

MLT1132 Piezo Respiratory Belt Transducer

Transducer Series

Description

The MLT1132 Piezo Respiratory Belt Transducer generates a voltage when there is a change in thoracic or abdominal circumference due to respiration. It contains a piezo-electric device that responds linearly to changes in length. The transducer is a solid-state device that requires no excitation and connects directly to a PowerLab BNC input. It is comfortable to wear, rugged and reliable. MLT1132 is MR unsafe, for use in MR environments see MLT1133.



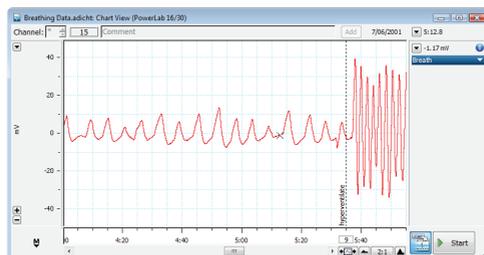
Operation

The transducer contains a sensor placed between two elastic strips. Stretching the elastic places a strain on the piezo sensor, which generates a voltage. When there is no strain or changes in length, such as periods of no breathing, the signal returns to zero. The device should be placed around the body at the level of maximum respiratory expansion. This level will change between upright and supine positions. The velcro extension allows size adjustment. At maximum inspiration the belt should be stretched almost to maximum extension. This allows the recording of respiratory changes with maximum sensitivity and linearity.

Application

The MLT1132 is used to observe respiration by measuring changes in abdominal or thoracic circumference. These measurements can indicate inhalation and expiration as well as used to derive breathing rate. The transducer may be used to characterize breathing patterns. The velcro extension belt allows the transducer to be used on humans and larger animals.

Typical Data



Breathing trace recorded at rest and during panting.

Caution

Read "Statement of Intended Use" on our website or in "Getting Started with PowerLab" before use

Cleaning & Care:

The velcro strap and cloth encased transducer may be gently hand washed. Do not immerse the electrical connector.

Specifications

Signal source:	Piezo-electric
Output range:	20 mV to 400 mV
Device capacitance:	2.2 μ F
Device resistance:	10 ⁸ Ω
Natural frequency of belt:	>35 Hz
Connector:	BNC
Rest length:	300 mm (11.8")
Maximum elongation:	100 mm (3.9")
Width:	45 mm (1.8")
Belt length:	1200 mm (3.9')
Cable length:	2800 mm (9.2')

All specifications were tested at the time of printing and are subject to change.

Ordering Information:

MLT1132 Piezo Respiratory Belt Transducer (BNC)

For use with:
Any PowerLab