LUMETRICS®

Precision Measurement Solutions

OptiGauge®

Non-Contact Thickness Measurements from 12 µm to 18 mm

Features

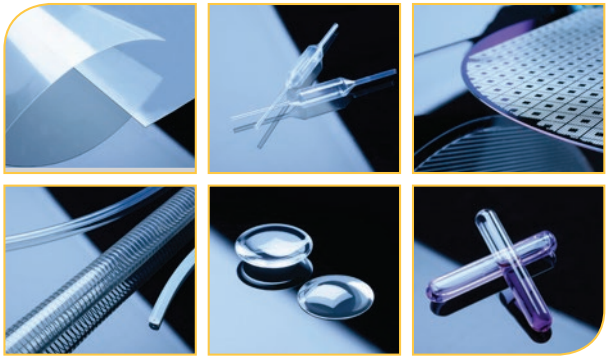
- Measurement range: 12 µm to 18 mm
- Accuracy ±0.1 µm
- Single and multi-layer measurements
- Multi-probe configuration available
- Internal self-calibration
- NIST traceability
- Desktop or rack mount

Lumetrics Expertise

- Patented non-contact thickness measurement technology
- Optomechanical design of off-line and on-line fixtures and probes
- Customized software solutions

Typical Applications

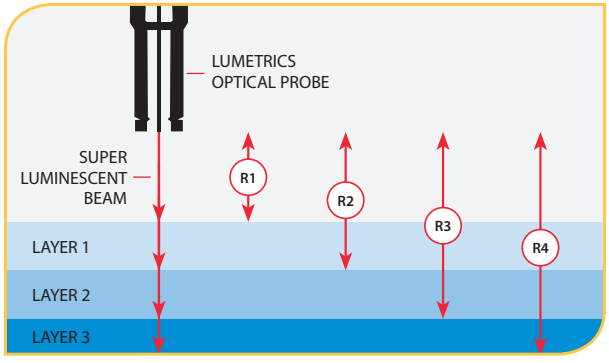
- **Medical** — Balloons, catheters, tubing (wall, ID, OD)
- **Glass** — Automotive, float, flat, electronic display, optics (thickness, inner layers)
- **Ophthalmic** — Contact lenses, IOLs (CT, SAG)
- **Industrial** — Film, coatings, packaging, adhesives, barrier layers (thickness)



Measurement Technology

Our patented optical interferometric based technology allows you to measure the absolute thickness of virtually any translucent or lightly absorbing materials. Provides simultaneous measurement of single and/or multi-layer materials.

▼ ***How it works:*** *The optical probe directs invisible 1310nm infrared light through transparent, translucent or colored materials and sends reflections for each internal surface back to the OptiGauge, where highly advanced software provides instant analysis in an easy-to-use graphical interface.*



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About Lumetrics

For more than a decade, Lumetrics® has provided precision measurement solutions to leading edge companies throughout the world. Our systems are deployed in quality, R&D labs, and production floors providing real-time measurements to improve yield, reduce cost, improve quality and meet compliancy requirements. Our commitment to customers sets us apart from the competition.

"Let our engineering team solve your toughest measurement problems."

- **The top 4 ophthalmic companies** use the OptiGauge for contact lens and IOL inspection
- **3 of the top 4 glass companies** use the OptiGauge to optimize production and ensure quality
- **6 of the top 11 medical device companies** use the OptiGauge for R&D and quality control

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OptiGauge® Core Unit

	OptiGauge II	OptiGauge LT
Part #	10000-30	10000-29 (1M), 10000-35 (5M), 10000-36 (20M)
Measurement Method	Low Coherence Interferometry	Low Coherence Interferometry
Software	Lumetrics® OptiGauge Control Center	Lumetrics® OptiGauge Control Center
Target Materials	Ex. Glass, Contact Lenses, IOLs, Plastic, Tubing, Silicon, Coated Metals	Ex. Glass, Contact Lenses, IOLs, Plastic, Tubing, Silicon, Coated Metals
Max Number of Layers Measured	Up to 20	Up to 20
Thickness Measurement Range	12 µm to 18 mm Optical Thickness (Based on Refractive Index ≈1.50) corresponds to 12 mm Mechanical Thickness	12 µm to 5 mm Optical Thickness (Based on Refractive Index ≈1.50) corresponds to 3.3 m Mechanical Thickness
Measurement Units	µm, mm, mils, inches, µ inch	µm, mm, mils, inches, µ inch
Accuracy (Published accuracy at temperature range 15º to 30ºC)	± 0.1 µm	±2 µm
Repeatability	±0.1 µm 1σ	±0.5 µm 1σ
Measurement Scan Rate	50 Hz STD, 100 Hz & 200 Hz optional	50 Hz
Power Requirements	AC 110 V - 240 V 50/60 Hz, 20 watts / 30 VA	AC 110 V - 240 V 50/60 Hz, 20 watts / 30 VA
Light Source	1310 nm SLED	1310 nm SLED
Dimensions	17" (w) × 4.5" (h) × 19.5" (d)	14" (w) × 2.78" (h) × 19.5" (d)
Software	OptiGauge Control Center License — OCC Ver 7.2	OptiGauge Control Center License — OCC Ver 7.2
Weight	27.0 lbs.	12.6 lbs.
Operating Temperature Range	15° – 30°C (59° – 86°F)*	15° – 30°C (59° – 86°F)*
Operating Relative Humidity	10 to 90% (non-condensing)	10 to 90% (non-condensing)
Output Connections	RS-232, USB 3.0, USB 2.0, Ethernet	RS-232, USB 3.0, USB 2.0, Ethernet

Measurement Probes

	OptiGauge II	OptiGauge LT
Part #	**13000-91 optical probe**	**13000-97 optical probe**
Focal Length (working Distance)	48.8 mm	11.5 mm
Depth of Focus	40 mm	20 mm
Measurement Spot Size	40 µm	10 µm
Optical Fiber Length	3 M standard, up to 1000 M	1 M, 5 M, or 20 M
Angular Tolerance	± 2°	± 8°
Operating Temperature Range	-40°C – 85°C	-40°C – 85°C
Part #	**13000-92 optical probe**	**13000-98 optical probe**
Focal Length (Working Distance)	20.4 mm	42.6 mm
Depth of Focus	10 mm	2 mm
Measurement Spot Size	20 µm	25 µm
Optical Fiber Length	3 M standard, up to 1000 M	1 M, 5 M, or 20 M
Angular Tolerance	± 3.5°	± 3°
Operating Temperature Range	-40°C – 85°C	-40°C – 85°C
Part #	**13000-93 HNA optical probe**	
Focal Length (Working Distance)	21.5 mm	
Depth of Focus	2 mm	
Measurement Spot Size	10 µm	
Optical Fiber Length	3 M standard, up to 1000 M	
Angular Tolerance	± 8.5°	
Operating Temperature Range	-40°C – 85°C	
Part #	**13000-94 optical probe**	
Focal Length (Working Distance)	91.7 mm	
Depth of Focus	160 mm	
Measurement Spot Size	80 µm	
Optical Fiber Length	3 M standard, up to 1000 M	
Angular Tolerance	± 1°	
Operating Temperature Range	-40°C – 85°C	

Minimum Computer Requirements

OptiGauge Control Center Software license provided with OptiGauge system

	OptiGauge II and OptiGauge LT
Operating System	Microsoft® Windows 7 Pro 64-bit or Windows 8 Pro 64-bit
Processor	4th Generation Intel® Core i5
Hard Drive/Memory	500GB Hard Drive/4GB RAM
USB Port	USB 2.0 or USB 3.0
Screen Resolution	1600 × 900 pixel

(Specifications subject to change without notice)

Metrology Instrumentation, Integration, and Solutions