SENTHER

Stress Wave Transducer

Features

- High frequency response
- Rugged design
- High sensitivity
- Hermetic seal
- Case isolated
- ESD protection
- Reverse wiring protection
- EMI / RFI shielded
- High Q diagnostic

Application

- Machine monitoring
- System acoustics
- Defect analysis
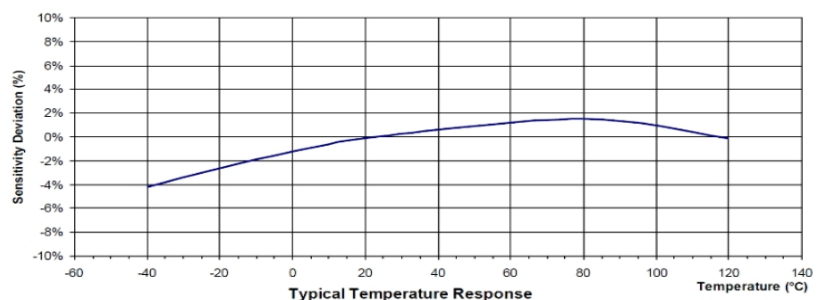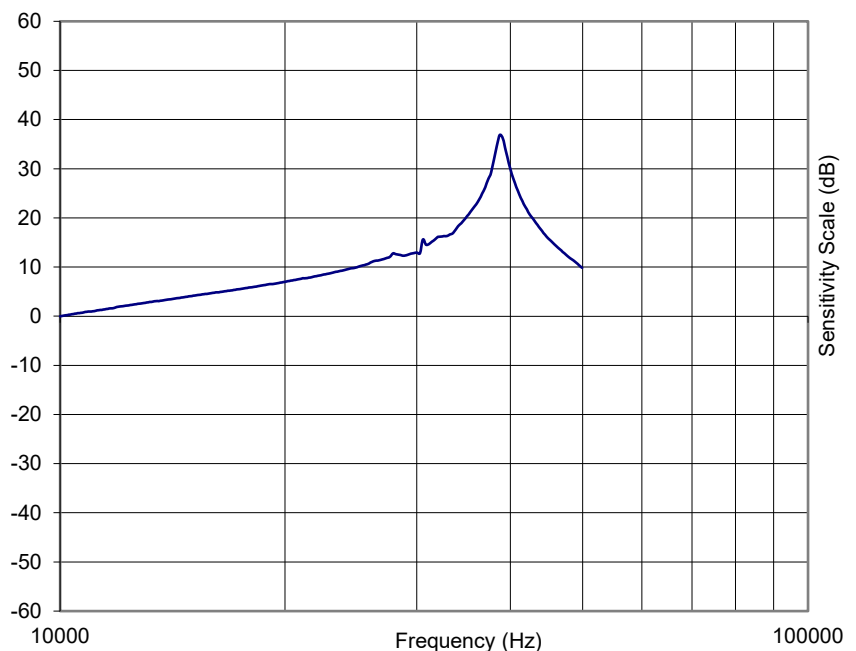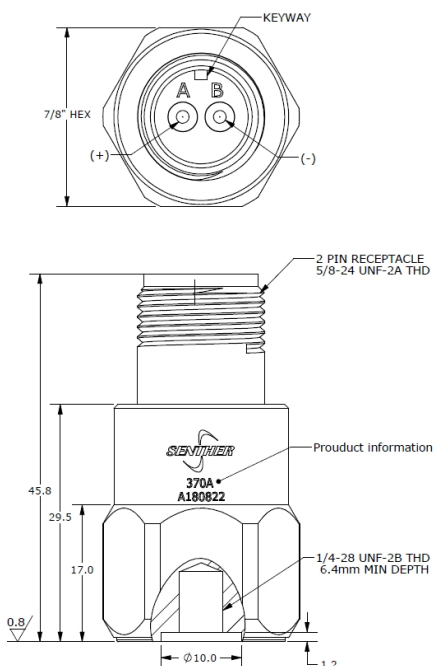- Rotating machine
- Abrasion testing

Description

Model 370A is an industrial IEPE accelerometer for measuring high frequency stress wave. 370A features an annular shear ceramic crystal which exhibits excellent output stability over time. The accelerometer incorporates an internal circuit with 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 internal shielded and isolated from the outer case of the unit. Polarity inversion protection for the amplify circuit is inherent in the circuit design. The welded stainless-steel construction provides a hermetic housing. The standard MIL-C-5015 glass insulated connector provides long-term stability over the operating temperature range. 370A has ¼-28 threaded holes for stud mounting on the test object. 370A especially support the high frequency response(>10KHz). The sensor picks up the machine stress wave signal generated by premature wear and scale it by sensor resonance, which is ideal for gearbox and bearing detection. Senther's model 16-L is a mating cable for the sensor.

Specification

Typical at +24°C (+75°F), 24Vdc, 4 mA and 38kHz, unless otherwise stated.

PARAMETERS	VALUE	UNITS
SENSITIVITY ±10%	11.5 (@ 10K Hz)	mV/g
RESONANT FREQUENCY ⚠2	38 (±2.5)	kHz
Q ⚠1	>20	dB
SHOCK LIMIT	5000	g

PARAMETERS	VALUE	UNITS
BIAS VOLTAGE	11 to 13	Vdc
OUTPUT IMPEDANCE	50	Ω
RESIDUAL NOISE (BROADBAND 2.5 Hz to 50 kHz)	20	µV RMS
INSULATION RESISTANCE (@100Vdc)	>100	MΩ
SUPPLY VOLTAGE	22 to 30	Vdc
SUPPLY CURRENT	2 to 10	mA
WARM-UP TIME	1	sec
OPERATING TEMPERATURE	-50 to +120	°C
HUMIDITY	Hermetically sealed	
WEIGHT	76.3	Grams
MATERIAL	Stainless steel	
MOUNTING TORQUE ⚠3	18(2)	lb-in (N-m)

⚠ Q is defined as the resonance decay ±5 kHz of the resonant frequency;

⚠ Damping is defined, in the time domain, as the number of cycles required to decay from peak value to ½ amplitude of the peak value.
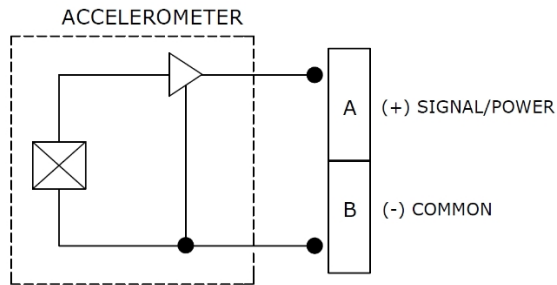
⚠ Apply grease prior to mounting sensor.

Frequency response limits spectral and noise values are typical

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
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 |

ACCELEROMETER

A (+) SIGNAL/POWER

B (-) COMMON

Ordering information

370	A	-	A
Model	Output signal	-	Mounting stud
370	A=IEPE output	-	A= ¼-28 to ¼-28 B= ¼-28 to M6 C*=Special