

helinspect™ H6

SWISS PRECISION IN THREE DIMENSIONS
INDUSTRIAL QUALITY INSPECTION
BIOMEDICINE - SECURITY SOLUTIONS

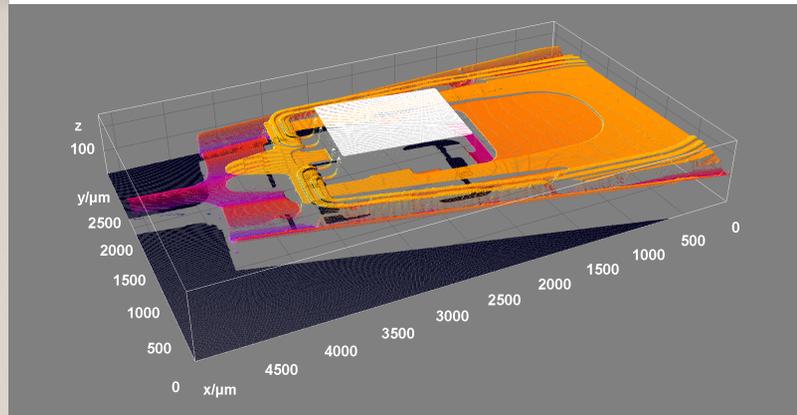
3D Inspection

Industrial White-Light Interferometer

The heliInspect™ H6 has been engineered to meet the specifications of the most demanding 3D in-line inspection tasks such as measuring

- step heights, angles, shape
- roughness, ripple, waviness
- defects, scratches, wear off
- flatness, coplanarity, deformations
- film thickness (tomographic mode)

Benefitting from Heliotis' long experience with 3D sensors for industrial applications, the H6 combines interferometric precision with robustness and high throughput.



measurement example: disk read-and-write head

For System Integrators

System integrators benefit from ease of integration, a rugged design and designed-in reliability. The H6 is applicable to a wide range of inspection tasks and produces repeatable results on difficult targets such as hybrid metal/polymer objects.

For Equipment Manufactures

Equipment manufacturers benefit from the modular architecture of the H6 platform, access to sophisticated firmware features, software development kits and Heliotis' design-in expertise. The standard capabilities may be extended by custom features (e.g. optics, CMOS image sensor, electronics, FPGA, software, mechanics).

H6DS0002

helinspect™ H6 with heliOptics™ WLI6-MIRAU-20x



heliotis

advancing 3D metrology

For more information please contact sales@heliotis.ch
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heliInspect™ H6

measurement head	industrial White-Light Interferometer compatible with exchangeable heliOptics™ WLI6 interferometer modules
acquisition device	custom high-speed CMOS sensor with in-pixel signal processing
light source	integrated high power LED (standard) or SLED (optional)
dimensions (L x W x H)	147 mm x 75 mm x 45 mm
weight	800 g (excluding WLI6)
software	software development kits (SDK) for Halcon, LabView, C++, Python

heliOptics™ WLI6

Interferometer	Mirau	Mirau	Mirau	Michelson	Michelson	Michelson
field of view	232 x 222 μm ²	580 x 556 μm ²	1.16 x 1.11 mm ²	1.47 x 1.41 mm ²	2.93 x 2.81 mm ²	5.86 x 5.62 mm ²
working distance	2.52 mm	3.57 mm	3.57 mm	14.1 mm	55.8 mm	56.6 mm
WLI module	MIRAU-X50	MIRAU-X20	MIRAU-X10	TG-R5	TG-R10	TG-R20
numerical aperture	0.5	0.4	0.3	0.17	0.11	0.07
lateral resolution	0.8 μm	2 μm	4 μm	5 μm	10 μm	20 μm
resolution RMS (phase mode)	50 nm (1 nm)	70 nm (1 nm)	100 nm (1 nm)	100 nm (2 nm)	100 nm (2 nm)	100 nm (2 nm)
repeatability	100 nm (2 nm in phase mode)			100 nm (5 nm in phase mode)		
reflectivity of sample	< 0.1% to 100%					

heliOptics™ WLI6 White-Light Interferometer modules:
Mirau configurations (left) and Michelson configurations (right)



H6DS0002
Grey scale coded 3D-surface of a Swiss coin (10 Cents), measured with Heliotis' parallel OCT technique.