

kolibri move

Portable, optical 3D measuring machine for flexible object digitizing

Conceptual design

- Manual handled kolibri SENSOR for flexible measurements of objects up to 2.5 m length
- Complete record of object surface without reference markers, matching or special object positioning
- kolibri SENSOR is moved around the fixed object by a portable tripod on rolls
- Stationary calibration cameras that generate virtual pass markers remain fixed referring the measuring object
- Tools, moulds and components with an offset up to over 1m can be measured
- Very robust against environmental influences (long term shifts) because of self-calibration
- Easy handling

Fields of application

- Quality inspection
3D deviation analysis to CAD data
3D and 2D dimensioning
Geometrical dimensioning and tolerancing (GD&T)
Wall thickness inspection
- Reverse Engineering
Rapid technologies
Digital mock-up
- 3D-visualization and virtual reality

Measuring principle

- Triangulation with the help of digital fringe projection in combination with photogrammetric methods
→ Phasogrammetry

Extension to fully automated system

- kolibri SENSOR in configuration with digitally controlled rotation stage, lifting and tilting column (kolibri Flex 400)
- Fully-automated record by predefined programmes

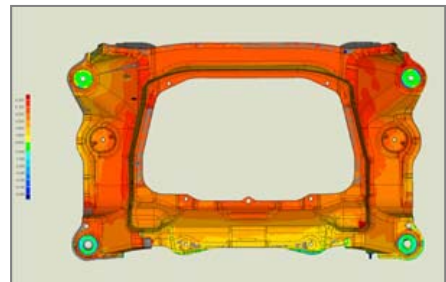
Technical parameter

- Standard measur. volume: 2.5 m x 1.0 m x 0.75 m
(larger measuring volumes on request)
- Single measuring volume: Ø 440mm, height 250mm
- Measuring time: 8sec / scan
- Measuring uncertainty σ : 20 μ m
- Point distance: 0.3-0.4mm

Competence in optical measuring technology



kolibri SENSOR on tripod



CAD comparison of an automotive steel frame



Fringe projection on automotive steel frame



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