Nano-LR200

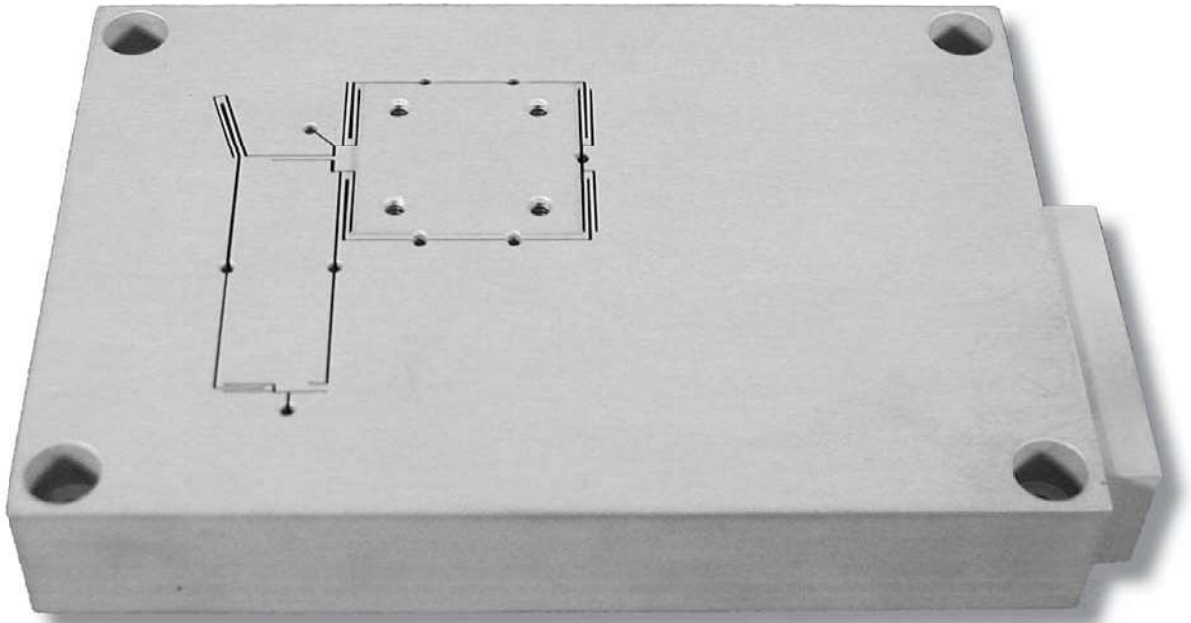## Features

- ▸ *Long range single axis motion: 200 μm*
- ▸ *Less than 5 nm out of plane motion*
- ▸ *Low profile design*
- ▸ **pico** *sensor technology*
- ▸ *Closed loop control*

Typical Applications

- ▸ *Surface metrology*
- ▸ *Wafer scanning and alignment*
- ▸ *Optical alignment*

Nano-LR200 (1-axis) constructed from aluminum.

LabVIEW Compatible USB Interfaces

Examples, tutorial, and Nano-Route® 3D supplied with Nano-Drive® USB interfaces.
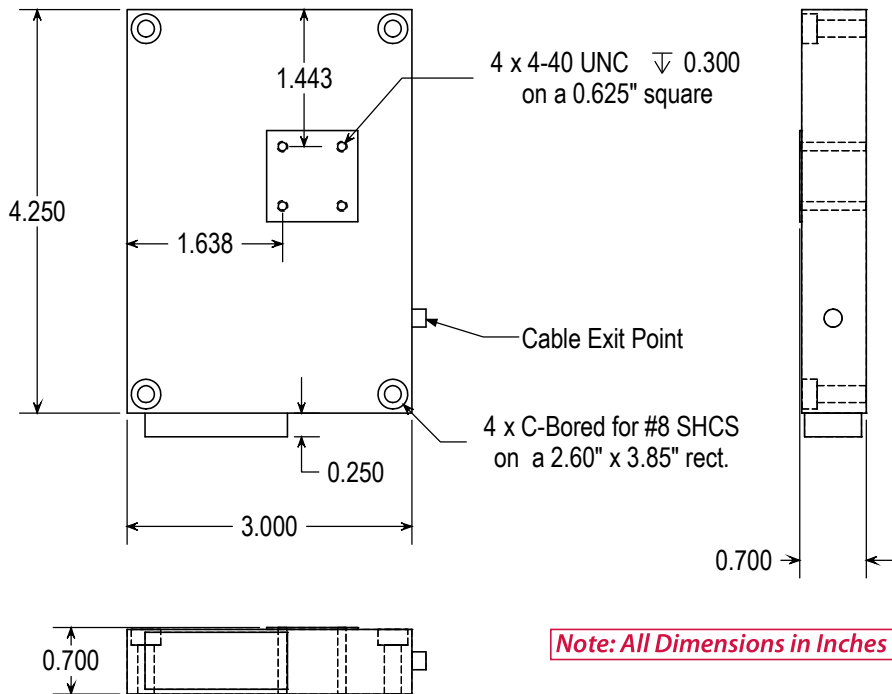
Product Description

The Nano-LR200 is designed to provide long range, single axis translation with an absolute minimum of out-of-axis motion. The unique design of the Nano-LR200 produces less than 5 nm of out-of-plane motion; measured over the entire moving platform throughout the 200 μm range of motion. The Nano-LR200 sets the highest level of single axis precision and positioning performance. Internal position sensors utilizing proprietary **pico** technology provide absolute, repeatable posi-tion measurement with sub-nanometer accuracy under closed loop control. The Nano-LR200 is ideally suited for applications that require extreme parallelism, such as metrology, AFM and MEMS.

Technical Specifications

Range of motion (X) .... 200 μm

Resolution .... 0.4 nm

Resonant Frequency .... 500 Hz ±20%

Resonant Frequency (100g load) .... 200 Hz ±20%

Stiffness .... 0.2 N/μm

θ_{roll} , θ_{pitch} (typical) .... ≤0.3 μrad

θ_{yaw} (typical) .... ≤0.3 μrad

Recommended max. load (horizontal)* .... 0.5 kg

Recommended max. load (vertical)* .... 0.2 kg

Body Material .... Al

Controller .... Nano-Drive®

* Larger load requirements should be discussed with our engineering staff.

4 x 4-40 UNC ⊽ 0.300
on a 0.625" square

1.443

4.250

1.638

Cable Exit Point

4 x C-Bored for #8 SHCS
on a 2.60" x 3.85" rect.

0.250

3.000

0.700

0.700

Note: All Dimensions in Inches