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Press Release

Extremely Precise Distance Measurement—PISeca™ Capacitive Position Sensors

PISeca™ single-electrode position sensors can determine distance, position and length values with sub-Nanometer resolution. Capacitive sensors from Physik Instrumente (PI) perform non-contact measurements against any kind of electrically conductive target. PISeca™ D-510 sensor probes are available for measurement ranges of 20 µm, 50 µm and 100 µm, electronically extendable up to 500 µm.

In combination with PISeca™ E-852 signal conditioner electronics, they offer unmatched resolution to 0.2 nanometers (< 0.001% of the measurement range). Due to integrated linearization, excellent linearity to 40 nanometers is reached. With a high maximum bandwidth of up to 6.6 kHz, these sensor systems are also well-suited for dynamic vibration-measurement of machine parts.

Bild: PI_PISeca.jpg

Capacitive position sensors have been used for many years by PI for its own highest-precision nanopositioning stages. PISeca™ single-electrode sensors are fundamentally very robust and have very high temperature stability. Ease of integration of PISeca™ sensors is ensured by standardized sensor probes and signal conditioner electronics with an LED-bar gap indicator.

PI, a global market leader in the field of micro- and nanopositioning technology, has been developing and manufacturing standard, custom and OEM products with piezoelectric and motor drives for over 35 years. In addition to its three manufacturing centers in Germany, PI is present worldwide with eight subsidiaries, among these three in China, and total staff of more than 400.

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