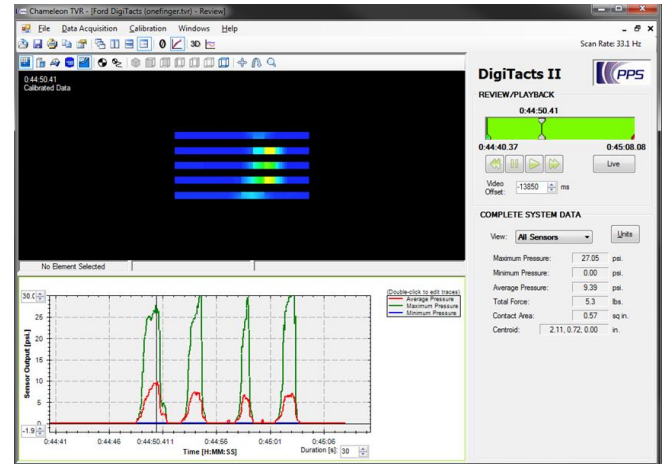


Door Handle Pressure Mapping Sensors



Sample Data Display

PRODUCT OVERVIEW

PPS's Door Handle Pressure Mapping System provides pressure mapping data that can be correlated to the level of comfort and feel that drivers and passengers experience when they grasp automotive door handles. Designers can objectively quantify a driver's sense of touch when they interact with different car handles to understand why some door handles are perceived by users to be more comfortable or of higher quality than others.

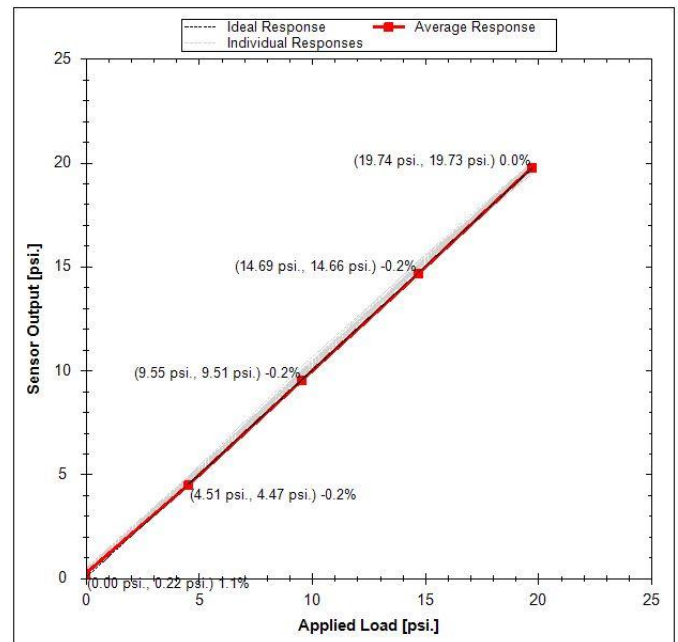
For Automotive manufacturer that develop ergonomic door handles for an improved driver experience, our flexible sensor materials allow us to provide custom sensor designs that provide reliable, repeatable and sensitive output for a curved door handle surface. These strip sensors are mounted by the customer in simple manner on the door handle. The solution also features wireless capabilities and provides parallel output from 5 sensors at one time.

KEY SYSTEM FEATURES AND BENEFITS

- **5 highly sensitive, flexible-material sensors** with stable and repeatable sensor output that can be used even on curved surfaces, so testing is not constrained by door handle design.
- **Compact wireless Bluetooth electronics** provides easy to use set up with minimal wires.
- **Customer mount, removable sensors** allow engineers to locate sensors in the active area of interest for any handle design, and the sensors can be reused to test multiple designs.
- **High performance capacitive sensing technology** saves time and improves results by significantly reducing recalibration and repeated tests allowing developers to resolve problems and answer questions faster.
- **SPI serial digital output** ideal for OEM integration.
- **Chameleon Visualization Software** provides intuitive, easy to use, high-quality visualization and easy access to data for analysis and export to other applications.

SENSOR MODELS			
Model Number	5420	5421	5422
Total Sensor Area	5mm x 94 mm	5mm x 91 mm (with curve)	5mm x 91 mm (with curve)
Active Sensing Area	4mm x 80mm	4mm x 80mm	4mm x 80mm
Element Count	12 (1x12)	12 (1x12)	12 (1x12)
Spatial Resolution	5mm x 6.7mm	5mm x 6.7mm	5mm x 6.7mm

SENSOR CHARACTERISTICS AND PERFORMANCE ¹	
Pressure Range	30 PSI
Pressure Sensitivity	0.1%
Signal to Noise Ratio (SNR)	1000:1
Repeatability Error	0.4%
Linearity	99.8%
Accuracy Error ²	<=2%
Contact Surface Material	Cloth & Polyimide
Sensor Thickness	0.02 in (0.5 mm)
Cable Length	59 in (1.5m)
Operating Temperature	5°C – 60°C



ELECTRONICS SPECIFICATIONS	
Sample Rate	50Hz
Computer Interface	Bluetooth
ADC Resolution	16 bit
Input Voltage	5V
Input Power	2.5W
Enclosure Size	3x1.5x0.5 in. (80x40x12.8 cm)
Weight	0.12 lbs. (55 g)

SYSTEM COMPONENTS

- Five door handle tactile sensors of 3 designs
- Rechargeable D710 electronics interface module with Bluetooth connectivity
- Expansion Board for parallel operation of sensors
- Chameleon Visualization and Data Acquisition Software
- Synchronized video capture function and hardware
- Remote Installation and Training

¹ Performance numbers are for typical system response. Actual performance may vary.

² Measured using PPS standard calibration and test equipment – includes repeatability errors, noise and linearity