dynamic response, this feature permitting the measurement of motion with high frequency and low frequency signal, even down to 0Hz(static) measurement. 870X utilizes a silicon Micro-Electro Mechanical System (MEMS) sensor which exhibits excellent output stability over time. The accelerometer incorporates an internal circuit in a two-wire IEPE system which transmits the acceleration output through the same cable that supplies the constant current power. Polarity inversion protection for the amplify circuit is inherent in the circuit design. The accelerometer offer rugged, laser welded, stainless steel housing with durable military style connectors. Electrical case isolation, hermetic sealing, RF, EMI, ESD, and overload protection all ensure tolerance against environmental influence and mishandling. All variations provide reliable measurements and long-term stability. 870X has 1/4-28 threaded holes for stud mounting on the test object. Senter's model 16A-L is a breakout cable for the sensor.



## Specification

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

Dash Number	-2	-5	-10	-20	-50	-100	-200	-500	
Dynamic Range	±2	±5	±10	±20	±50	±100	±200	±500	g, peak
Sensitivity ±10%	2500	1000	500	250	100	50	25	10	mV/g
Freq. Resp. ±5%	0-800	0-800	0-800	0-800	0-4500	0-4500	0-6000	0-8000	Hz
Freq. Resp. ±3dB	0-1300	0-1300	0-1300	0-1300	0-10000	0-10000	0-13000	0-20000	Hz
Transverse Sensitivity	<3	<3	<3	<3	<3	<3	<3	<3	%
Temp. Resp., -40 to +125°C	±5	±5	±5	±5	±5	±5	±5	±5	%
Non-Linearity	±1	±1	±1	±1	±1	±1	±1	±1	%FSO
Residual Noise (PASSBAND)	650	1000	550	550	250	300	350	550	μVrms
Shock Limit	5000	5000	5000	5000	5000	5000	5000	5000	g
Warm-up Time	<100	<100	<100	<100	<100	<100	<100	<100	mSEC
Weight	70	70	70	70	70	70	70	70	Gram

SPECIFICATIONS	VALUE	UNITS
Bias Voltage	11 to 13	Vdc
Supply Voltage	18 to 30	Vdc
Supply Current	2 to 10	mA
Output Impedance	<100	Ω
Case Insulation (@100Vdc)	>100	MΩ
Operating Temperature	-40 to +125	°C
Humidity	Hermetically Sealed	
Case Material	316L Stainless Steel	
Sensing Element	MEMS	
Connector	2 Pin MIL-C-5015	

## Accessories

Calibration certificate included.

Part Number	Description	Availability
PM0011	Mounting stud ¼-28 to ¼-28 thread	One stud Included
PM0008	Mounting stud ¼-28 to M6 thread	
PM0007	Mounting stud ¼-28 to M10 thread	Optional
MB0001	Magnet mounting adapter	Optional
16A-10	10 meter mating cable with MIL-C-5015 connector	Optional
16A-10-B	10 meter mating cable with MIL-C-5015 to BNC 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

<b>870</b>	<b>X</b>	-	<b>5</b>	-	<b>A</b>
<b>Model</b>	Output signal	-	Range	-	Mounting stud
<b>870</b>	X=DC IEPE output	-	2=2g 5=5g 10=10g 20=20g 50=50g 100=100g 200=200g 500=500g	-	A= 1/4-28 to 1/4-28 B= 1/4-28 to M6 C*=Special

