

## TN1132/ST Respiratory Belt

*Transducer Series*

### Description

The TN1132/ST Respiratory Belt generates a voltage when there is a change in thoracic or abdominal circumference due to respiration. It contains a capacitive sensing element and custom electronics that respond linearly to changes in length. The transducer must be connected to a PowerLab Pod Port. It is comfortable to wear, rugged and reliable. TN1132/ST is MR unsafe.



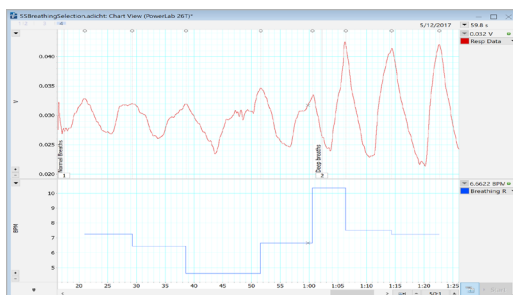
### Operation

The transducer contains a flexible sensing element bonded to the inside of the fabric belt. The electronics in the plug will output a voltage proportional to how much the sensing element is stretched. Measurements are highly repeatable and can be calibrated to true displacement. 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 adjustable strap allows size adjustment. The belt should be pretensioned slightly. Any signal offset caused by this can be zeroed out in the Input Amplifier Dialog. This allows the recording of respiratory changes with maximum sensitivity and linearity.

### Application

The TN1132/ST is used to observe respiration by measuring changes in abdominal or thoracic circumference. These measurements can indicate inhalation and expiration as well as derived breathing rate. The transducer may be used to characterize breathing patterns. The adjustable strap allows the transducer to be used on humans and larger animals.

### Typical Data



*Typical breathing trace showing normal and deep breaths.*

## Caution

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

### Cleaning & Care:

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

## Specifications

Output:	0 to 100 mV
Connector:	DIN
Rest Sensor length:	80 mm (3.2")
Maximum elongation:	60 mm (2.4")
Sensitivity:	~ 0.6 mm / mV
Width:	25 mm (1")
Belt Length (min):	220 mm (8.7")
Belt Length (max):	1400 mm (4.6')
Cable Length:	1800 mm (5.9')
Low Pass Filter:	5Hz or 2Hz (Software Selectable)
Coupling:	DC or AC Coupling (Software Selectable)

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

## Ordering Information

TN1132/ST Respiratory Belt

For use with:

Any PowerLab with either a Pod Port or FE305 Pod Expander