



# FreeScan Trak Pro2

Optical 3D Measuring and Dynamic Tracking Without Markers



# FreeScan Trak Pro2

The FreeScan Trak Pro2 Portable Optical Coordinate Measuring System is the ideal metrology tool for quality control and 3D inspection. With high precision and repeatability, the FreeScan Trak Pro2 allows for fast, accurate inspection of various part types and surfaces without the need for markers.

When paired with the optional FreeProbe, users can seamlessly integrate contact probing to the optical scanning process for a swifter and more convenient overall inspection workflow.



## **Accurate**

Up to 0.023 mm (0.0009 in)



## **High-speed scanning**

Up to 3,070,000 points/sec



## **ISO 17025**

Accredited



## **3D scanning modes**

For versatility



## **Intuitive software**

With a comprehensive toolkit







## Dynamic Referencing No Markers Needed

The FreeTrak bar dynamically tracks the TE25 scanner thanks to its tracking targets, without the need to manually place markers on the scanned object. This markerless operation saves time and makes the 3D scanning process much smoother.

FreeTrak  
(tracking bar)

Dual-camera Tracking System

Visible Operating Indicators

Carbon Fiber Frame

Tracking Targets

5.0 MP  
Industrial  
Cameras

TE25  
(portable 3D scanner)

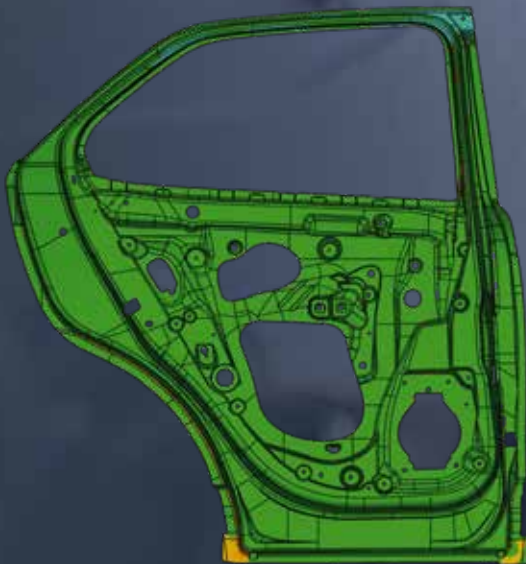


Accuracy up to  
**0.023mm**



## Exceptional Accuracy

FreeScan Trak Pro2 delivers metrology-grade scanning results with exceptional accuracy, reaching up to **0.023mm**.



Scan speed up to  
**3,070,000**  
points/sec



### 3 Laser Line Modes

**50 crossed laser lines:** Quick and highly accurate scan

**7 parallel laser lines:** Partial HD scan for extremely fine details

**1 single laser line:** Deep hole scanning (hole diameter:depth ratio of 1:4)



### High-Speed Scanning

Paired with its 50 blue laser lines, the Trak Pro2's two industrial-grade cameras of 5.0MP each enable ultra-high-speed data acquisition for a smooth scanning experience.



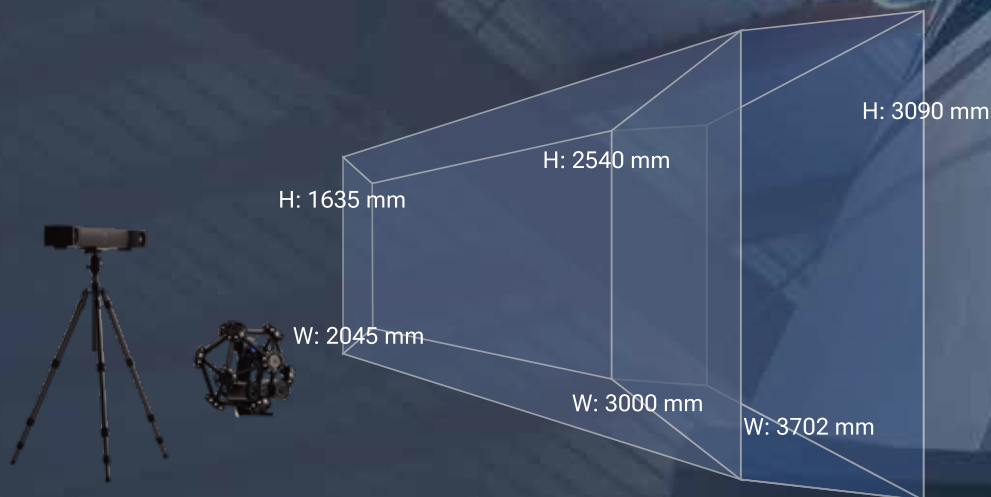
Max. FOV

# 650 x 580mm



## Wide Measuring Range

FreeScan Trak Pro2's wide and expandable tracking range allows measurement of a broad spectrum of volumes and surfaces without compromising accuracy or requiring traditional leapfrogs <sup>(1)</sup> in the scanning process.

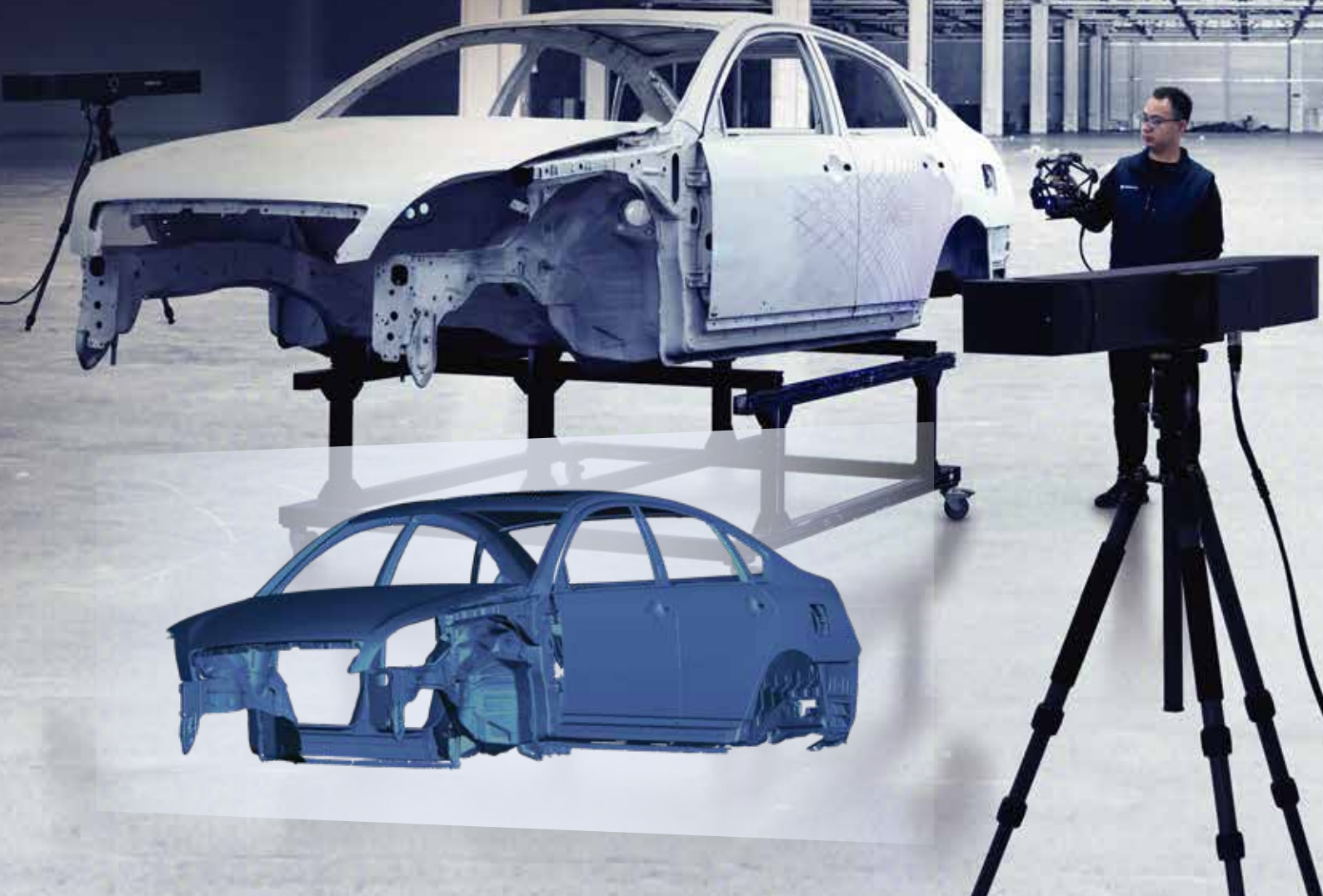


(1) Leapfrog: Refers to the technique of relocating the measuring device to extend its working volume. This involves measuring reference geometries (artifacts) in one position, then repositioning the device and measuring the same reference geometries again. These reference points establish a link between the new device position and the original coordinate system, allowing measurements to be consistently reported in the same reference frame.



## Supports Both Optical Tracking and Marker Scanning

Switch between these two modes based on your requirements and the type of object to scan. This duality offers the flexibility to cover a wider range of applications and surface types.



# Robust & Intuitive Software



## Real-time Display of Mesh Data

Our intuitive, streamlined software displays mesh data in real time as you scan your workpiece, saving time on point cloud meshing later on.



## Data Quality Visualization

Users can determine if the scanning distance is appropriate by observing the color of the laser lines projected onto the object. There is also a built-in data quality indicator to determine which parts of the data are insufficient.



Incomplete data,  
still needs to be scanned

**Yellow section**

Completed data  
**Blue section**



## FreeProbe (Optional)

- Ergonomic design for easy grip and use
- Sturdy structure to ensure accuracy
- Multifunctional button for versatile functionality
- Integration with PolyWorks and ControlX for quick inspection



When only specific data is needed, use the Probe to create geomagic features for quick inspection or measurement without getting mesh data.



Ergonomic  
Handle

Positioning  
Markers

Multifunctional  
Button

Ruby  
Measuring Tip

# SPECIFICATIONS

FreeScan Trak Pro2			FreeProbe (optional)
Accuracy	0.023 mm (0.0009 in)		0.025 mm (0.0009 in)
Volumetric accuracy*	9.6 m³: 0.062 mm (339 ft³: 0.0024 in) 17.6 m³: 0.072 mm (622 ft³: 0.0028 in)		
Volumetric accuracy* with photogrammetry	0.044 mm + 0.012 mm/m (0.0017 + 0.0004 in/ft)		
Scan speed	Up to 3,070,000 points/s		100 measurements/s
Max. FOV	650 x 580 mm (25.5 x 22.8 in)		/
Point distance	0.01 ~ 10 mm (0.0003 ~ 0.39 in)		/
Scan depth	400 mm (15.7 in)		/
Recommended object size	0.1 ~ 10 m (3.937 ~ 393.7 in)		/
Weight	FreeTrak: 7.2 kg (15.8 lbs)	TE25: 1.47 kg (3.2 lbs)	0.5 kg (1.1 lbs)
Dimensions	FreeTrak: 1079 x 237 x 110 mm (42.4 x 9.3 x 4.3 in)	TE25: 281 x 283 x 290 mm (11.1 x 11.1 x 11.4 in)	70 x 150 x 340 mm (2.7 x 5.9 x 13.3 in)
Light source	FreeTrak: Infrared LED	TE25: 50 cross laser lines, 7 parallel laser lines, 1 single laser line	/
Laser class	Class II		
Working distance	300 mm (11.8 in)		
Connectivity	USB 3.0, IEEE802.11n/ac, IEEE802.3ab		
Output formats	.stl, .asc, .3mf		
Operating temperature range	-10 ~ 40°C (14 ~ 104°F)		
Operating humidity range	10 ~ 90% RH		
Certifications	CE, FCC, ROHS, WEEE, KC, FDA, UKCA, IP50, TELEC, TiSAX		
Accuracy certification	VDI/VDE 2634 Part3 (certificated in ISO 17025 certificated accuracy lab)		
Recommended computer configuration	OS: Windows 10 Pro (64-bit) / Windows 11 Pro (64-bit); CPU: 13th Gen Intel (R) Core (TM) i7-13650HX 2.6 GHz or above; Video card: NVIDIA GeForce RTX 4060 or above Video memory: 8GB or above; RAM: 64GB or above, DDR5 dual-channel; USB port: USB 3.0		

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°C; humidity 40 ~ 60% RH.



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