

Nano-M3Z

Features

- ▶ Compact design
- ▶ Three axis motion (Z , θ_x , θ_y)
- ▶ Low profile: 0.8"
- ▶ Center aperture: 0.25" diameter
- ▶ **pico** sensor technology
- ▶ Closed loop control

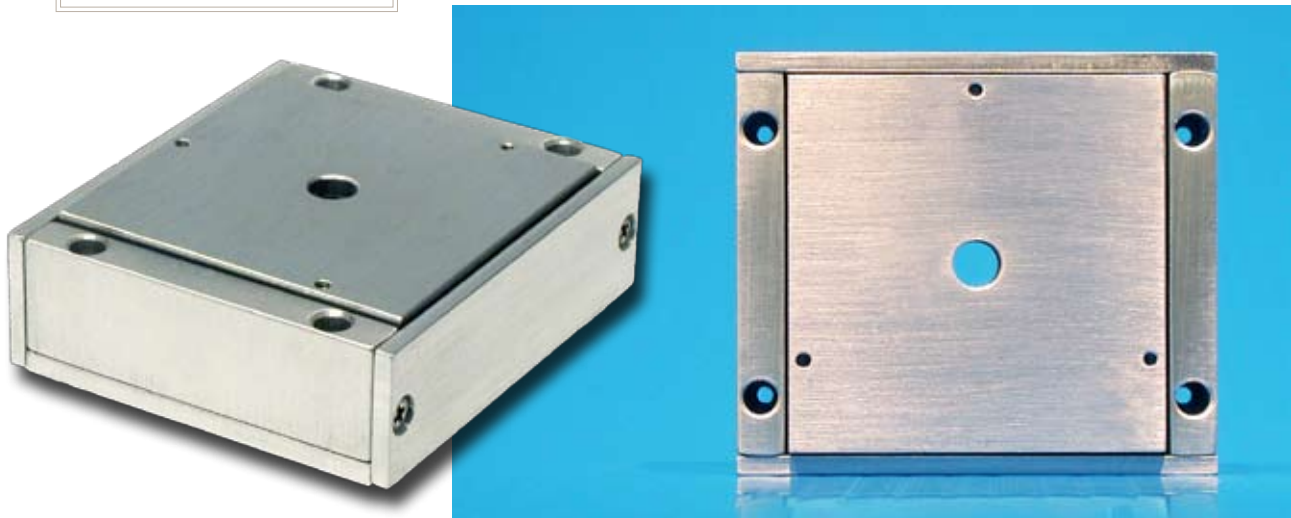
Typical Applications

- ▶ Z-axis plus tip/tilt alignment
- ▶ Nanolithography
- ▶ Metrology
- ▶ Nano-alignment

LabVIEW Compatible USB Interfaces



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



Nano-M3Z (actual size) constructed from aluminum.

Product Description

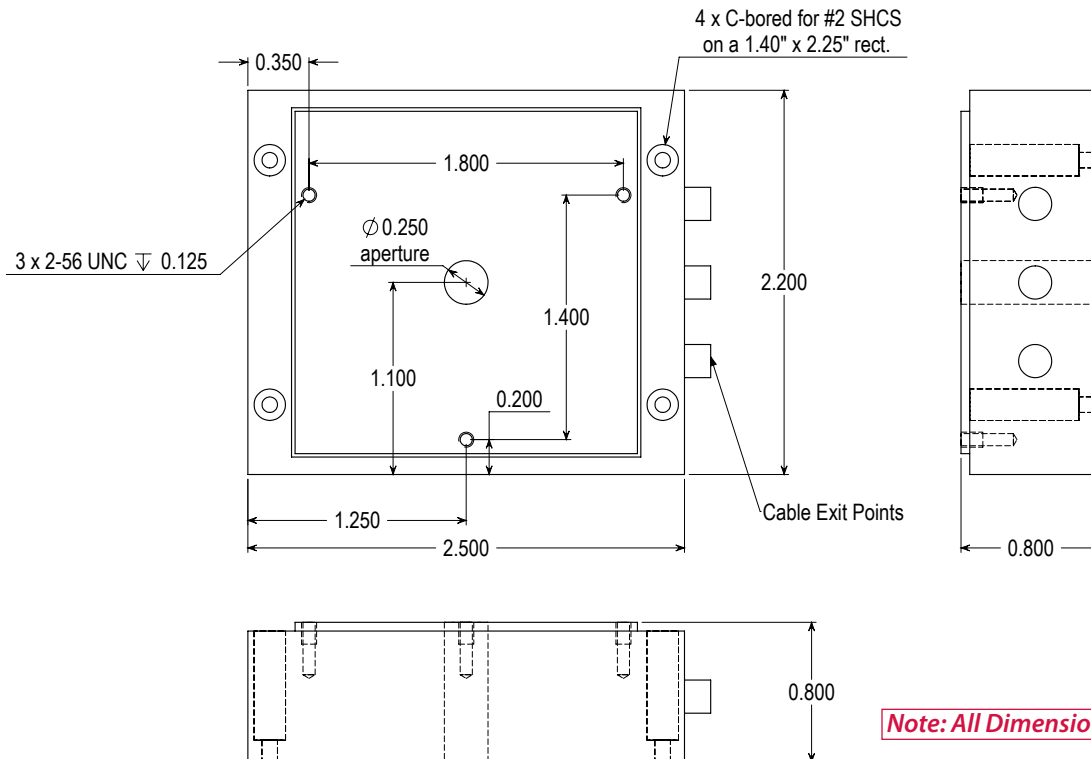
The Nano-M3Z is a compact, three axis (Z , θ_x , θ_y) nanopositioning system with a 0.25" center aperture. The compact design of the Nano-M3Z allows it to be integrated into existing instrumentation where space is restricted. The Nano-M3Z is ideal for demanding applications which require precise alignment capabilities. Internal position sensors utilizing proprietary **pico** technology provide absolute, repeatable position measurement with picometer and nanoradian accuracy

under closed loop control. The center aperture provides an optical path for laser interferometry or tracking. Nano-M3Z's can be constructed from aluminum or from invar to reduce thermal expansion effects. A related model, the Nano-Man5, adds linear X and Y motion to the the Z-axis capabilities of the Nano-M3Z.

Technical Specifications

Range of motion (Z)	25 μm
Range of motion (θ_x)	1 mradian
Range of motion (θ_y)	1 mradian
Resolution (Z)	0.05 nm
Resolution (θ_x)	2 nradian
Resolution (θ_y)	2 nradian
Resonant Frequency	700 Hz $\pm 20\%$
Stiffness	1.0 N/ μm
Recommended max. load (horizontal)*	0.5 kg
Recommended max. load (vertical)*	0.2 kg
Body Material	Aluminum or Invar
Controller	Nano-Drive [®]

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



Note: All Dimensions in Inches