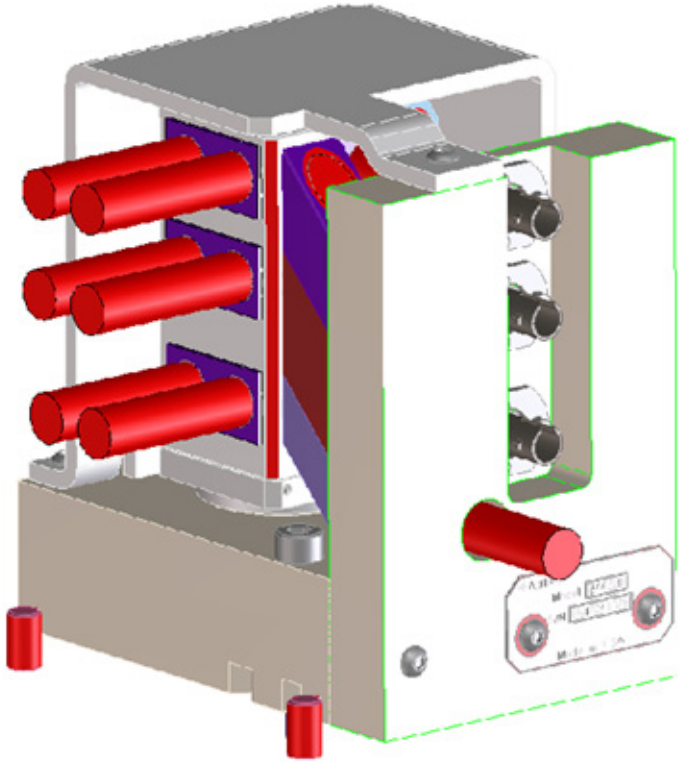
Quick Fact Sheet

Agilent Z4422B Three-Axis Plane Mirror Interferometer

The Agilent Z4422B three-axis plane mirror interferometer features pre-aligned optical sensors, excellent beam parallelism, low non-linearity error and low thermal drift. Machined datums aid in positioning the unit and reduce alignment effort.



Z4422B Three-Axis Plane Mirror Interferometer showing one face positioned against 2 of the 3 customer supplied datum pins.

Key features

- Non-linearity error ±1 nm.
- Accommodates 9 mm and smaller input beam.
- High (~1 kHz) mechanical resonance frequency.
- λ/4 optical resolution.
- Less than 10 nm/°C thermal drift.

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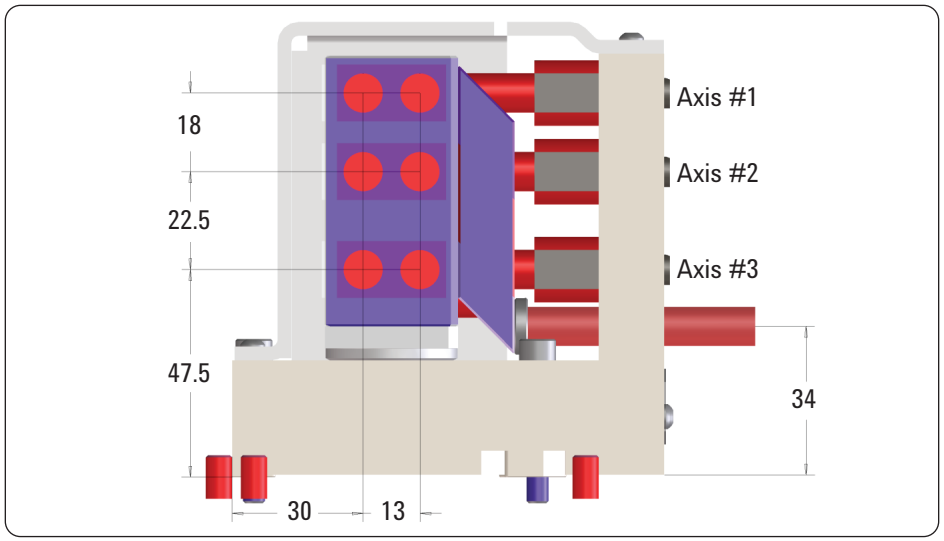
Key specifications

Options	Desciption
Weight	1.95 kg (4.3 lbs)
Dimensions (L x W x H)	• 100.3 mm x 66 mm x 97 mm (without cover) • 100.3 mm x 66 mm x 104.3 mm (with cover)
Materials	• Baseplate: Passivated 416 stainless steel • Optics: BK-7
Natural frequency	~ 1 kHz
Mounting interface	• Fasteners: M5 x 0.8 Captive SHCS • Surface profile: 0.02 mm • Surface finish: 0.4 µm
Beam diameter	9 mm maximum visible
Resolution	• Optical: λ/4 • Linear: 0.15 nm using 1024x resolution extension
Thermal drift due to glass path length imbalance	10 nm/°C or less
Non-linearity error	± 1 nm
Optical efficiency (input power divided by axis output power)	• Typical for Axes #1 and Axis #2: 18% • Typical for Axis #3: 13% • Worst case for Axes #1 and Axis #2: 13% • Worst case for Axis #3: 10%
Measure point tolerance	• Mean: ± 0.15 mm • Deviation: ± 0.05 mm
Input beam cone angle	< 1 mrad
Beam parallelism	• Axis #1 to Axis #2: < 25 µrad • Axis #1 to Axis #3: < 100 µrad
Operating temperature	19 °C to 26 °C
Measurement mirror recommendation	• Reflectivity: > 92% • Flatness: λ/20



Z4422B beam position in mm and axis numbering.

For more details on Agilent interferometry systems, components and ordering information please visit **www.agilent.com/find/lasers**

5990-5275EN

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