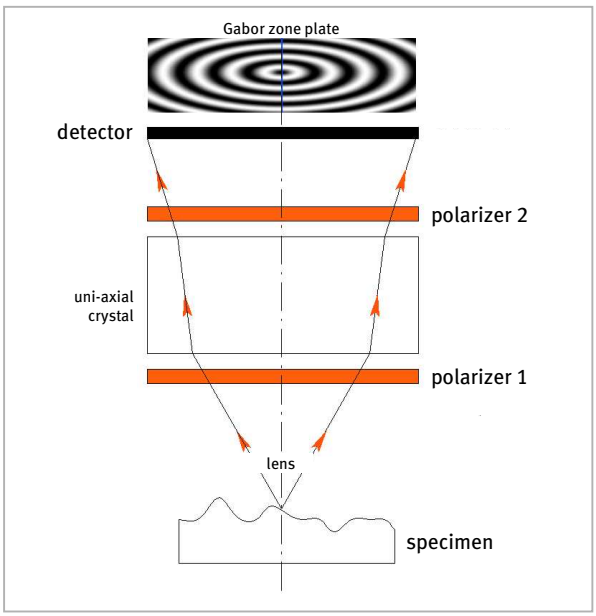


schematic presentation of the measuring principle

# Non-contact measurement over wide working ranges and steep edges

## Typical Applications

- quality assurance in automotive industry (interior, cylinders, shafts, electronics etc.)
- profile measurements of lens contours
- profile and 3D measurements roughness determination on technical surfaces (tools, cylinders, finished products etc.)
- dimension measurement of MEMS
- measurement of wafer flatness
- R&D and Q&A in MEMS
- R&D and Q&A in medical technology (catheters, prostheses etc.)

## Measuring Principle

The measurement bases on conoscopic holography. A laser beam is focused on the specimen. The light which is scattered in the measuring spot is captured by the sensor. A configuration of two polarizers and one uni-axial crystal splits the captured light into two light beams that pass the crystal with different velocities. This leads to a superposition on the detector. The distance between lens and specimen is evaluated from the resulting double slit interference pattern.

## Scope of Delivery

- conoscopic measuring head CSL
- sensor electronics
- lens
- sensor cable, parallel port cable
- operating manual

## Measurement Features

- non-destructive, non-contact measurement
- wide working range and measuring bandwidth
- very well suited for steep edges
- coaxial measurement, no shading effects


conoscopic sensor FRT CSL

## Technical Specifications

| focal length | 25 mm | 50 mm | 75 mm | 100 mm |
|---|---|---|---|---|
| measuring range z | 1.8 mm | 8 mm | 18 mm | 35 mm |
| working distance | 15 mm | 42 mm | 65 mm | 90 mm |
| measuring rate | 1000 Hz | 1000 Hz | 1000 Hz | 1000 Hz |
| reproducibility | ‹ 0.4 µm | ‹ 1 µm | ‹ 2 µm | ‹ 4 µm |
| resolution x | 12 µm [1] | 15 µm [1] | 25 µm [1] | 35 µm [1] |
| measuring angle | 90°± 70° | | | |
| interface | parallel port connection | | | |

[1] Due to its elliptical measuring spot, the x-resolution is better than the y-resolution.

## Reference Customers

ASE Inc.
Audi AG
Ball Packaging Europe GmbH
Bayer AG
Beiersdorf AG
BMW AG
Boehringer Ingelheim microParts GmbH
Carl Zeiss SMT AG
DAIMLERCHRYSLER
Dow Benelux N.V.
EKO Stahl GmbH
Fraunhofer-Institute
Freescale
Fuji Magnetics GmbH
General Electric Plastics B.V.
Gillette
HILTI AG
Hoechst Trespaphan GmbH
Human Optics AG
IBM
Infineon Technologies AG
Lexmark International, Inc.
MAN Roland Druckmaschinen AG
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Nortel Networks Optical Components (Switzerland) AG
Océ-Technologies B.V.
Optische Werke G. Rodenstock GmbH
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