

smartSCAN^{3D-HE}

THE HIGHEND 3D MEASURING AND DIGITISATION SYSTEM



Mission

The **smartSCAN^{3D-HE}** measurement and digitisation system is result of the progressive development and enhancement of our successful **smartSCAN^{3D}** product range. Wherever high accuracy and resolution are of key importance, the **smartSCAN^{3D-HE}** offers the optimum solution for all your metrological tasks and challenges.

Performance and Precision

Characterised by its extremely fast data acquisition at a very high level of resolution, the **smartSCAN^{3D-HE}** delivers highly accurate 3D coordinates within seconds for any kinds of objects, regardless of their size, geometry and complexity. The practical qualification and effectiveness of the system is proven in its daily application

context, be it in the traditional measurement laboratory, the workshop setting or in a rough and demanding industrial production environment.

Application

Combining high performance and precise detail resolution with a broad choice of available measurement fields, the **smartSCAN^{3D-HE}** provides the optimum solution for any 3D task in the fields of product development and quality control. Its application areas cover tasks such as inspection of sheet metal components in the automotive industry, mould making, tooling and quality control in product design as well as measuring and digitising projects in reverse engineering.

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TECHNICAL SPECIFICATIONS

Image Processing

Host computer	Core™2 Duo, ≥ 2 GHz, ≥ 2 GB RAM, ≥ 60 GB HD, Open-GL-Graphic adapter
Image data interface	IEEE 1394 (FireWire®)
Operating system	Microsoft Windows XP Professional (optional x64 Bit Edition)
Measurement software	OPTOCAT for Windows alignment of views by means of index marks and object geometry; merging, compression, filtering
Data interface	ASCII, BRE, STL, PLY, VRML

Sensor

Principle of operation	Miniaturised Projection Technique
Light source	100 W halogen
Sensor weight	4 kg
Imaging	2 high resolution CCD digital cameras, b/w or colour
Digitization	2.448 x 2.048 pixels per camera
Operating distance	1000 mm
Min. depth resolution	from 1 µm (depending on the FOV)
Acquisition time	< 1 s

Accessories

Host computer	Notebook or Laptop
Tripod	Measuring tripod for industrial application (optional: moveable wooden tripod)
Calibration	carbon fibre calibration tools

FIELDS OF VIEW FOR THE smartSCAN^{3D-HE}

Image diagonal (FOV)	[mm]	100	150	225	300	450	600	850	1200
X,Y resolution	[µm]	30	50	70	100	150	200	275	400
Resolution limit (Z)	[µm]	2	3	4	6	8	12	15	20
Feature accuracy	[µm]	± 8	± 12	± 15	± 20	± 30	± 40	± 55	± 75



FIELDS OF VIEW: 100 mm – 1200 mm

The **smartSCAN^{3D-HE}** comes with an extensive range of fields of view from **100 mm to 1200 mm**. Additional fields of view covering smaller or bigger measuring areas, as well as detailed information on the possible combination options can be provided upon request.

The different fields of view are easily adjusted by exchanging the system lenses. The convenient and fast calibration as well as the adjusted laser pointers facilitate the setup adaptation.

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