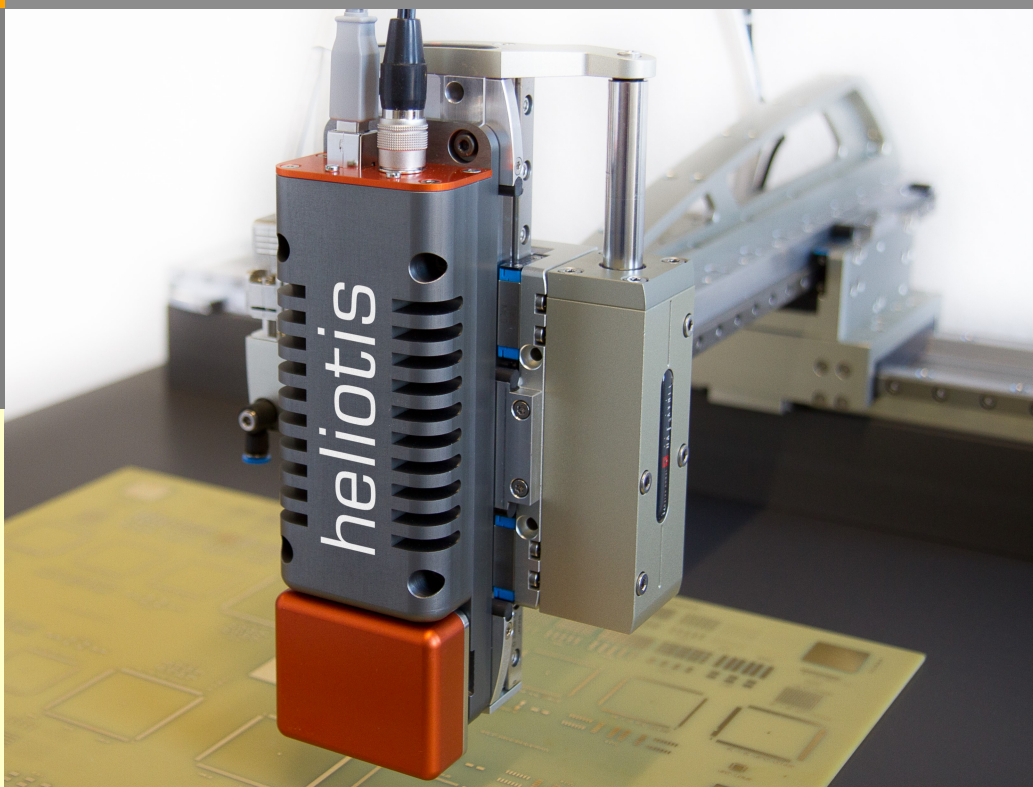
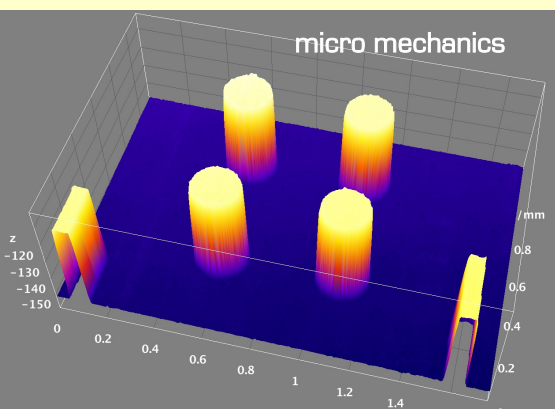


Applications

- > surface roughness
- > geometrical feature control
- > in-line quality inspection
- > lab automation
- > OEM integration
- > statistical process control

Features

- > surface topography
- > volume tomography
- > robust and fast
- > sub-um resolution
- > measures any surface
- > small form factor
- > modular system of linear motors (portal robot)
- > software development kit for rapid integration (Windows, Mac, Linux)



Metrology in Three Dimensions for Surfaces and Volumes

The new heliInspect™ H3 brings superior 3D metrology to the production floor. Equipped with heliotis' latest 3D sensor heliSense™ S3, this compact measurement module provides sub-micrometer surface analysis as well as true tomographic volume data.

The instrument utilizes heliotis' proven parallel Optical Coherence Tomography principle and offers unmatched scan rates. Fast acquisition rates and a special design of the interferometer render vibration isolation obsolete.

The 3D vision module is engineered for high throughput and rough environments. It is manufactured in Switzerland for long lasting reliability.

The heliInspect™ H3 can be mounted on most motorized positioning systems. Pre-qualified stages are also available from Heliotis and partners.

Choices include

- resolution 200 nm standard / 50 nm with phase algorithm
- positioning system with travel ranges from 40 mm to 1 m
- Software interfaces: C++, LabView™, Python

If desired, our engineering team will design and deliver a turn-key system that matches your application.

Metrology module

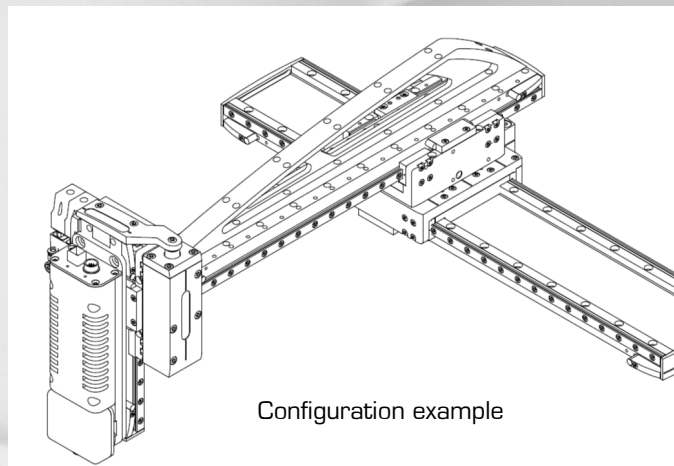
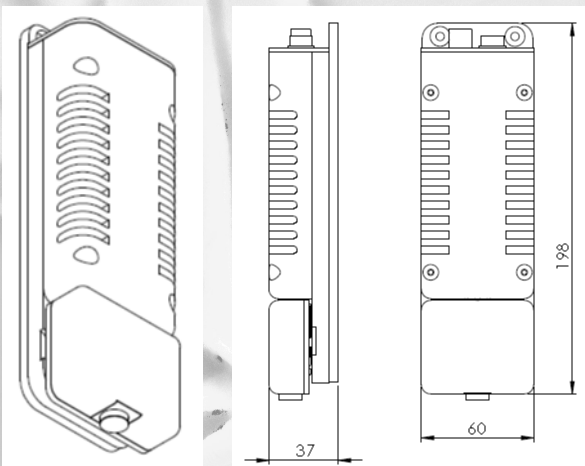
3D sensor	patented smart pixel sensor heliSense™ S3 with in-pixel signal processing of up to 1 million 2D-slices per second			
2D mode	live-view for navigation on sample (optional)			
light source	standard: Superluminescent Light Emitting Diode ($\lambda_{center} = 840 \text{ nm}$, $P_{optical} = 8 \text{ mW}$) options: high power LED, alignment laser			
field of view	0.45 x 0.47 mm	1.4 x 1.46 mm	2.8 x 2.9 mm	
numerical aperture	0.4	0.17	0.11	
working distance	2.8 mm	18.1 mm	22.7 mm	
vertical resolution	200 nm standard , 50 nm in phase mode			
vertical scan speed	up to 50 mm per second			
lateral resolution	1.6 μm	5 μm	10 μm	
reflectivity of sample	< 0.1% to 100%			

Scan Module

Z-stage	80 mm vertical scan range; up to 100 mm per second; glass scale with 100 nm optical encoder
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Software

heliCommander™	configuration and control of the system navigation via 2D live-view (optional) graphical representation of 3D topography and profiles data processing and analysis data management and storage automation of measurement tasks (recipes)
heliSDK™	software development kits for C++, Python and LabView 2013, macros (ImageJ) (scanner control, 3D-camera configuration and readout, data processing algorithms)



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