

Surveyor[®] ZS-Series

High Precision Design and Accuracy



ZS-Series CMM integrated with XLP Laser Scanner with industry best speed, accuracy and resolution.

For Inspection Analysis and Reverse Engineering



General Information

Design	Bridge-type CMM with stationary machine table and lateral bridge drive.
Operating Mode	Motorized / CNC
Laser / Part Indexing	Fixed / Renishaw PH10M
Length Measuring System	Reflected light length measuring system, photoelectric 0.2 μm (0.000008 in) resolution.
Special Features	Ceramic crossbeam and spindle. Pneumatically counterbalanced Z axis. Preloaded high performance air bearings with wrap around guideways in all axes. Passive anti-vibration system.
Drive System	High-performance servo drives. Electronic monitoring of position control in all axes.
Controller	Type: C99L (CNC 3-axis vectorial control) Cooling System: Integrated Fan
Accessories	Standard control panel: 2 joysticks with progressive characteristics for manual control.
Power Requirements	100-240 V VAC ~ (+10%, -15%); 50-60 Hz (±3.5%), Power consumption: max. 750 VA
Environmental Requirements	+17° to +35°C (63°-95°F)
Compressed Air Supply	Supply pressure 6 - 10 bar, pre-cleaned. Maximum consumption: 25 l/min at 5 bar pressure. Air quality according to ISO 8573 part 1: class 4.
Axes	X, Y, Z, optional rotary stage
Bearing System	Air bearings
Measuring Table	Black granite
Measuring System	Optical linear transducers
Warranty	1-year warranty (hardware, software, parts, labor, workmanship)

Included with System

Choice of Laser Probe	XLP 250, 500, or 1000
Laser Scanning Software	Surveyor Scan Control Software
Computer	High-end Windows based PC and monitor
Manual Laser Mount	Adjustable mounts allow for 2 axes of rotation
Test Artifact	Specially designed artifact for validating system accuracy. Includes CMM inspection report and Qualify inspection template

System Options

Rotary Stage	ADRS 150 high accuracy rotary stage
Renishaw PH10	2-axis Renishaw PH10M
7th Axis	Laser Design automated flip fixture
Manual Fixtures	Manual flip fixture and extra frames
Reverse Engineering Software	Geomagic Design X, Polyworks/Inspector
Inspection Software	Geomagic Control X, Polyworks/Inspector

**Geomagic software by 3D Systems, Polyworks software by Innovmetric Software

Measuring Range (MM)

CMM Sizes	Measuring range in mm (in)		
	X axis	Y axis	Z axis
7/7/6	700	700 (27.6)	600
7/10/6	(27.6)	1000 (39.4)	(23.6)

Volumetric Accuracy CMM Base-ISO 10360-2

Model	Renishaw TP200 Probe Standard Accuracy	
	MPE _E	MPE _P
700	2.4 + L/250	2.4

CyberOptics also offers system upgrades for the ZS-Series for traditional CMM functionality. For information on adding a wide variety of Renishaw sensors and touch probing capability to your machine, please contact your CyberOptics representative.



Contact CyberOptics today for more information

+1 800.366.9131 or +1 763.542.5000 | CSales@cyberoptics.com | www.cyberoptics.com

Copyright © 2018. CyberOptics Corporation. All rights reserved. Specifications subject to change without notice. 8026993 Rev C



Surveyor[®] ZS-Series

3D Laser Scanning Systems

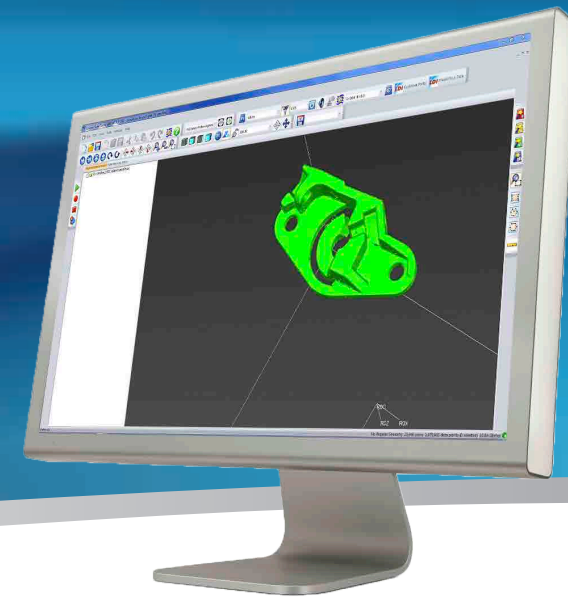
Fast, Highly Precise 3D measurements with 6 axes and full automation.

Significantly cut Time-to-Market with the Surveyor[®] ZS-Series that sets a new standard for precision and ease of use in 3D measurement. Systems are available in many sizes to accommodate a wide variety of small to large parts and applications for first article inspection and project-oriented usage. The turnkey system is highly automated to quickly and easily 3D scan simple prismatic shapes and geometry, free-form surfaces, or complex-shaped objects for inspection, analysis, or reverse engineering applications.



Intuitive, Easy-to-Use Software

Surveyor Scan Control (SSC) software has a simple Windows interface that makes laser scanning easy to use, with scanning wizards that automate most day-to-day tasks with detailed accuracy reporting that helps you know the accuracy of your machine before you start collecting data. Automated scanning gives you control up to 6 axes of motion for complete coverage from a single program.



High Precision Design, Speed, and Accuracy

Offers excellent stability and rigidity through passive anti-vibration technology while scanning at maximum speed and acceleration. The integrated CNC programmable controls supply smooth, accurate, high-speed up to 6-axis motion control for the most difficult measuring applications.

Enables significant reduction in Time-to-Market. Operators can quickly and easily digitize simple or complex parts of all sizes and geometries.

Dynamics

700	
Travel Speed	Motorized Axes: 0 to 70 mm/s (2.8 in/s)
	CNC:
	X Axis: Max. 200 mm/s (7.9 in/s)
Acceleration	Y Axis: Max. 346 mm/s (13.6 in/s)
	Z Axis: Max. 500 mm/s ² (19.7 in/s ²)
	Vector: Max. 866 mm/s ² (34.1 in/s ²)



Industry Best for Laser Line Scanning Technology

CyberOptics XLP Laser Scanning Probes are able to scan diverse surface materials without any special coatings. They are up to 50% more accurate, up to 70% faster scan rate, and up to 30% higher resolution.

The XLP comes in three models based on the size and detail on the objects to be scanned. Parts such as plastics, metal, rubber, cast, molded, forged, machined, or extruded components, as well as tooling dies, or molds, are all typically measured items.

Refer to separate XLP Specification Sheet for details.



Versatile for a Variety of Applications and Parts

Systems are available in many sizes to accommodate a variety of parts and applications.

The turnkey system quickly and easily scan simple prismatic shapes and geometry, free-form surfaces, or complex-shaped objects for inspection, analysis, or reverse engineering applications.

A variety of laser probe options are available based on the size and level of detail on the objects to be scanned. Parts such as plastics, metal, rubber, cast, molded, forged, machined, or extruded components, as well as tooling, dies, or molds, are all typically measured items.

Output to a wide variety of industry 3D Scan Data Processing Software Systems including PolyWorks[®] and Geomagic[®]

Provides Easy-to-Use Automated 3D Scanning Capabilities

Utilizing the CyberOptics XLP Laser Scanning Probe with industry leading speed, accuracy and resolution, the Surveyor ZS-Series provides automated scans of up to 6 axes of motion for complete coverage from a single program. All of the data collection is contained in a common coordinate system, giving an accurate digital representation of surface captured. Interactive joystick control and rotation settings provide smooth, accurate, high-speed movement for all measuring applications.

Surveyor Scan Control (SSC) software provides optimization for part specularity, data density control, and filtering as well as macro programming capabilities for automating repetitive applications and eliminates operator involvement.

The turnkey system is highly automated for quick and easy scanning

