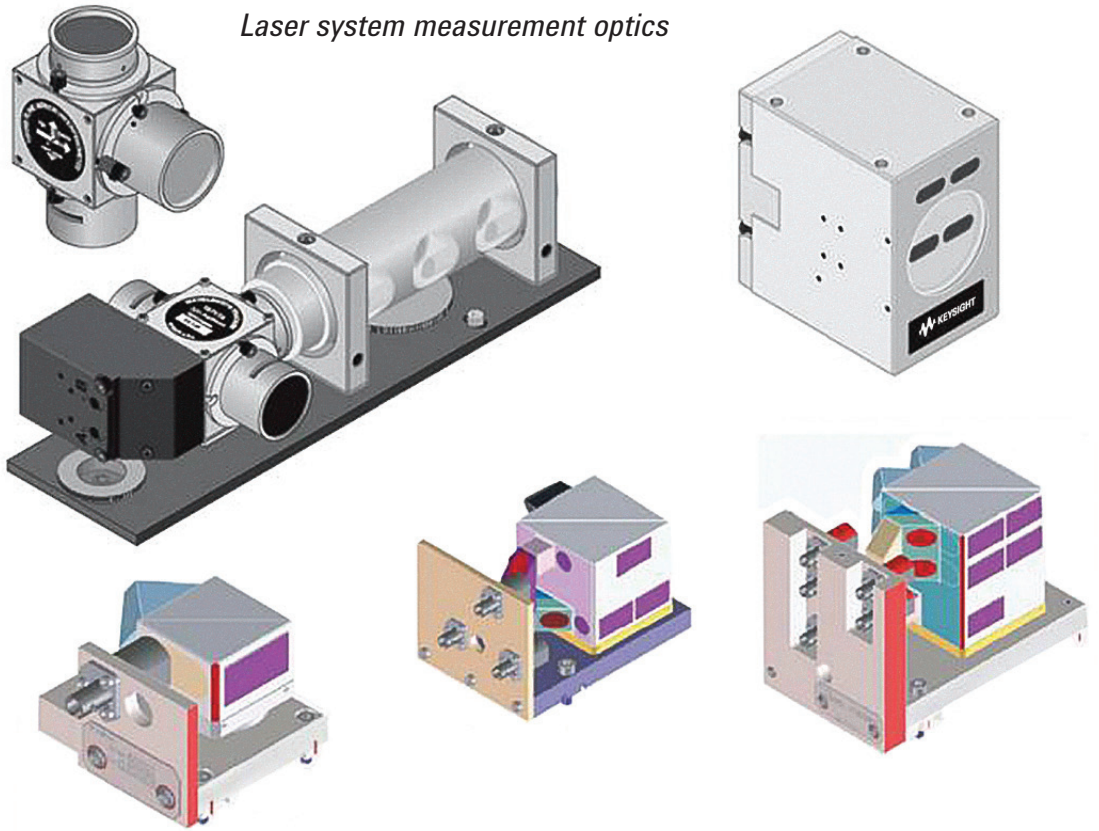
Product Fact Sheet

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.

Laser system measurement optics



Key features

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

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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	I: 160 g, R: 800 g	I: 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		I: 310 g, R: 220 g	40.0 x 40.0 x 65.0	Minimal beam deviation			2	± 20 degree
10770A [1]	10771A				I: 550 g, R: 650 g	40.0 x 40.0 x 72.6	Angular measurements				
10702A	10703A		No		I: 230 g, R: 41.5 g	38.1 x 38.1 x 62.0	Lower cost, Cube corner reflector				
10705A	10704A				I: 85.5 g, R: 10.5 g	25.65 x 25.65 x 39.88	Single beam, Non-contact		N/A		
10706A	User supplied plane mirror				310 g	85.9 x 52.1 x 38.1	Plane mirror reflector		Either	4	± 0.87 mrad
10706B					320 g	76.0 x 62.0 x 38.1	High stability	Straight, Turned			
10715A					500 g	90.2 x 85.9 x 38.1	Differential		Diagonal		± 0.38 mrad
10716A					500 g		High resolution		Both	8	± 0.87 mrad
10717A/C	Integrated				1.7 kg	260.35 x 79.25 x 67.0	Wavelength tracking	Straight	Diagonal	4	N/A
10719A	User supplied plane mirror		Yes	3 mm	300 g	57.15 x 38.10 x 60.33	Differential (top to bottom)		Horizontal		± 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			± 1.5 mrad
10721A		2		3 mm	300 g	57.15 x 38.10 x 60.33	2-axis differential (top to bottom)	Straight			± 0.44 mrad
E1827A				9 mm	2.35 kg	139.3 x 84.0 x 50.0	CMI [2], Distance, Yaw	Right			± 1.5 mrad
10735A		3			5.5 kg	190.0 x 105.0 x 60.0	3-Axis, Distance, Pitch, Yaw				Pitch: ± 1.0 mrad Yaw: ± 1.5 mrad
10736A											
10737L/R			No	3 mm	490 g	125 x 64.1 x 38.1	Small, 3-axis, Distance, Pitch, Yaw	Left, Right	Vertical		± 0.44 mrad
Z4399A			Yes	9 mm	1.66 kg	129.0 x 74.5 x 72.8	CMI [2], Distance, Pitch, Yaw	Right	Horizontal		± 1.5 mrad
Z4422B					1.95 kg	100.3 x 66.0 x 97.0	CMI [2], Distance (2x), Pitch	Left			
Z4420B		5			3.13 kg	139.3 x 84.0 x 97.0	CMI [2], Distance (2x), Yaw (2x), Pitch	Right			
Z4421B					3.15 kg	139.3 x 84.0 x 97.0		Left			

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 / OFF / Electronic Resolution Extension
- Maximum Velocity = Laser Head Linear Optics Velocity Spec x 2 / OFF

www.keysight.com/find/lasers

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