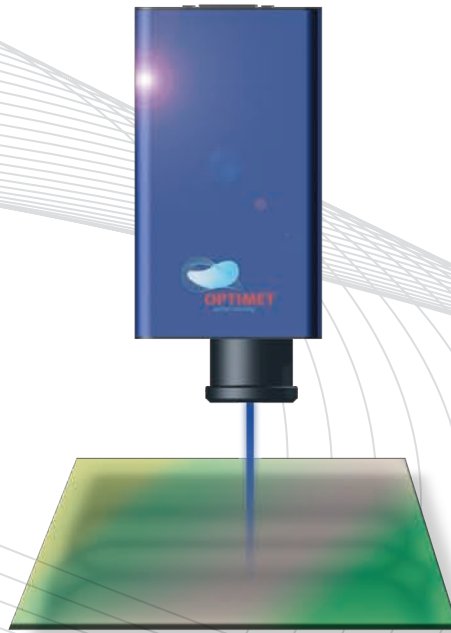


NanoConoProbe

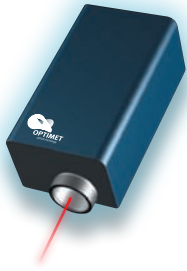
Non-Contact, High Accuracy, 3D Measurements & Inspection
Conoscopic Holography Technology



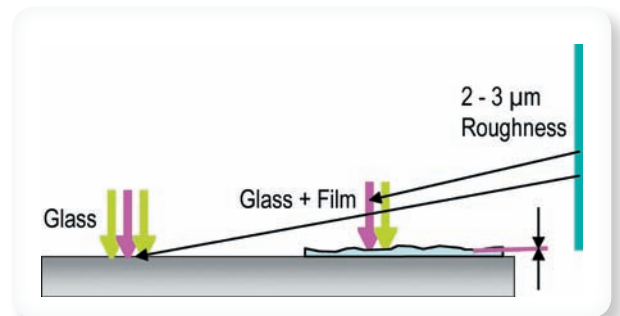
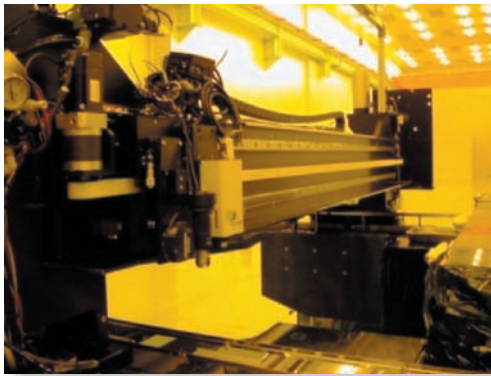
- Co- linear in process inspection sensor
- Cell phone windows thickness & profile
- Industrial flat glass panels PDP/LCD
- Glass & coating thickness
- Liquid surfaces and height
- Interchangeable objective lenses from 25-75 mm & microscopic lenses
- True measurement rate of 3000 Hz



NanoConoProbe Capabilities

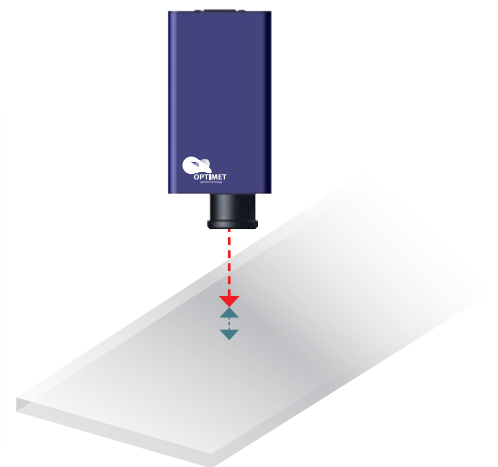
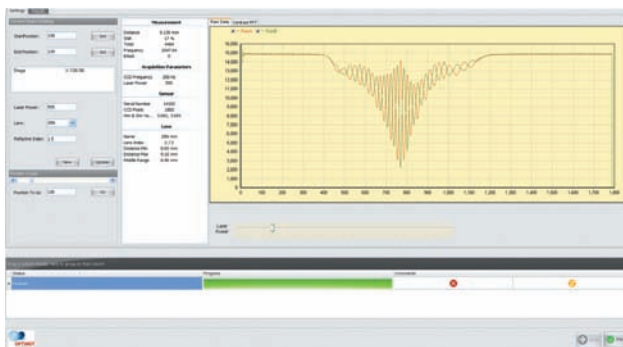


- Profile, Thickness and 3D measurement of glass, transparent materials, liquids and specular mirror-like surfaces, reaching a depth resolutions in the sub-micron range and lateral resolution below 1 μ m.
- Thickness measurement of glass or transparent coating layers by simultaneous measurement of the reflections of both the top and the bottom surfaces.
- True measurement rate of 3000Hz, including during high speed motion.
- Flexible working range and standoffs with interchangeable lens objectives.
- The NanoConoProbe is based on Optimet's advanced conoscopic holography technology sensors.
- Wide range of accessories and integration options for system and in-process inspection.



NanoConoProbe Benefits

- High precision and repeatability.
- Down to 5 μ m layer thickness measurement with high accuracy.
- Small spot size down to 1 μ m.
- Optional synchronization with up to 3 axis system.
- Measurements are insensitive to very fast sensor motion.
- Robust product for industrial environment and production floor.
- Detailed API manual and DLL software library with hardware emulator.



Double reflection used for thickness measurement

NanoConoProbe Accessories

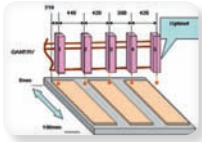
Optimet offers a variety of objective lenses, optical accessories and integrative capabilities enabling use and integration of the Nano-ConoProbe to precision measurement applications and systems.

Interchangeable Objective Lenses

	P/N 3Z79016	16mm lens: Glass roughness and flatness in process inspection.
	P/N 3Z79030	25mm lens: Flatness and thickness touch screen windows and PDP coatings.
	P/N 3Z79040	40mm lens: Glass thickness in process inspection.
	P/N 3Z79050	50mm lens: Glass thickness in process inspection.
	P/N 3Z79075	75mm lens: Glass thickness in process inspection.
	P/N 3Z79010	Microscopic lens X10: Glass roughness and flatness in process inspection.
	P/N 3Z79020	Microscopic lens X20: LCD thin coating layers in process inspection.

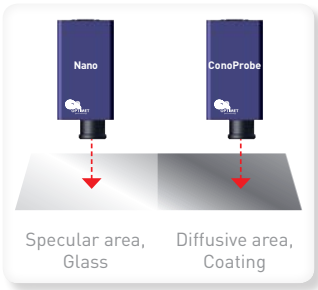
Multi-sensor hub

Capability to manage in parallel multiple sensors from a single host computer. This advanced feature includes automatic IP recognition, allocation and multiple data stream management software.



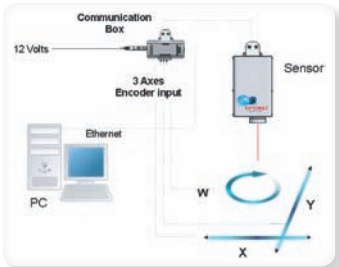
Dual sensor solution

NanoConoProbe & ConoProbe Mark 3.0 Robust and accurate solution for thickness measurement and profile of glass and diffusive coatings.



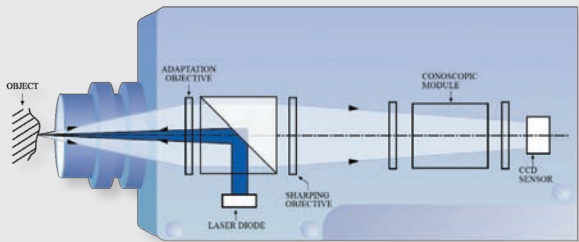
OPS

Position Synchronization - a special firmware module embedded in the sensor's electronics which records encoders output and synchronizes the accurate position of up to 3 system axis together with the sensor measurements.



Optimet's Technology

The NanoConoProbe is based on Optimet's unique and patented Conoscopic Holography technology. Conoscopic Holography implements a particular type of polarized light interference process based on crystal optics. In the basic interference setup, a point of light is projected on an object. This point creates a light point, which reflects the light back. In a Conoscopic system a complete solid angle of the reflected light is analyzed by the system. The measurement process retrieves the distance of the light point from a fixed reference plane.



NanoConoProbe

Non-Contact, High Accuracy, 3D Measurements & Inspection
Conoscopic Holography Sensor

Technical Specifications

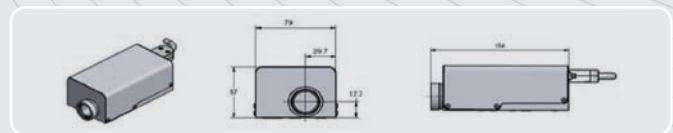
Objective Lens Type	mm	Standard Lenses					Microscopic Lenses	
		16	25	40	50	75	X10	X20
Working range	mm	0.3	1	2	4	9	0.25	0.12
Standoff	mm	11	18	42	36	68	19	8 - 20
Precision	µm	0.3	0.5	2	2.5	3.2	0.15	0.08
Resolution	µm	0.03	0.1	0.2	0.6	0.8	0.025	0.012
Physical thickness max-min layer	mm		1.4 - 0.75					
Min lateral resolution (scan step)	µm	1	1	1	5	10	1	1
Laser spot size	µm	3	5	10	16	25	2	1
Angular coverage	deg	8	5	3.5	3	1.5	12	20

Communication & Data Handling

Communication		Ethernet 10/100 UDP, USB optional
Measurement rate	Hz	3000
Output		(i) Digital Z (distance) (ii) synchronized system encoder readings (iii) SNR (iv) Total (v) in/out of range (vii) tag
Control signals		ROG - Output, Time mode External trigger - Input, System synchronizes the sensor measurement Analog output ±5 V OPS - Position Synchronizer with system encoders or motion commands
Pre-configuration		Optional pre-configuration of sensor measurement parameters embedded in the sensor
Software		Smart32 SDK, sample code, probe emulator, C\C++, C#

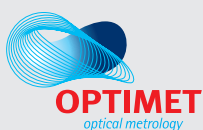
General

Working temperature	°C	18 to 35
Laser safety (FDA)		Class II (<1mw) - eye safe visible laser diode 655 nm
Voltage supply		12 V DC - 0.5 Amp
Dimensions (L x W x H)	mm	167 x 79 x 57
Weight	gr	700



About Optimet

Optimet provides state-of-the-art 3D measurement sensors and systems with up to sub-micron precision. Optimet products are based on patented Conoscopic holography technology together with additional sophisticated technologies and patent portfolio. Thousands of systems are being actively used by Optimet customers around the world in Inspection & Metrology of Automotive & Aerospace components, LCD /PDP production, Steel inspection and more. Optimet provides the most innovative and precise 3D scanners for the Digital Dental CAD/CAM market. Optimet is a member of Ophir Optronics Group, a world leader in electro-optics products.



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