

Nano-Gauge™ Series

Features

- ▶ 1.5nm or 5nm linear displacement measurement
- ▶ 25mm total range of measurement
- ▶ USB output to PC
- ▶ Optional probe types
- ▶ Compact sensor head
- ▶ Easy to use

Typical Applications

- ▶ Nanopositioner calibration
- ▶ Transducer calibration
- ▶ Alignment
- ▶ Position creep measurements



Nano-Gauge™ 5 measurement system

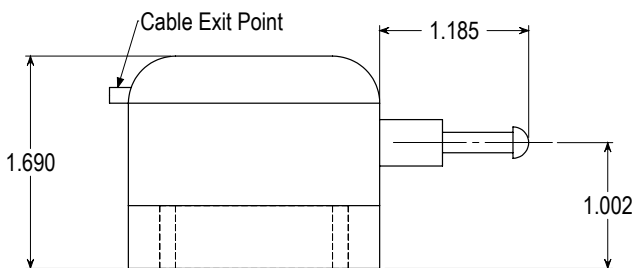
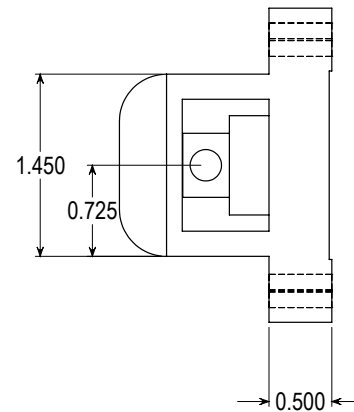
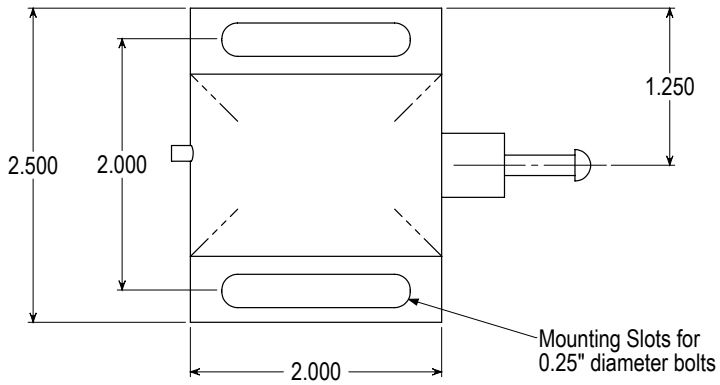
Product Description

The Nano-Gauge™ is an ultra high precision, single axis, displacement measuring instrument capable of resolving dimensions down to 1.5 nanometers (0.06 micrometers) over a full scale range of 25mm (1 inch). Combining ease-of-use and small physical size, the Nano-Gauge™ can be quickly adapted to a wide variety of precision measurement situations without lengthy or complex setup procedures. A standard USB “Plug & Play” digital interface connects the Nano-Gauge™ controller to a PC for a real-time display of measurement values. Laptop PC’s with USB ports can be used to bring the Nano-Gauge™ into the field for on-site measurements. An on-screen zeroing button provides a simple means to accomplish relative measurements and makes the Nano-Gauge™ as easy to use as standard machinist’s digital calipers. A displayed “up/down”

measurement rate selector determines the data acquisition time spacing. Measurement rates range from 50 ms/data value to 1 minute/data value. Available probe tips include hardened steel, sapphire, and silicon nitride balls. Probes can also be provided with threaded holes for direct connection to moving components or customized for specific applications. The pictured Nano-Gauge™ mounting is designed to fit standard optical table breadboards - custom mounting for unique applications may be specified. Probe tip loading is user adjustable via internal springs. Probe loading may be eliminated by use of magnetically coupled steel tipped probes. The extreme precision and resolution of the Nano-Gauge™ makes it ideal for transducer design and calibration, development of nanoindentation systems, and materials testing.

Technical Specifications

Range of measurement 25mm (1 inch)
Measurement resolution (Nano-Gauge™ 1) 1.5 nm
Measurement resolution (Nano-Gauge™ 5) 5.0 nm
Measurement rate.....50 ms to 1 minute
Probe loading 1 lb/in to 10 lb/in
Probe diameter0.25 mm to 8 mm
Probe tip hardened steel ball or
optional sapphire or silicon nitride precision balls
Body Material Aluminum
Overall Dimensions.....2.50" x 3.12" x 1.69"



Note: All Dimensions in Inches