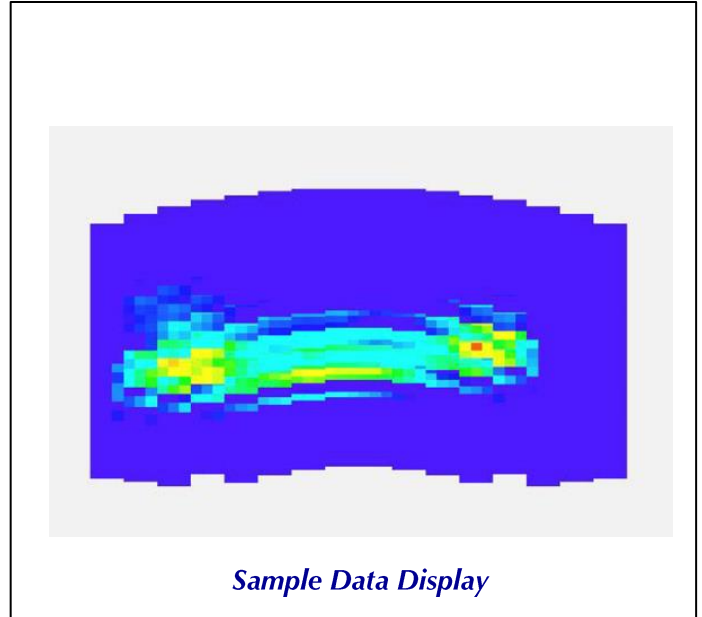




*Dynamic Brake Pad Measurement System*



*Sample Data Display*

## PRODUCT OVERVIEW

**PPS's** Dynamic Brake Pad Measurement System (DBPMS) captures the dynamic pressure distribution between brake pad and rotor surfaces during actual braking. The System operates accurately and reliably in the dynamic environment of brake pad testing, in pressures up to 700 psi and temperatures up to 200C, providing quantitative and repeatable results. This real-world data capture enables designers to develop safe and highly effective brake designs.

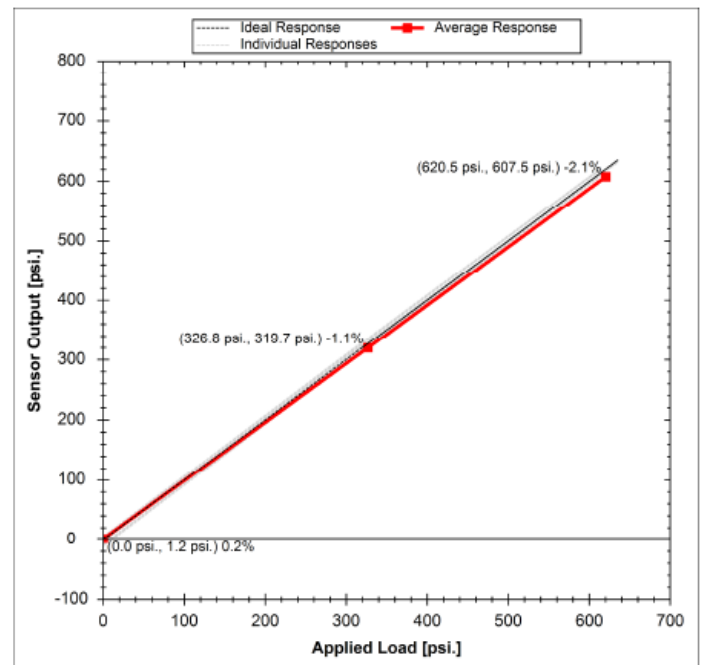
Designed for automotive and brake pad manufacturers to evaluate the effectiveness of brake designs, DBPMS can measure surface pressures between the pad and rotor to the effectiveness of brakes in a dynamic, real-world setting during actual braking. The embedded sensor design is rugged enough to survive hundreds of cycles of actual braking in a moving vehicle while automatically compensating for temperature changes due to friction. DBPMS is the only brake pad pressure measurement system that takes testing out of the lab and puts it in on the road to test performance in real-world conditions.

## KEY SYSTEM FEATURES AND BENEFITS

- **Sensors capture static and dynamic pressure profile** so testing can be done under real driving conditions for developing best product.
- **Thermally compensated sensors** are not affected by heat generated by friction.
- **Bonded sensor withstands shear forces**, making the system suitable for testing under harsh driving conditions.
- **Rugged design** enables dynamic testing that can be performed during actual driving.
- **Proven track record** for working with leading automotive customers.
- **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.
- **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	4274	4278	4282	4286	4290	4823	5535	5704	5706
Total Sensor Area	132x222 mm	132x225 mm	137x225 mm	120x220 mm	90x200 mm	101x106mm	106x108 mm	56 x 115mm	63 x 105 mm
Active Sensing Area	53x118mm	48 x118 mm	48x123 mm	42x106 mm	34x79 mm	51x96mm	40x96 mm	42.6 x 108mm	48 x 96 mm
Element Count	15x42 588 elements	15x42 592 elements	15x44 602 elements	15x38 538 elements	12x28 322 elements	16x32 500 elements	11x32 327 elements	13x30 328 elements	16x32 486 elements
Spatial Resolution	3.53x2.8 mm	3.18x2.8 mm	3.18x2.8 mm	2.8x2.82 mm	2.8x2.82 mm	3.19x3 mm	3.66x3 mm	3.28x 3.6mm	3 x 3mm

SENSOR CHARACTERISTICS AND PERFORMANCE <sup>1</sup>	
Pressure Range	300 or 700 PSI
Pressure Sensitivity	0.2%
Signal to Noise Ratio (SNR)	667:1
Repeatability Error	0.4%
Linearity	99.8%
Accuracy Error <sup>2</sup>	<=3%
Contact Surface Material	Polyimide
Sensor Thickness	0.012 in (0.3 mm)
Cable Length	59 in (1.5m)
Operating Temperature	5°C – 200°C



ELECTRONICS SPECIFICATIONS	
Sample Rate	13-25Hz
Computer Interface	USB 2.0
ADC Resolution	12 bit
Input Voltage	5V
Input Power	2W
Enclosure Size	6.5x6.2x1 in. (16.5x15.8x2.5 cm)
Weight	1.43 lbs. (650 g)

### SYSTEM COMPONENTS

- Two Dynamic Brake Pad Sensors of chosen design with 1.5m cable
- T4500 interface electronics with USB 2.0
- Embedded Thermocouple for managing temperature transients
- Chameleon Visualization and Data Acquisition Software
- Synchronized video capture function and hardware
- Remote Installation and Training

<sup>1</sup> Performance numbers are for typical system response. Actual performance may vary.

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