



GelSight® Modulus™ & Modulus HR

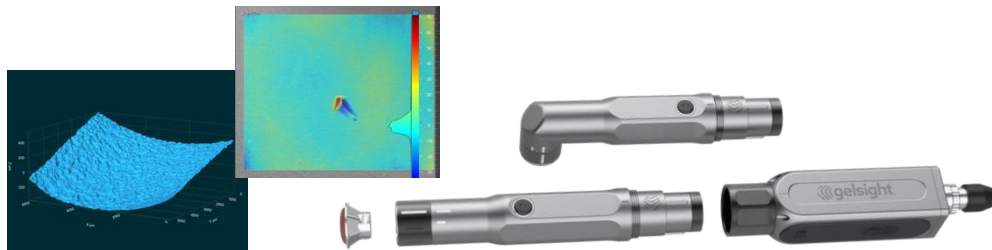
Unlock Hard-to-Reach Areas with the GelSight Modulus Family

GelSight® Modulus™ is a next-generation surface analysis platform designed for engineers, inspectors, and innovators working in complex environments. Its modular, DSLR-style design allows users to hot-swap lenses and cameras for precise inspection of everything from tight bores to open surfaces with unmatched flexibility and speed.

Designed for Access. Built for Accuracy.

Powered by GelSight® Mobile™ software, Modulus offers enhanced image stabilization, faster autoexposure, and intuitive analysis for repeatable operator-to-operator performance. New, more durable elastomeric gels improve usability and extend device life, while its compact 165g form factor makes it ideal for in-field and on-floor measurements.

Modulus replaces traditional, time-consuming methods like replicas and disassembly with instant, high-resolution 3D data. It delivers micron-level accuracy across any material, helping teams save time, reduce scrap, and inspect surfaces that were previously inaccessible.



Modular & Future-Proof



Like a DSLR camera, Modulus features hot-swappable lenses and cameras, giving users the right tool for any inspection, from tight bores to broad surfaces, and allowing for future upgrades as needs evolve.

Micron-Level Accuracy



Delivers precise, repeatable 3D surface measurements, even inside bores, tubes, and other geometries that traditional tools can't reach.

Instant, Quantifiable Data



Replace subjective visual inspections and time-consuming replica workflows with objective measurements and reports in seconds.

Inspect Any Material. Anywhere.



From shiny metals to translucent glass, Modulus accurately measures virtually any surface under any lighting conditions, whether in the lab, on the production line, or out in the field.



GelSight Modulus and Modulus HR deliver advanced tactile sensing in a compact, modular platform. Interchangeable lenses adapt to specific inspection needs, enabling precise surface analysis in hard-to-reach areas such as bores, tubes, and angled surfaces.

Accelerate precision measurements across complex geometries

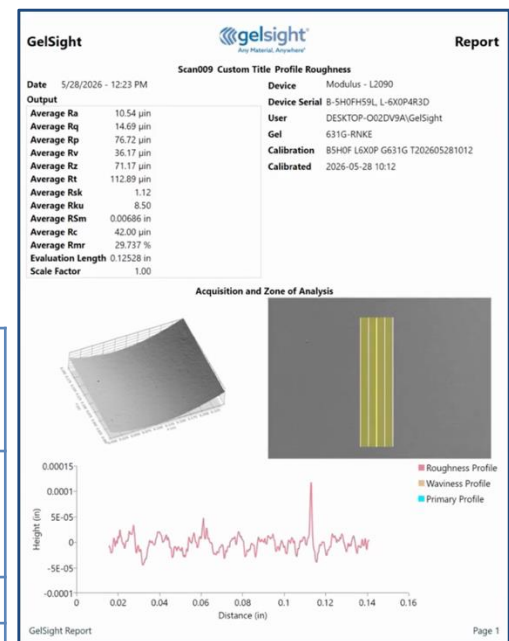
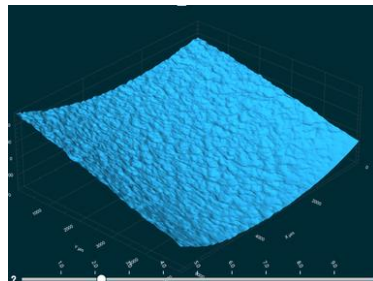
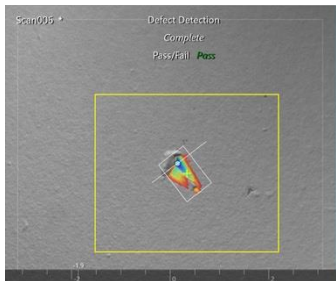
- **Modular Design:** Swap lenses for any task
- **Compact Access:** Inspect tight, complex areas
- **Future-Ready:** Expand with new lens options
- **Durable Gels:** Tougher, smoother, longer-lasting

Measurement and Analysis Applications

Modulus™ expands the boundaries of tactile sensing by delivering precise, repeatable, micron-level surface measurements in previously inaccessible locations — including bores, tubes, and tight geometries. Its lightweight, modular design and enhanced optics system bring new levels of flexibility to inspection workflows, enabling high-resolution surface characterization without the need for destructive testing or replicas.

Powered by GelSight® Mobile™, Modulus supports a full suite of 2D and 3D analysis tools to characterize scratches, wear, corrosion, and surface finish with fast, quantifiable results. The software features enhanced image stabilization, 10-bit camera operation for improved exposure control, and operator-to-operator consistency for repeatable outcomes across teams and environments.

GelSight® Mobile™ PRO offers advanced surface roughness analysis, defect detection, and 3D geometry tools — ideal for Production, Engineering, R&D, QA, and NDT applications. Modulus allows users to perform in-situ, direct measurement of surfaces in seconds — reducing delays and improving traceability by generating instant digital reports.



Modulus & Modulus HR Condensed Specifications

Dimensions		2.8cm x 3.3cm x 20.6cm (L1600) 2.8cm x 3.3cm x 20.1cm (L1690) 2.8cm x 3.3cm x 20.5cm (L2000) 2.8cm x 3.3cm x 19.2cm (L2090)	1.1" x 1.3" x 8.1" (L1600) 1.1" x 1.3" x 7.9" (L1690) 1.1" x 1.3" x 8.1" (L2000) 1.1" x 1.3" x 7.6" (L2090)
Weight		165 g (L1600) 169 g (L1690) 193 g (L2000) 190 g (L2090)	0.36 lbs (L1600) 0.37 lbs (L1690) 0.43 lbs (L2000) 0.42 lbs (L2090)
Field of View		6.7 mm x 5.6 mm	0.26" x 0.22"
Surface Roughness Range		2.0 - 20 μm (L16XX) 0.2 – 20 μm (L20XX)	79 - 790 μin (L16XX) 7.9 – 790 μin (L20XX)
X-Y Accuracy	L1600/ 1690	3 μm + 0.3%	0.1 thou + 0.3%
	L2000	1.0 μm + 0.3%	0.04 thou + 0.3%
	L2090	1.0 μm + 0.5%	0.04 thou + 0.5%
Z Accuracy	L1600	(5-50 μm) 1 μm + 4% (51-1000 μm) 3 μm + 6%	0.04 thou + 4% 0.1 thou + 6%
	L1690	(5-50 μm) 1 μm + 4% (51-1000 μm) 3 μm + 6%	0.04 thou + 4% 0.1 thou + 6%
	L2000	(1-11 μm) 0.4 μm + 4% (11-101 μm) 0.4 μm + 6% (101-500 μm) 1 μm + 5%	(0.04-0.43 thou) 0.016 thou + 4% (0.43-4.00 thou) 0.016 thou + 6% (4.00-20.00 thou) 0.04 thou + 5%
	L2090	(1-11 μm) 0.4 μm + 4% (11-101 μm) 0.4 μm + 6% (101-500 μm) 1 μm + 5%	(0.04-0.43 thou) 0.016 thou + 4% (0.43-4.00 thou) 0.016 thou + 6% (4.00-20.00 thou) 0.04 thou + 5%
Operating System		Windows 11 and above	
Interface / Power		USB-C (10W, 5VDC, 2A)	
Data Export Format		PDF, STL, CSV, TMD, X3P, PLY	
L2xxx Specifications to JCGM 100:2008			



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