

Optigo 200

Compact, Non-Contact

3D Measurement System



- Fast precision measurement & analysis
- Microseconds image acquisition
- Full surface and single-point data acquisition
- Designed for harsh production environments
- Versatile solution for every stage of engineering and production
- Compact and light for easy portability

Optigo 200 leads the new generation of CogniTens non-contact 3D measurement systems, leveraging the patented technology of the field-proven Optigo 100 series. This new system guarantees fast throughput, superior accuracy and greater versatility. In a single shot, Optigo 200 performs both single point and features analysis as well as full surface measurements through a highly dense cloud of points.

Employing CogniTens' patented tri-linear tensor technology, the Optigo 200 features high-resolution CCD cameras for precise measurement. Images are captured from any type of surface, from clay models to plastic and metal parts, in microseconds, with a single push of a button. This allows accurate and fast measurements on the shop floor, regardless of vibrations, lighting conditions and temperature variations. Proprietary algorithms turn the 2D images into a dense 3D-model in real time. Multiple system outputs include dense point cloud, cross sections, single points, holes, slots, edges and digital assembly.

Measuring any free form, regardless of the complexity, size or features, Optigo 200 is the most comprehensive and versatile system on the market today. Its compact design with light optical head ensures easy access and better handling in every stage of production, from design and engineering, through prototyping to mass production. Ergonomically designed for operation in production environment, the Optigo 200 is especially suited for the automotive and aerospace industries.

Assuring quality control
in engineering
& manufacturing
processes

Optigo 200

Compact, Non-Contact

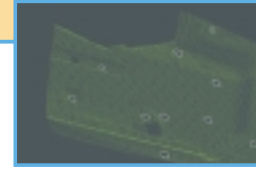
3D Measurement System



Cloud of points (COP)



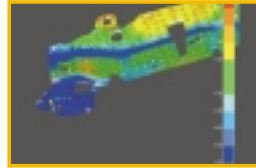
Meshed COP



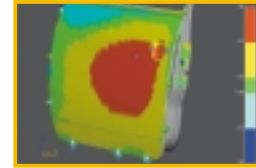
COP with features



Two COPs assembled



Single-point measurement



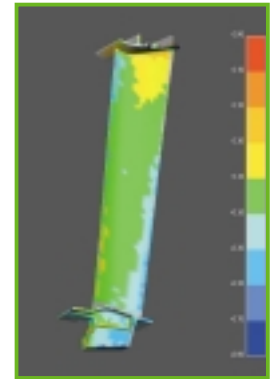
Edge-point measurement



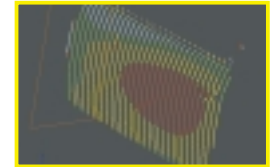
Hole measurement



Surface analysis



Surface analysis



Cross-section analysis

System Specifications

Throughput*	Image Acquisition	< 1 msec.	
	Overall image grabbing sequence	< 0.5 sec.	
	Measurement and analysis	10 sec.	
Accuracy	Field of View (FOV)	Local accuracy - average	Local average + 2σ accuracy
	140 x 180 x 60 mm	15μm	35μm
	190 x 260 x 150 mm	20μm	45μm
	290 x 380 x 200 mm	25μm	70μm
Optical Head	Physical dimensions (H x W x D)	300 x 320 x 200 mm	
	Weight	10 kg	
	Camera	3 high resolution 1.4 Mega pixels CCD cameras	
	Stand-off distance	75 cm	
Output	Features	Cloud of points ASCII xyz file, surface analysis, surface point measurement, edge point measurement, slots, rectangular and circular hole measurement, edges, and cross-sections	
	Supported file formats	STL, OpenInventor, PolyWorks PIF, Tebis DGT, DMIS and customized ASCII formats, Excel-ready tab separated file	
Input	Data type	Geometry exchange format and feature measurement format	
	Supported file formats	IGES, VDA-FS, STEP, CATIA, STL, DMIS and customized ASCII formats	
Electronic Cabinet	Computer	Dual processor, Pentium IV, 1.8 GHz CPU, 1GB RAM, Microsoft Windows 2000. 15" LCD monitor.	
	Physical dimensions (H x W x D)	840 x 710 x 600 mm	
	Weight	110 kg (245 lbs)	
Miscellaneous	Operating temperature	10 - 35°C (50 - 95°F)	
	Lighting conditions	Most industrial lighting	
	Vibration conditions	Suitable for production environment	
	Surfaces measured	Painted/unpainted (no special treatment required for most surfaces)	
	Maximal size of measured object	Almost unlimited	
	Electrical requirements	110/220 Volt, consumption max. 1.4 KVA	

* Typical single tile surface measured.

Specifications are subject to change without notice. Some of the above specifications are optional.

1. COP (Cloud of points) are generated by the Optigo system and can be exported to standard CAD and analysis software systems.

2. Single points and features Single points, holes, slots, and edge points are detected and accurately measured for analysis and deviation detection.

3. Surface analysis CAD/COP comparison to CAD or golden part generates a color-coded mapping of a surface.

4. Cross-sections Definition of the acquired data can be generated at any orientation and spacing.