SHINING 3D
METROLOGY

FreeScan Trio

World's First Marker-Free Laser 3D Scanner

Innovation Meets Every Inspection

Redefining the cutting-edge technology in optical 3D metrology, FreeScan Trio is the industry's first marker-free handheld 3D scanner that owns the unique innovative techologies to address a wide range of inspection tasks.

Featuring an advanced laser system with 98 laser lines and three industrial 5 megapixels cameras, it enables fast, marker-free scanning, reliable precise data, minimizing preparation time while maintaining detailed data capture.

The patented built-in photogrammetry technology enhances volumetric accuracy, making it suitable for large-scale objects.

FreeScan Trio seamlessly blends accuracy and efficiency, empowering you to tackle every inspection task with confidence.

98 Laser Lines

Intelligent Self-Positioning Technology

No Markers Scan Mode

FreeScan Trio introduces advanced intelligent self-positioning technology to streamline the scanning process. With 98 laser lines, it eliminates the need for markers, and achieves a fast scan speed of up to 3,010,000 points per second.

3 Industrial 5MP Cameras

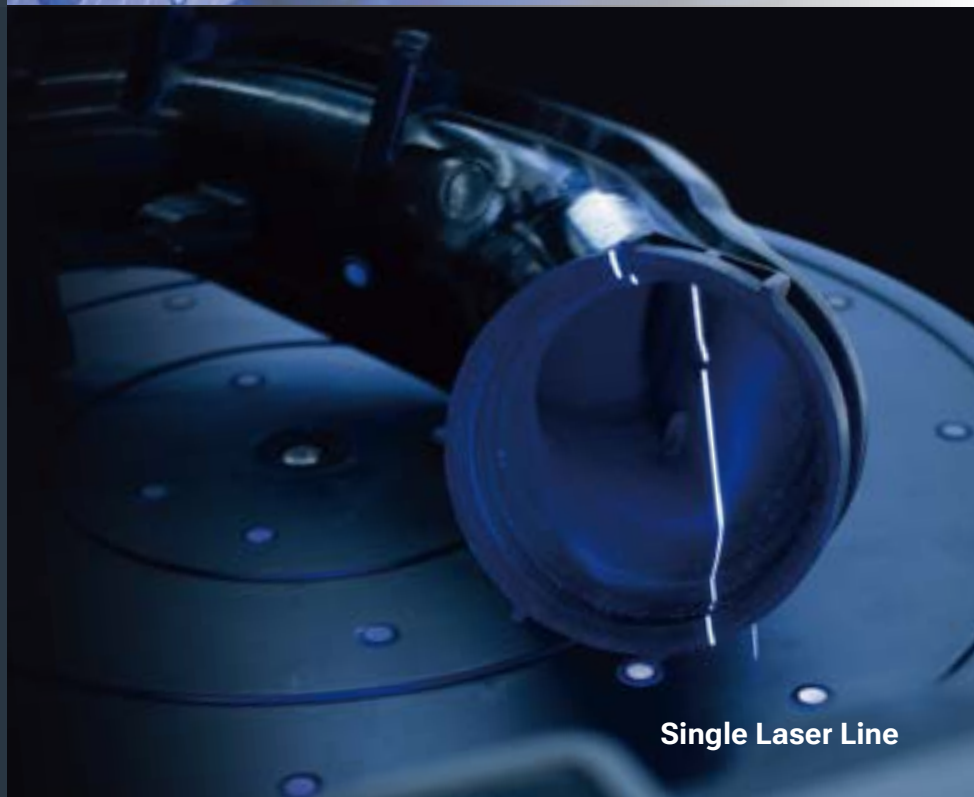
With three industrial cameras, each wielding 5MP, FreeScan Trio brings out the most elaborate details and high-quality 3D data.

Perfect High Details Capture

FreeScan Trio delivers exceptional high-details capture, ensuring intricate data acquisition with or without markers.

Deep Hole Mode

Both 26 and single laser lines of FreeScan Trio are capable of scanning holes, deep pockets and fin walls, thanks to its optimized camera angles and advanced scanning modes.



Patented Binocular Photogrammetry

Fast and easy setup

Different from traditional photogrammetry methods, our binocular photogrammetry technology eliminates the usage of coded targets, reduces preparation time by at least half and ensures the high level of volumetric accuracy for large object scanning.

Certified and Guaranteed Results

FreeScan Trio delivers consistent and reliable global accuracy and scanning results for all projects. Accredited by CNAS in accordance with ISO 17025, SHINING 3D Accuracy Laboratory, ensures rigorous calibration of optical metrology. Based on VDI/VDE 2634 guidelines, the laboratory guarantees the traceability of measurement processes and calibration results. This certified metrology system is ISO compliant and can easily be integrated into your ISO quality control processes.

FreeScan Software: Intuitive and Powerful

Flexible Resolution

Be able to change the resolution later according to your need, without restarting the project.

Real-Time Display of Mesh Data

Our streamlined software displays mesh data in real time, enhancing visual quality and saving time on meshing later on.

Data Quality Visualization

Allows the collected data quality to be visualized directly in the software.

Customized Scanning Template

Save time and ensure measurement consistency by using customizing scanning settings. No need to set parameters manually.

AI Feature Recognition

Intelligent boundary detection provides fast, precise measurement of round holes, rectangular holes, and slots, ensuring high-quality and high-accuracy data capture.

Versatile On-Site Inspection

Simplify operations and enhance fast quality check for various on-site inspection tasks.

SPECIFICATIONS

Product Model	FreeScan Trio			
Scan mode	High Speed Scan	Deep Hole Scan	Detailed Scan	No Markers Scan
Light source	26 laser lines	26 / single laser lines	7 parallel laser lines	98 laser lines
Working distance	300 mm	300 mm	200 mm	300 mm
Scan accuracy	0.02 mm			/
Scan speed	Up to 3,010,000 points/s			
Scan depth	360 mm			
FOV	650 x 580 mm			
Volumetric accuracy*	0.02 + 0.03 mm/m (0.02 + 0.015 mm/m with photogrammetry)			
Point distance	0.01 - 3 mm			
Laser class	Class II (eye-safe)			
Connection standard	USB 3.0			
Dimensions	331 x 120 x 76 mm			
Weight	985 g			
Power input	12V, 5.0A			
Working temperature	0 ~ 40℃			
Working humidity	10 ~ 90%			
Certifications	CE, FCC, ROHS, WEEE, KC, FDA, UKCA, IP50, TiSAX			
Accuracy certification	VDI/VDE 2634 Part 3, ISO 10360 (certificated in ISO 17025 certificated accuracy lab)			
Recommended computer configuration	OS: Win10, 64 bit; Graphics card: NVIDIA GTX/RTX series cards, higher or equal to GeForce RTX 4060; Video memory: ≥8G; Processor: I7-13700H; Memory: ≥64GB			

Notice: SHINING 3D reserves the right to modify or adjust the above specifications and pictures.

* Based on VDI/VDE 2634 part3. Sphere-spacing error is assessed with traceable length artefacts and markers by measuring these at different locations and orientations within the working volume, in the accuracy lab with environment conditions: temperature 20 ± 0.5℃; humidity 40 ~ 60% RH.