

Sensors



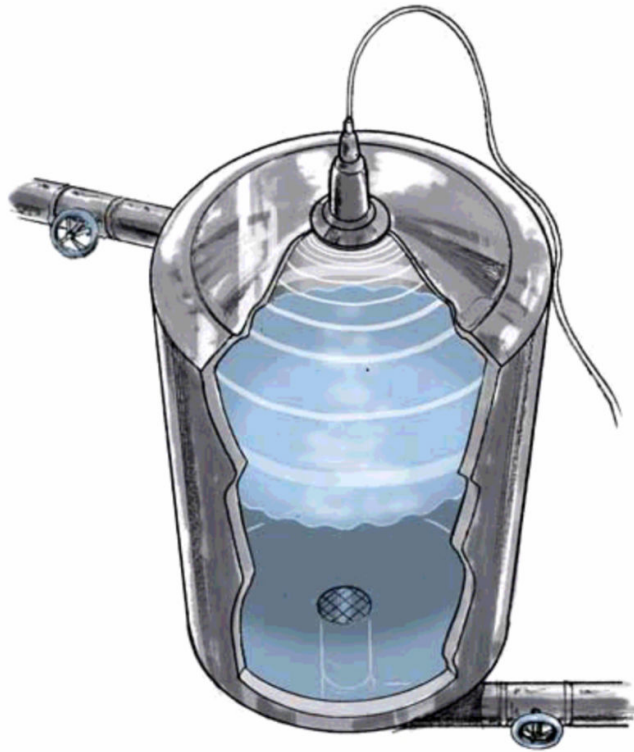
Piezoelectric sensors convert mechanical movements, such as force, acceleration or pressure, into electric signals. A piezo sensor features low sensitivity to temperature and magnetic field fluctuations, low transverse sensitivity, high resonance frequency and high stability. Piezo sensors can be used for a long range of piezo-based applications.

ADVANTAGES OF PIEZO SENSORS

Advantages of piezo sensors

- Reliable, robust and compact
- Low energy consumption
- Active signal producing component — no powering needed
- Extremely high temperature range
- Linearity over four decades
- Time stable and long lasting
- High frequencies
- Bidirectional electromechanical conversion

APPLICATIONS USING PIEZO SENSORS



Where can you use your piezo sensor?

- Vibration and shock measurement
- Pressure and force measurement
- Flow and distance measurement
- Sound and noise measurement
- Level measurement

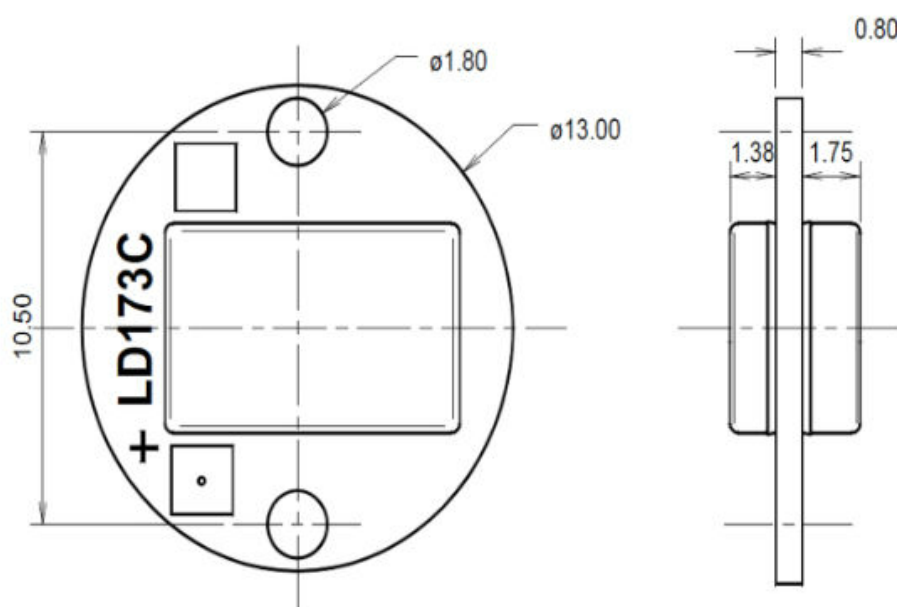
[Have a look at our examples of applications](#)

PRODUCT EXAMPLE: BONE MICROPHONE

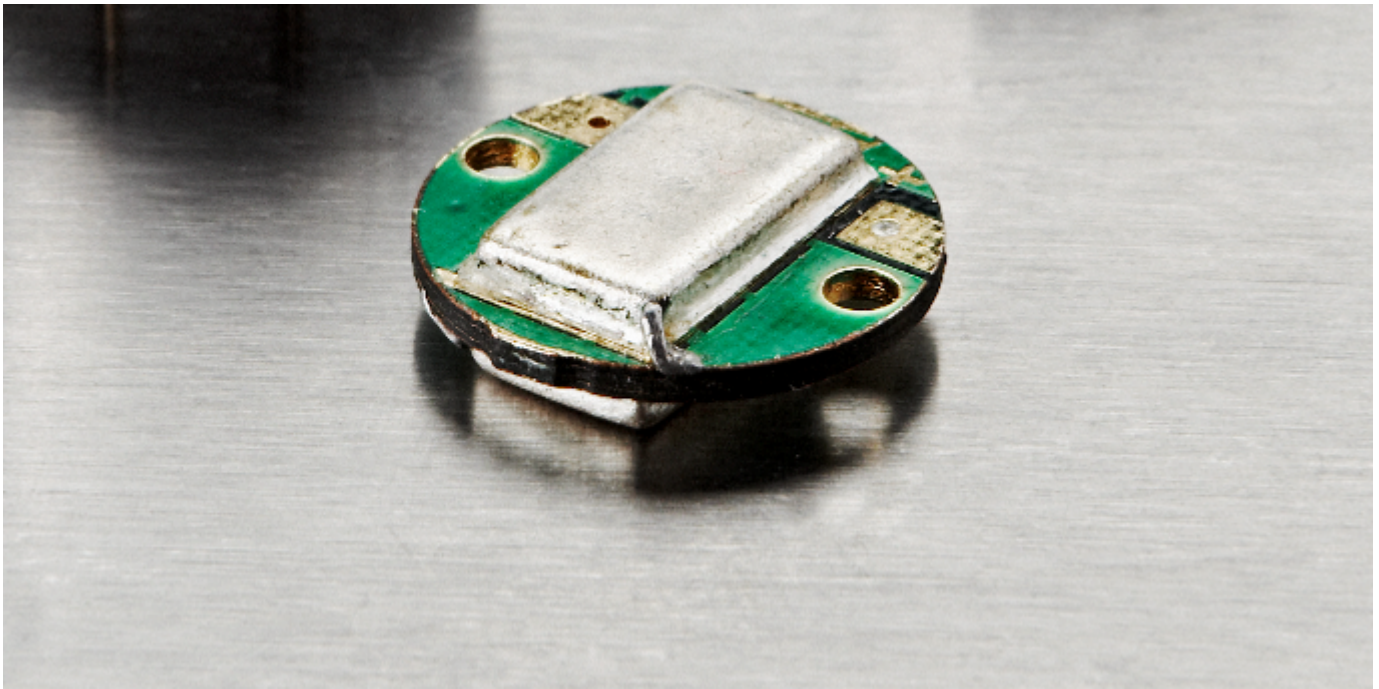
Parameter ¹	Unit	Min	Typ.	Max	Remark
Sensitivity at 160 Hz	$\mu\text{A}/\text{ms}^{-2}$	0,4			In the testing circuit, against 1V/g
	mV/ms^{-2}		2		
	mV/g		20		
	dB		-34		
Transverse sensitivity	%			5	at 50 Hz
Frequency range (min.)	Hz	20 - 5000			± 3 dB
Temperature range	$^{\circ}\text{C}$	-40		+85	
Shock resistivity	ms^{-2}	1000			100 pulses 10 μs in three directions
Mass	g		0.8		
Seismic mass	g	0,15			
Sensing element		Piezoceramic			
Sensor design		flexure			
Bias current	μA		25	30	
Power voltage	V	1.3		15	
Output impedance	Ω		4900		

¹ Parameters are obtained in accordance with relevant parts of ISO5347 or ISO16063 standards.

Dimensions (mm)



LD173C - BONE MICROPHONE



The bone microphone is used for communication purposes in noisy environments. The bone microphones are used by fire brigades, police and other law enforcement forces for communication purposes. We offer our bone microphone as a standard product.

Communication insensitive to surrounding noise

Noliac's bone microphone measure vibration of the skull instead of sound from mouth and are therefore insensitive to noise in the surroundings. The piezoelectric transducer is designed to measure acoustically invoked vibrations in a communication frequency band of audible spectrum.

PRODUCT EXAMPLE: ACCELEROMETER

Model	Output	Charge sensitivity pC/ms ⁻²	Resonance frequency (mounted 180g) (kHz)	Temperature range (°C)	Mass (g)
MH128U	charge/ voltage	3.16	25	-40 to 180	10
MH155	charge/ voltage	3.16	—	-25 to 100	60
MH164	charge/ voltage	0.1	60	-40 to 150	8



Noliac's piezoelectric accelerometers are intended for general use in systems for vibration measurements and machine condition monitoring.

Features

- Low sensitivity to temperature
- Low sensitivity to magnetic field fluctuations
- Low transverse sensitivity
- High resonance frequency
- High stability

Standard or customized solution

The parameters shown in the table are for examples of our standard accelerometers. However, we offer to custom design your accelerometer to match your specific requirements. For more information, please contact us using our Request for Quote form or [contact sales](#).