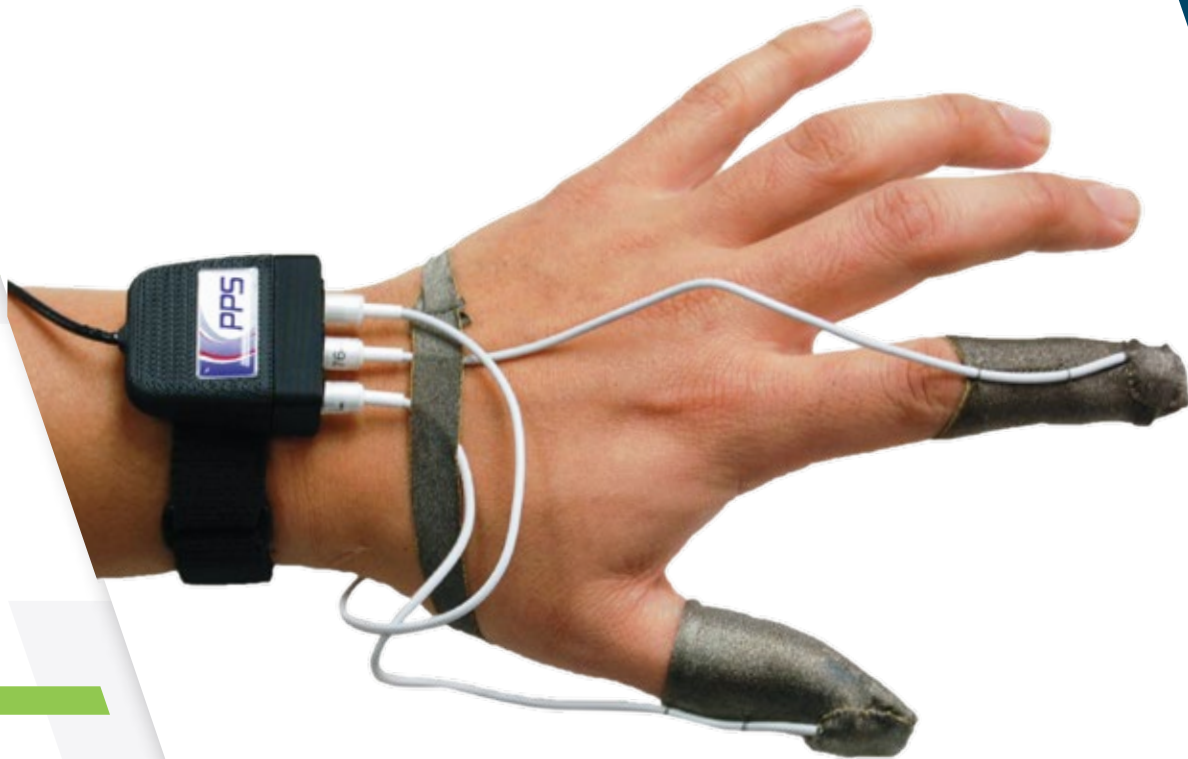




FingerTPS™

*Configurable Hand & Finger Force
Measurement System*

INTRODUCTION AND PRODUCT OVERVIEW

For product designers and researchers who work to optimize product ergonomics by quantifying user interactions, PPS's Finger Tactile Pressure Sensing (FingerTPS™) System is the ideal measurement tool.

The FingerTPS™ System utilizes highly sensitive capacitive-based pressure sensors to reliably quantify forces applied by the human hand on objects.

Along with its comfortable and slim design, FingerTPS™ uses wireless Bluetooth® connectivity to enable more natural operation without cumbersome wiring.

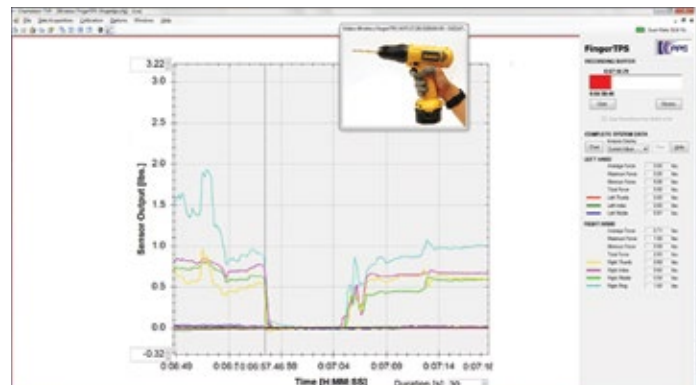
When used with PPS's powerful Chameleon™ Tactile Visualization and Recording (TVR) software, the FingerTPS™ System can be easily reconfigured and recalibrated for different uses of the hands on the fly.



Chameleon™ Tactile Visualization and Recording (TVR) Software

PPS's Chameleon™ Tactile Visualization and Recording (TVR) software is a pressure imaging solution providing intuitive, easy to use, high quality pressure mapping visualization.

Precise force data and video images can be captured, exported, and analyzed in real-time, or saved and replayed for analysis on a later date.



Features and Applications

KEY FEATURES

- + Minimal set-up and configuration
- + Conformable, lightweight and comfortable sensors
- + Compact, wireless Bluetooth® connectivity
- + Simple calibration and configuration
- + User configurable
- + API available

KEY BENEFITS

- + Minimally-intrusive comfortable tactile sensors closely match human interactions.
- + Capture reliable, repeatable data even over curved surfaces
- + Ability to test one-handed or two-handed operations
- + Easy to incorporate into various tasks due to minimal wiring

APPLICATIONS

The FingerTPS™ System can be applied in nearly any application where forces exerted on the hand or by the hand need to be measured.



Rehabilitation and occupational therapy



Human factors and ergonomics product testing



User interaction testing in industrial design



Worker safety assessment



Physiology and musculoskeletal research



Athletic, fitness, or sports performance assessment

SYSTEM COMPONENTS



- ① 2 FingerTPS™ sensors (any 2 of 6 shown)
- ② 2 Piece Acrylic Hand Stand
- ③ Wrist Module
- ④ Rechargeable Wireless Bluetooth Interface Electronics Box
- ⑤ Calibration and Reference Load Cell
- ⑥ Bluetooth® Dongle

The system comprises a series of sensors of various sizes. These sensors connect to the signal-conditioning Wrist Module (connects up to 6 sensors), which is then connected to the rechargeable electronics interface module.

This module then connects wirelessly over Bluetooth® to the computer running PPS's Chameleon™ TVR software for live data capture and processing.

Not shown: USB to Mini USB Cable for re-charging, Hi-Res USB Logitech 2.0 Camera, Chameleon Software Installation (link provided in e-mail).

SENSOR MODELS AND METRICS

Sensor Characteristics and Performance¹

Force Range	4.4 lbs (2 kg)
Sensitivity	0.1%
Signal-to-Noise (SNR)	1000:1
Gain Non-Repeatability	1%
Linearity	99%
Accuracy Error	Less than 5%
Sensor Thickness	0.08 in (2.0mm)
Cable Length	59 in (1.5 m)
Weight	0.12 lbs (55 g)

Electronic Specifications

Scan Rate	40 Hz
Interconnection	Bluetooth®
ADC Resolution	16 bit
Input Voltage / Power	5 V / 2.5 W
Operating Temperature	0 - 50 °C

¹Performance numbers are for typical system response.

FAQS

1. How many sensors come with a purchase of a FingerTPS™ System?

Your choice of any two finger sensors come with one system. You may order additional finger sensors.

2. Where is the sensing elements located on the finger sensors?

The sensing elements are located in an oval shape at the bottom fingertip of each sensor. No sensing elements are located on the back of the sensor.

3. You say this is wireless but there are wires on the FingerTPS™ System?

The system is wireless in that it does not need to be connected to the computer via wires. The system connects to the computer over Bluetooth®.

4. What is the wireless Bluetooth® range of the FingerTPS™ System?

You can use the system up to 5 meters from the computer in which the Bluetooth® dongle is attached.

5. Is the FingerTPS™ System one-size fits all?

The sensors are offered in various sizes from XS to L. Please refer to the FingerTPS™ Sizing Chart to determine the best sized finger sensor for you.

CONTACT US

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