ADINSTRUMENTS

TN1012/ST Pulse Transducer

Smart transducer Series

Description

The TN1012/ST Pulse Transducer uses a piezo-electric element to convert force applied to the active surface of the transducer into an electrical analog signal.

Operation

The pulse transducer connects directly to a PowerLab Pod input via the Smart 8-pin DIN connector and is automatically recognized by the LabChart software. The transducer is kept in place using a hook-and-loop fastener around the finger when measuring finger pulse. Some repositioning may be required to obtain the best signal. If there are difficulties in obtaining a good signal, the following actions may be followed.

- Adjusting the placement of the transducer on the finger.
- Adjusting the tightness of the strap.
- Warming up the subject's hands.

Blood pressure changes will change the finger circumference (expansion and contraction), which will then change the force applied to the active surface of the transducer. Therefore, changes in the electrical analog signal correspond to these force changes and can then be used to determine heart rate. The typical output is 50–200 mV (can reach as high as 500 mV).

NOTE: The transducer is sensitive to movement. To avoid large motion or artifacts and obtain good recordings, keep the transducer still. The thumb or the middle finger usually provides a good pulse measurement.

Application

Applications of the TN1012/ST Pulse Transducer include monitoring of finger peripheral pulse as well as small animal respiratory activity.

Typical Data
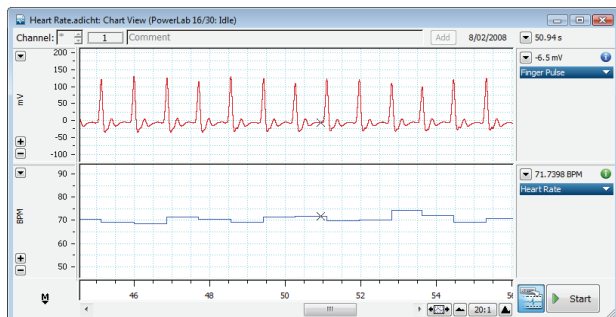
Finger pressure pulse data and calculated heart rate

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

Specifications

Typical output:	100 mV output for finger pulse
	(ranges from 20 mV to 500 mV depending on person)
Weight including cable:	50 g
Size of transducer:	23 mm diameter x 11 mm thick. (0.87" x 0.47")
Cable length:	2.9 m (9.5')

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

Ordering Information:

TN1012/ST Pulse Transducer
       For use with:
       Any PowerLab with Pod port.
       FE305 Pod Expander