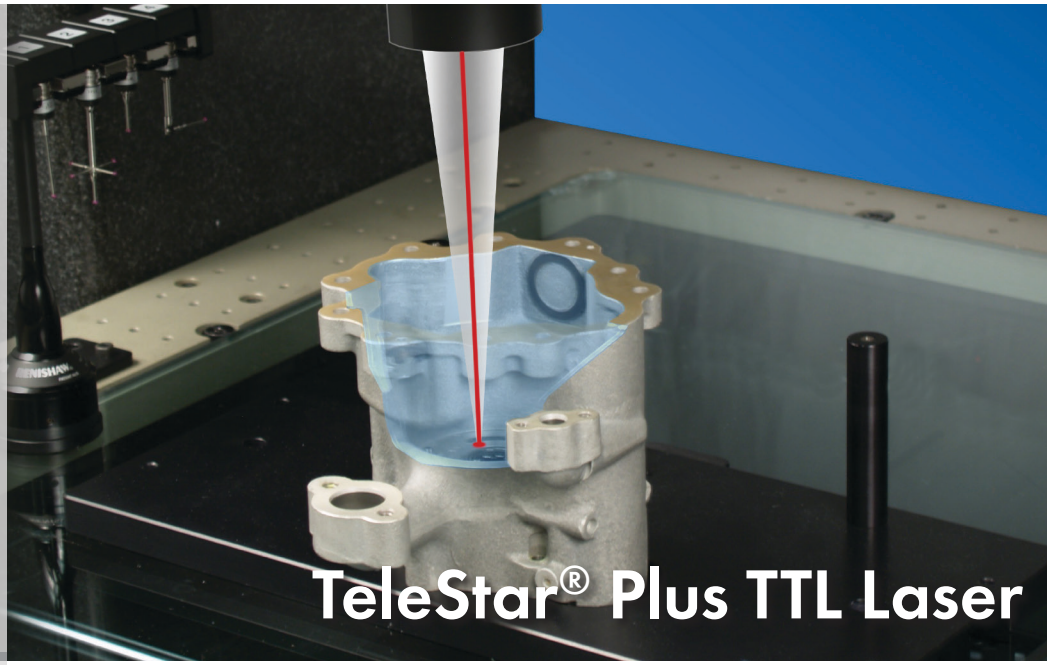
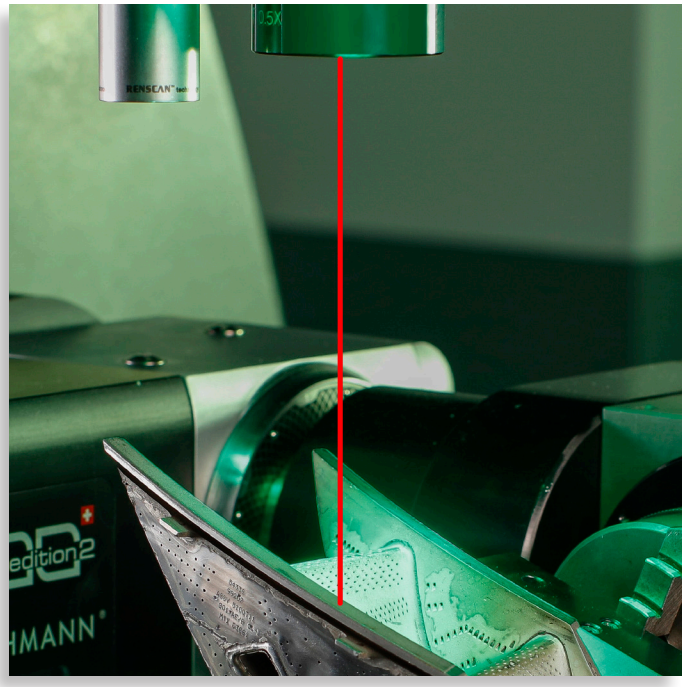


TeleStar® Plus TTL Laser

Long Working Distance, High Resolution Interferometric Range Sensor

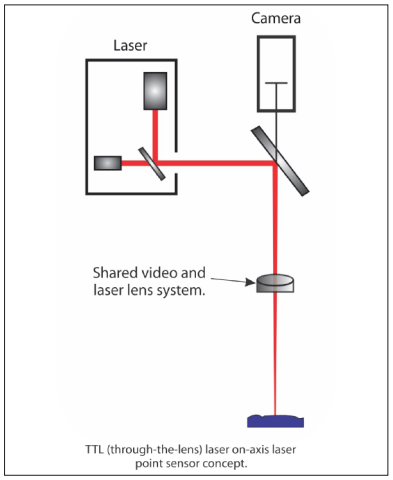
The **TeleStar Plus TTL Laser** uses a unique interferometric sensing technology that yields a high measurement resolution, accuracy and capability. It is a coaxial with system optics, allowing use over the full range of XY travel. TeleStar Plus TTL also offers:

- **Measure Deep Surfaces –** Very long working distance, up to 200 mm, allows measurement of surfaces not accessible to other sensors.
- **Measure All Surface Textures –** Ideal for measuring a wide range of part surfaces, from diffuse light scattering surfaces to translucent surfaces.
- **Measure High Aspect Ratio Features –** Shallow return angle allows measurements deep inside bores and blind holes.



TeleStar® Plus TTL Laser

TeleStar Plus TTL Laser integrated on a SmartScope® Quest™.



TTL (through-the-lens) laser on-axis laser point sensor concept.

Non-triangulation sensor with co-axial incident and reflected light beams

Technical Specifications

Available for	Any SmartScope Quest™, SmartScope SP, or Fusion™
Required Metrology Software	ZONE3®
Laser Type	Partial coherence interferometer
Laser Class (internal laser pointer)	Class 2

System	**SmartScope Quest**					**SmartScope SP**			**Fusion**
Laser Lens	1x (Standard)	2x	4x	0.5x	0.45x	1x (Standard)	2x	5x	1x
Working Distance	71 mm	34 mm	19 mm	130 mm	200 mm	90 mm	38 mm	19 mm	185 mm
Measuring Range[1]	800 µm	600 µm	400 µm	1400 µm	2000 µm	800 µm	600 µm	400 µm	800 µm
Spot size[2] (nominal-FWHM)	5.0 µm	3.8 µm	2.4 µm	7.3 µm	10 µm	5.0 µm	3.8 µm	2.4 µm	5.0 µm
Resolution[3]	0.1 µm	0.2 µm	0.3µm	0.25 µm	0.45 µm	0.15 µm	0.2 µm	0.3 µm	0.3 µm
Accuracy[4]	1.0 µm	2.2 µm	2.5 µm	2.5 µm	4.0 µm	1.0 µm	2.2 µm	2.5 µm	3.0 µm

Repeatability[4]	0.1 µm (1σ)

[1]Measuring Range is the Z-range over which the performance of the sensor is linear and calibrated.
[2]With spot size at best focus. Spot sizes for this particular laser are the full width of the spot at half maximum value (FWHM).
[3]Using high quality specular (polished glass) surface, 1σ.
[4]Accuracy/Repeatability of the laser on horizontal specular surfaces within the measuring range. System performance varies with machine type.

Safety Considerations

This system is classified as a Class II laser device by IEC 825 (2001). **Do not stare directly into the laser source.**

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