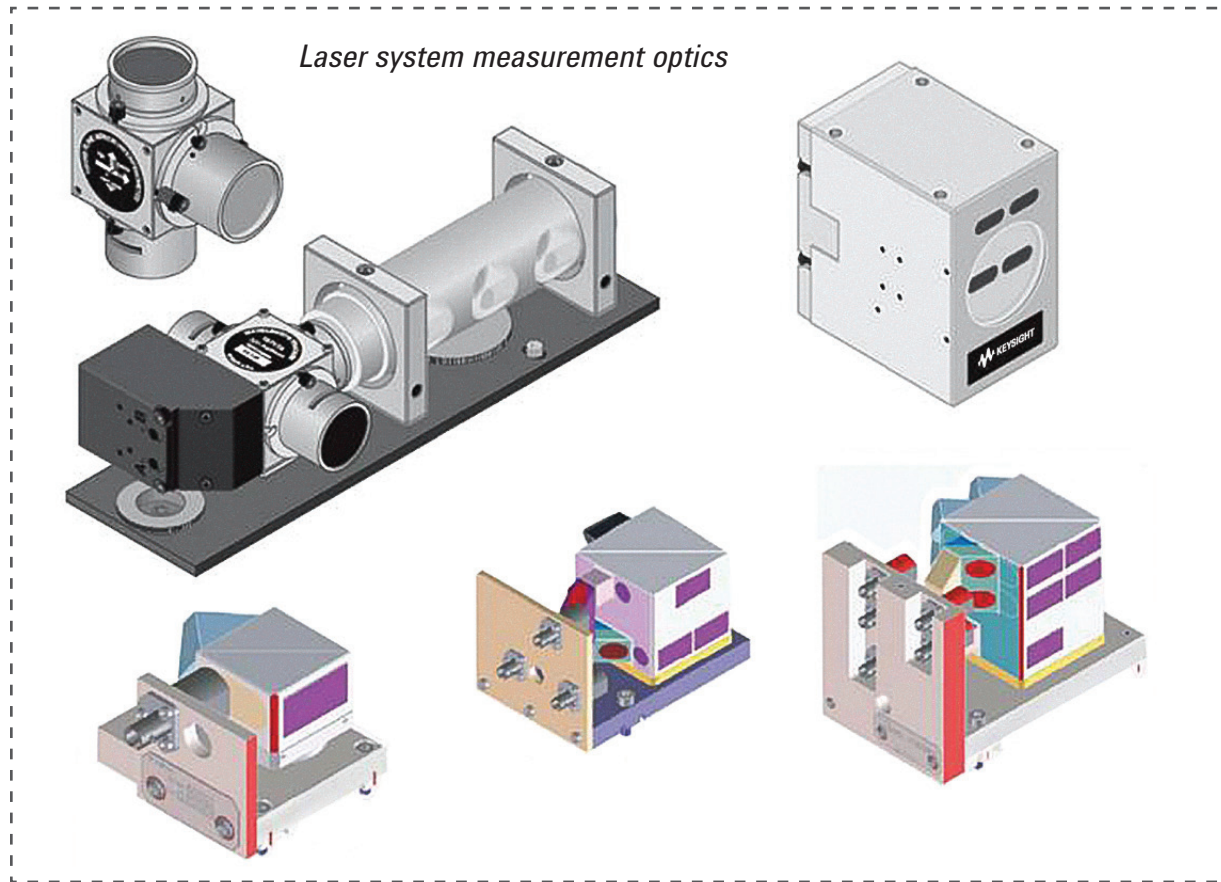


Keysight Laser Interferometer Measurement Optics

Keysight Technologies, Inc. offers a wide selection of measurement optics for use with Keysight Laser Interferometer systems. The optic type selected determines the type of reflector required, the optical resolution, the relative velocity possible, and the angular range of the measurement reflector.



Key features

- Multiple optics available for variety of measurement needs
- Integrated multi-axis optics for easier system alignment
- Advanced monolithic construction for improved performance

Keysight Laser Interferometer Measurement Optics

Model	Reflector	Axes	Referenced	Max beam size	Mass (Typical)	Size (L x W x H) in mm	Distinguishing feature	Meas direction	Beam pairing	OFF ³	Angular range ⁴ (@ 300 mm)					
10775A ¹	Included	1	No	6 mm	l: 160 g, R: 800 g	l: 32.0 x 21.0 x 32.0 R: 110.0 x 40.0 x 40.0	Long range straightness measurement	User config	Either	2/360	N/A					
10774A ¹							Short range straightness measurement			2/36						
10766A ¹	10767A		Yes		l: 310 g, R: 220 g	40.0 x 40.0 x 65.0	40.0 x 40.0 x 72.6		Minimal beam deviation	Straight, Turned	Either	2	± 20 degree			
10770A ¹	10771A								Angular measurements							
10702A	10703A		No		l: 230 g, R: 41.5 g	38.1 x 38.1 x 62.0	25.65 x 25.65 x 39.88		Lower cost, Cube corner reflector	Straight, Turned	N/A	4	± 0.87 mrad			
10705A	10704A								Single beam, Non-contact							
10706A	User supplied plane mirror		No		310 g	85.9 x 52.1 x 38.1	90.2 x 85.9 x 38.1		Plane mirror reflector	Straight, Turned	Diagonal	8	± 0.87 mrad			
10706B									320 g					76.0 x 62.0 x 38.1	High stability	
10715A									500 g					90.2 x 85.9 x 38.1	Differential	
10716A									500 g						High resolution	
10717A/C	Integrated	2	Yes	3 mm	300 g	57.15 x 38.10 x 60.33	Wavelength tracking	Right	Diagonal	4	N/A					
10719A	Differential (top to bottom)						± 0.44 mrad									
E1826E/F/G											9 mm	420 g	E: 53.0 x 61.5 x 40.0 F: 60.25 x 53.0 x 40.0 G: 60.25 x 53.0 x 40.0	CMI ² , Distance	E: Right F: Left G: Straight	Horizontal
10721A	3 mm						300 g				57.15 x 38.10 x 60.33	2-axis differential (top to bottom)	Straight	Horizontal	± 0.44 mrad	
E1827A	9 mm						2.35 kg				139.3 x 84.0 x 50.0	CMI ² , Distance, Yaw	Right	Horizontal	± 1.5 mrad	
10735A																5.5 kg
10736A	3 mm						490 g				125 x 64.1 x 38.1	Small, 3-axis, Distance, Pitch, Yaw	Left, Right	Vertical	± 0.44 mrad	
10737L/R																Yes
Z4399A	1.95 kg						100.3 x 66.0 x 97.0				CMI ² , Distance (2x), Pitch	Left				
Z4422B													3.13 kg	139.3 x 84.0 x 97.0	CMI ² , Distance (2x), Yaw (2x), Pitch	Right
Z4420B	3.15 kg	139.3 x 84.0 x 97.0	CMI ² , Distance (2x), Yaw (2x), Pitch	Left												
Z4421B					3 mm	490 g	125 x 64.1 x 38.1	Small, 3-axis, Distance, Pitch, Yaw	Left, Right	Vertical	± 0.44 mrad					

1. 5530 calibrator optics

2. CMI: Compact Monolithic Interferometer (high performance interferometers)

3. OFF: Optics Fold Factor

4. Typical for max beam diameter

Determining measurement resolution and maximum stage velocity

- Measurement Resolution = $\lambda / \text{OFF} / \text{Electronic Resolution Extension}$
- Maximum Velocity = Laser Head Linear Optics Velocity Spec x 2 / OFF

www.keysight.com/find/lasers