

# LTS2080 Respiratory Belt Sensor

Lt Sensors Series

## Description

The Lt Sensors 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. It is comfortable to wear, and reliable.



## 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.

To use the Respiratory Belt Sensor, plug the sensor into the USB port of a laptop or desktop computer, with a Windows operating system. Alternatively, plug the sensor into a USB hub connected to that computer. A green LED on the connector housing indicates the transducer is receiving power and is ready for use.

## Application

The Lt Sensor Respiratory Belt is used to observe respiration by measuring changes in abdominal or thoracic circumference. These measurements can indicate inspiration and expiration as well as derived breathing rate. The transducer may be used to characterize breathing patterns.

## Typical Data



Typical breathing trace showing normal and rapid breathing

## Caution

Read “Statement of Intended Use” on our website.

## Cleaning and Care

Gently clean belt, cable, and connector housing (take care to avoid the actual connection pins with a disinfectant wipe. Ensure that excessive amounts of liquid disinfectant are not used on the connector housing. Do not immerse the USB connector.

## Specifications

Output:	0 to 100 mV
Connector:	USB
Rest Sensor length:	80 mm (3.2")
Maximum elongation:	60 mm (2.4")
Width:	25 mm (1")
Belt Length (min):	220 mm (8.7")
Belt Length (max):	1400 mm (4.6")
Cable Length:	1800 mm (5.9")

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

## Ordering Information

LTS2080 Respiratory Belt Sensor

For use with:

Laptop or desktop computer with Windows operating system