

Brake Rotor Runout, Thickness and DTV Measurement System from MTI



AS-500 Multi-Channel Rack with 4 amplifiers and Summing Amplifier for thickness measurements

- Compact package configurable for up to 6 measurement channels*
- 12VDC power input for in-vehicle testing. AC power version for Lab and R&D use!*
- Accepts complete line of MTI standard & Push-Pull probes for a wide variety of automotive applications*

MTI Instruments pioneered the development of precision, high resolution capacitive sensors over 25 years ago and has maintained its leadership position ever since. The Accumeasure System 500 is MTI's newest package specifically designed and built to meet the demanding needs of automotive manufacturers, brake component suppliers and testing houses. It provides precise, repeatable measurements of brake rotor runout, DTV and coning and is ideal for dynamic analysis, design and quality control of braking systems.

Conventional capacitance based measurement probes have long been applied, mostly unsuccessful, as a means to measure disk brake rotors. Competitive systems utilize a single-element non-contact probe (figure 1) that monitors the distance to an electrically grounded rotor. Unfortunately, rotating targets have an intermittent, uncertain or non-existent ground path, which introduces measurement noise, instability, and drift. To overcome this shortfall, MTI developed a unique version of their Accumeasure capacitance system called the "Push/Pull" (figure 2). This novel approach utilizes two quick connect probes, built into one body, that work together to complete the measurement circuit, eliminating the need to electrically ground the rotor. Each probe element operates 180 degrees out of phase which allows the current path to travel across the rotor surface rather than through the surface and bearings to ground. The result is decreased noise, higher accuracy and significantly more stable and repeatable measurements.

MTI offers a broad range of standard and customized probes using the newest and most advanced assembly techniques and materials. The passive probe design makes them ideal for operation in harsh environments and applications in excess of 500°C. The capacitance amplifiers are manufactured using state-of-the-art circuit designs, providing the lowest noise and highest performance available on the market today.

Features/Benefits

- Rugged, compact sensors
- Replaceable extension cables
- Modular, multi-channel electronics
- AC or DC voltage input
- High temperature, custom designed probes
- Analog DC voltage output
- Exceptional temperature stability
- Fast, real-time response to 5 kHz
- Summing amplifier for thickness or difference measurements
- Hardware available for in-vehicle mounting

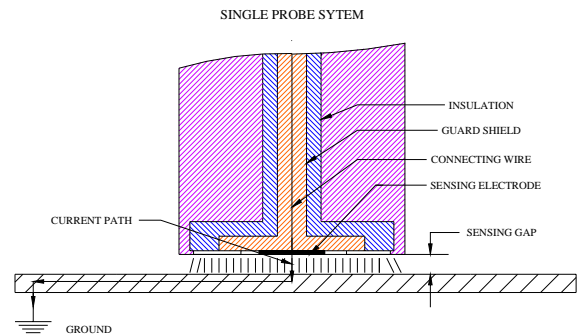


Figure 1
Typical Capacitance Sensor

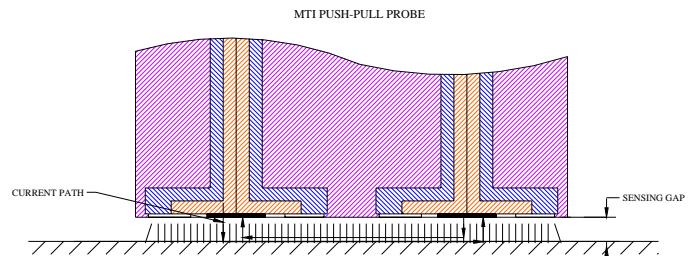


Figure 2
MTI's Push/Pull Capacitance Sensor

mti instruments

325 Washington Ave. Ext., Albany, NY 12205-5505

Tel: 518-218-2550 Fax: 518-218-2506 www.mtiinstruments.com email: sales@mtiinstruments.com