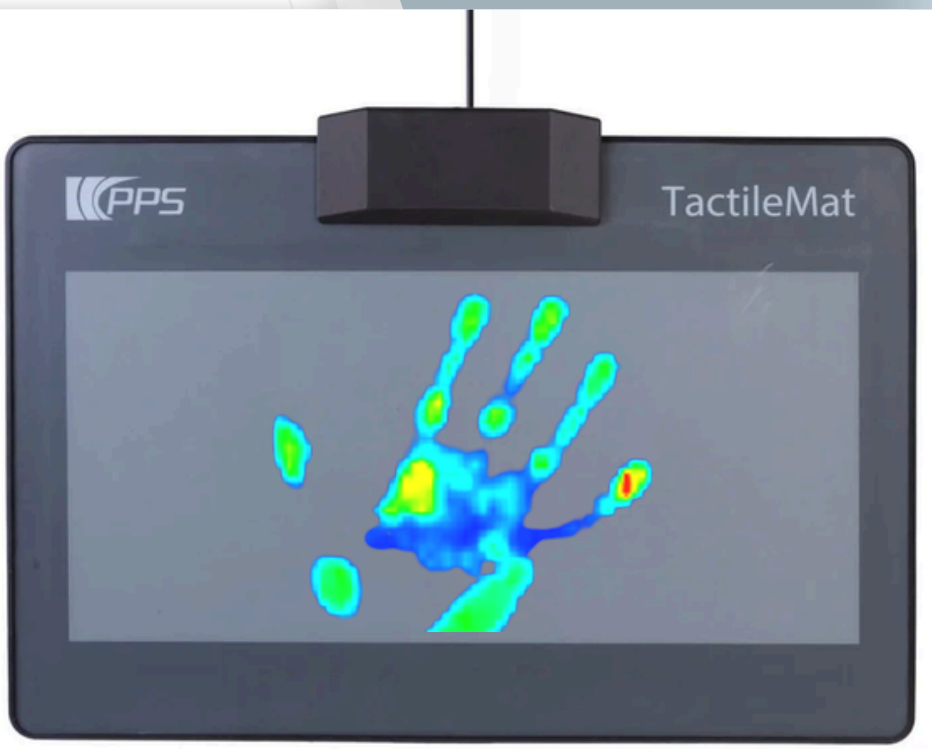


TactileMat

Rigid, High-Resolution Pressure Mapping Across Large Surface Areas

Introduction

INTRODUCTION AND PRODUCT OVERVIEW

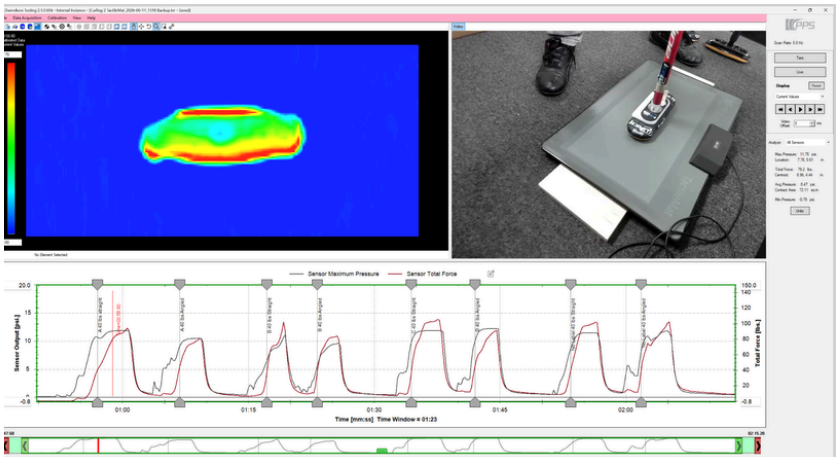
TactileMat captures pressure distribution across large floor and surface areas in direct physical contact. By placing the sensor on the floor or integrating it into a testing setup, product developers, researchers, and clinicians can measure and visualize pressure information across a wide active area in a single capture.

PPS's TactileMat is one of the largest high-resolution pressure mapping sensors on the market, designed for applications requiring accurate, repeatable data across a large contact area without the dead zones typical of multiple smaller sensors placed side-by-side. Built on PPS's Industrial TactArray (ITA) sensing technology, TactileMat measures pressure distribution at 3, 5, 7, 20, or 40 psi (with custom pressure ranges available upon request).



The system comprises a flat sensor mat, USB interface electronics, and Chameleon Visualization Software. The mat's rigid, slim construction (7.7 mm thick) with a non-slip base allows it to sit flat and stable on the floor for repeatable test conditions, while its 44 x 90 array of 5 mm sensing elements delivers high-resolution data across the full 220 mm x 450 mm active area.

Available in a range of pressure ratings.



KEY BENEFITS

+ Continuous coverage across the full active area in a single capture
+ High repeatability and accuracy for consistent test results
+ Rigid, non-slip base for stable, repeatable floor testing
+ Available across multiple pressure ranges (3–40 psi)

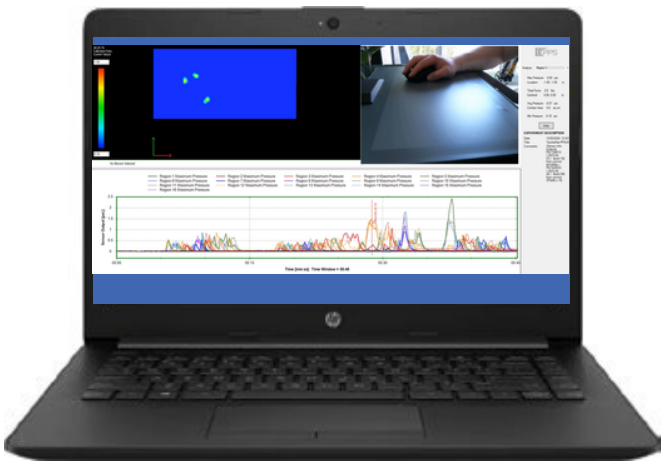
Features & Applications

KEY FEATURES

- High spatial resolution (5.0 x 5.0 mm)
- Rigid, robust construction with non-slip base
- Slim profile, just 7.7 mm thick
- Operates between 5°C and 80°C (static environment)
- Captures pressures from 3 up to 40 psi, with custom ranges available
- Active sensing area of 220 mm x 450 mm (44 x 90 matrix array)

SOFTWARE

The Chameleon Tactile Visualization and Recording (TVR) software captures and records live data to provide both numeric and visual representation of contact pressures.



APPLICATIONS

What makes TactileMat distinctive isn't its size alone. It's that one sensor performs equally well on an industrial production line and in a clinical research lab, with no change in form factor.

That versatility carries through to how it fits into existing setups. TactileMat connects via USB and runs on Chameleon software, which can record and play back synchronized video alongside pressure data, slotting into a production line's quality check, a lab's data collection setup, or a clinic's assessment process, rather than requiring a dedicated test solution.

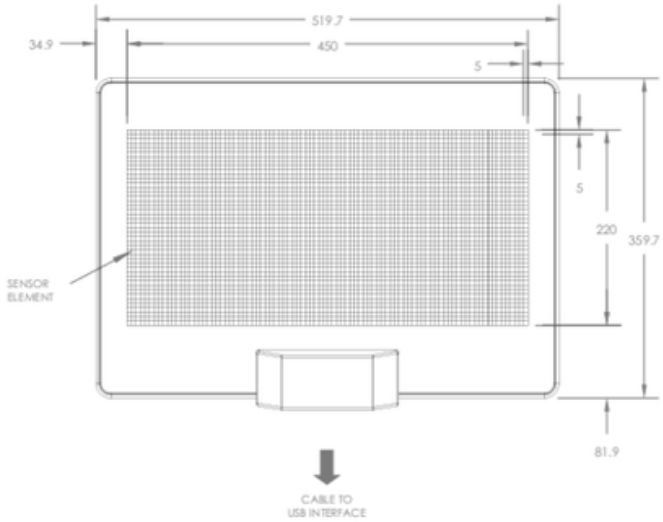
It also extends to pressure range. An industrial load test and a gait trial put very different forces through the sensor, so matching that range to the application is what keeps the data meaningful.

Example Applications:

- **Floor equipment testing:** Measures contact pressure of mop heads, vacuum heads, and curling brushes, applicable to a wide range of floor surface equipment
- **Transit and load testing:** Measures load distribution across packaged or stacked goods in transit
- **Product design:** Maps hand-force and contact pressure for consumer products
- **Spray pattern uniformity:** Maps pressure distribution across an industrial spray pattern to verify consistency
- **Gait and footwear research:** Measures pressure distribution across the foot for footwear, orthotic, and biomechanics studies, including veterinary and animal gait research

Technical Specifications

SENSOR METRICS



TactileMat houses a 44 x 90 array of 5 mm x 5 mm sensor elements, delivering high-resolution coverage across the full active sensing area.

The overall sensor measures 519.7 mm x 359.7 mm, sized to accommodate the array within a slim, rigid footprint, with the cable exiting to the USB interface at the base of the mat.

Sensor Characteristics & Performance*

Full Scale Range	3, 5, 7, 20, 40 psi
Thickness	7.7 mm (0.303 in)
Signal-to-Noise (SNR)	≥ 300:1
Sensitivity	≤ 0.2%
Linearity	99.8%
Gain Non-Repeatability	≤ 3%
Waterproofing	IP53+

Electronic Specifications

Sampling Rate	16.7 Hz, relevant to pressure
Interconnect	USB 2.0
ADC Resolution	12 bit
Input Voltage / Power	5 V / 2 W
Operating Tempereature	5°C to 80°C (static)
Cable Length	1.5 m (3 m optional)

*Performance numbers are for typical system response.

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