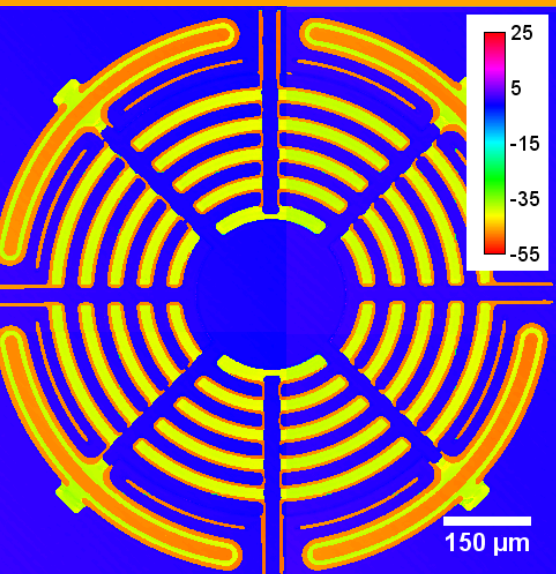


WLI5

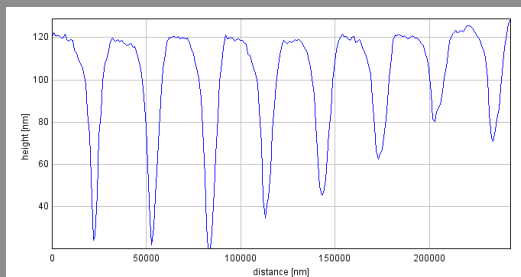
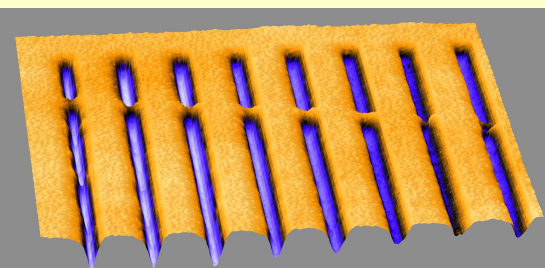
OEM 3D-Module



MEMS structure

Features

- > surface topography down to nanometers
- > measures any surface
- > designed for inspection machines
- > fast and vibration resistant
- > multiple field of views / lateral resolutions
- > software modules for rapid integration (Windows, Mac, Linux)



silicon trenches, 40 to 100 nm deep

High-Resolution 3D-Metrology for Machine Integration

Based on the highest resolution 3D-measurement technique of white-light interferometry, the WLI5 optics module offers unprecedented flexibility for integration with your metrology system. Its compact dimensions, small weight, and robust optical design enable a variety of interferometer configurations and allow for use of small and cost effective linear motors.

With a vertical resolution down to nanometers and lateral resolutions down to 0.8 micrometer, the WLI5 is particularly suited for high-precision surface characterization and for measuring geometrical features such as step heights, co-planarity or flatness with extreme accuracy.

In combination with Heliotis' smart pixel 3D-camera heliCam™ C3, as well as a range of interchangeable lenses, turn-key 3D-metrology is available in custom-tailored configurations and application specific lateral magnifications.

As the fastest scanning white-light interferometer, the WLI5/C3 configuration is ideally suited for integration into machines that inspect electronic components and packages, micro-mechanics, MEMS, micro-optics or semiconductors.



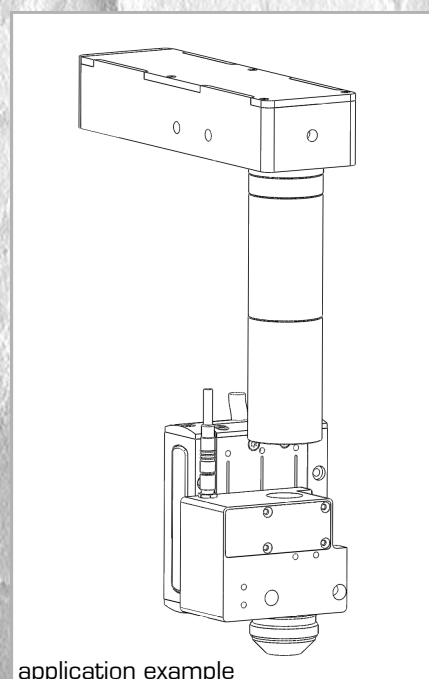
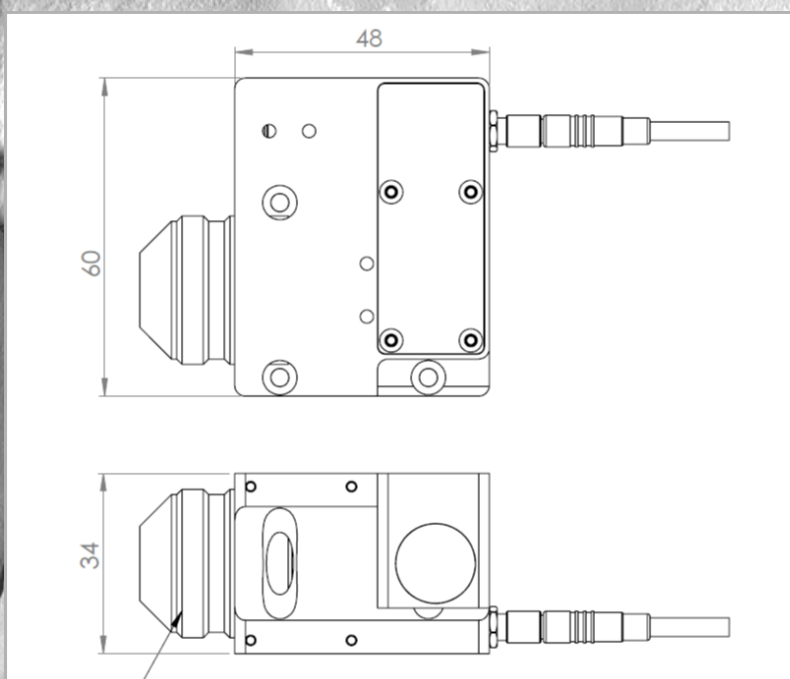
WLI5 Module

WLI interferometer	Mirau configuration, exchangeable objectives (10x, 20x, 50x)		
light source	high power LED		
field of view ^(*)	232x222 μm	580x556 μm	1160x1112 μm
numerical aperture	0.5	0.4	0.3
working distance	2.52 mm	3.57 mm	3.57 mm
vertical resolution ^(*) (single meas., RMS)	50 nm 1 nm in phase mode	70 nm 1 nm in phase mode	100 nm 1 nm in phase mode
vertical scan speed ^(*)	up to 50 mm per second		
lateral resolution ^(*)	0.8 μm	2 μm	4 μm
reflectivity of sample ^(*)	< 0.1% to 100%		

^(*) with companion modules listed below

Companion Modules

heliCam™ C3	high-speed camera with the latest heliSense™ S3 CMOS sensor developed by Heliotis featuring in-pixel signal demodulation at up to 1 million images per second and on-camera surface extraction.
lens tube	imaging optics with f=200mm, C-mount
Z-stage	linear stage with optical encoder and advanced servo controller
heliSDK™	software development kit for C++, Python and LabView 2013, macros (ImageJ) (scanner control, 3D-camera configuration and readout, data processing algorithms)
custom components	Heliotis designs and produces application specific optics and mechanical components



application example

WLI5DS0001

Grey scale coded 3D-surface of a Swiss coin (10 Cents), measured with Heliotis' parallel OCT technique.