

SHINING 3D
METROLOGY

V·GER
METROLOGY

FreeScan Trak Nova Series

Wireless Multi-Functional Dynamic Tracking & Scanning System

Small in Form, Big on Performance

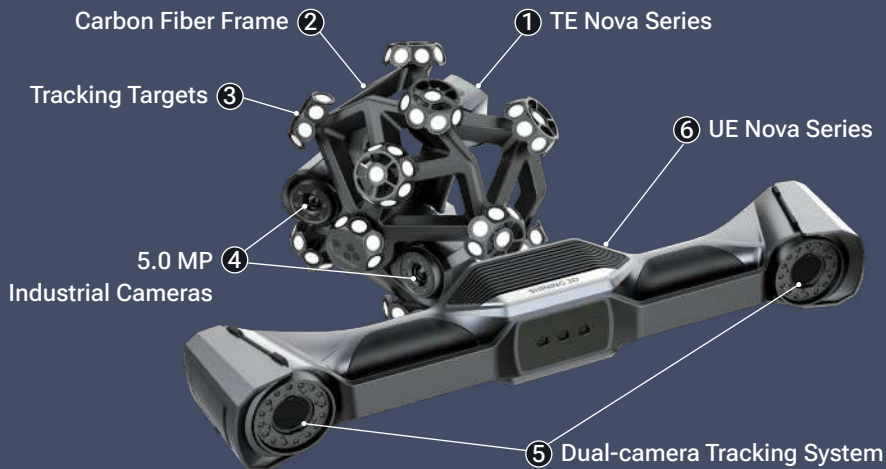


All-In-One Scanning System: Master Every Measurement

FreeScan Trak Nova Series integrates a portable tracking scanner, the largest-FOV handheld laser scanner, and video photogrammetry (VPG) module into one advanced wireless tracking system.

From construction machinery to rail transit, civil aviation to energy, FreeScan Trak Nova Series is built to meet the diverse needs of industries requiring accurate and efficient large-scale measurements with extreme portability, productivity and versatility.

Shaping the future of 3D measurement—now in your hands.



Wireless



Lightweight



Accurate



Markerless



Efficient





TE Nova Series only

1.2 kg

UE Nova Series only

1.6 kg

Dynamic Tracking Scan: Compact and Agile

Real-time dynamic tracking enables fast, flexible, and marker-free 3D scanning. Combined with its wireless, compact design, the system excels at capturing fine details in confined spaces while delivering efficient and precise measurements.



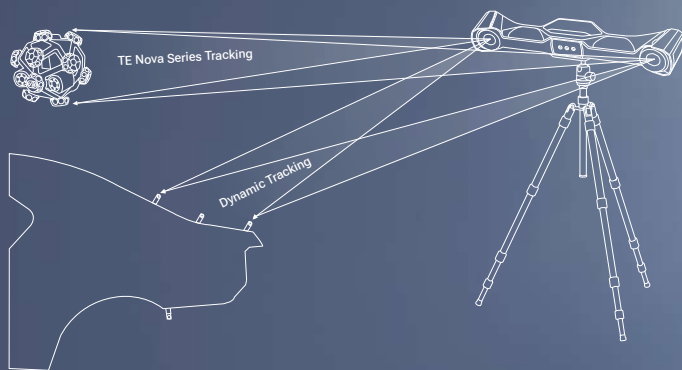
Certified Metrology Accuracy

Verified through rigorous acceptance testing based on VDI/VDE 2634 and ISO 10360, ensuring reliable, metrology-grade measurement performance.



Compact and lightweight design

Its ergonomic and lightweight design provides excellent maneuverability, making it easy to access confined spaces and complex geometries.



Scan speed up to

7,600,000

points/s



Marker-free scanning

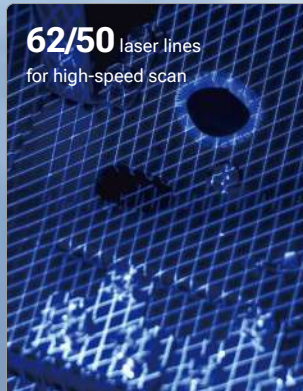
Real-time dynamic tracking eliminates the need for markers on the object, streamlining the workflow and reducing preparation time.



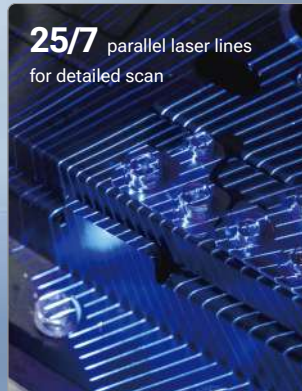
Ultra fast scan speed

FreeScan Trak Nova+ achieves scanning speeds of up to 7,600,000 points/s, enabling rapid acquisition of high-quality 3D data while maintaining fine detail.

62/50 laser lines
for high-speed scan



25/7 parallel laser lines
for detailed scan



1 laser line
for deep pockets scan



Wide-Range Laser Scan: Vast and Fast

FreeScan Trak Nova Series Wireless Dynamic Tracking & Scanning System transforms traditional tracking scanners by offering exceptional versatility. The tracker, FreeScan UE Nova Series, also serves as a handheld laser scanner with the largest field of view (FOV) on the market, delivering unparalleled efficiency and flexibility.



Large-scale scanning coverage

Boasting an extra-large FOV of 2.6×2.2 m and a maximum scanning distance of 2.6 m, FreeScan UE Nova Series offers expansive coverage, making it ideal for large-scale projects.



High-speed data capture

FreeScan UE Nova+ features 62 laser lines for rapid scanning, enabling fast data capture and significantly reducing scanning time.



Free from constraints of cords

The complete wireless design supports hot-swapping, ensuring uninterrupted operation and maximum flexibility for large-object scanning.



Certified and guaranteed accuracy

UE Nova Series offers volumetric accuracy of 0.072 mm + 0.012 mm/m using VPG, making scanning results more efficient and reliable.

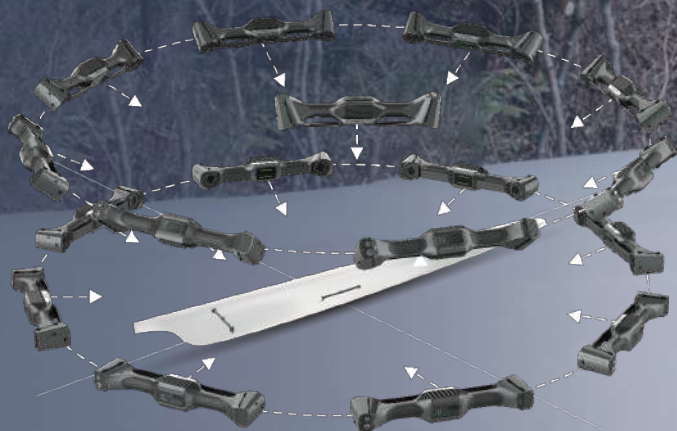
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Video Photogrammetry (VPG)

FreeScan Trak Nova Series features SHINING 3D's patented video-based photogrammetry, which eliminates the need for coded markers. By integrating photogrammetry technology with a calibration rod, it enables real-time marker verification through video capture. This ensures consistent volumetric accuracy and streamlines the setup process for efficient large-object scanning.



[Learn More](#)





Free to Scan, Built to Perform



Integrated wireless modules

Achieve greater freedom when scanning large objects or in tight spaces, without the limitations of cables or external devices. This seamless integration allows for real-time transmission of scan data, ensuring high frame rates and stable data transfer.



Built-in computing modules

With advanced computing modules, both the tracking scanner and wide-range scanner ensure rapid and efficient processing. These onboard capabilities ensure fast, reliable results on the go.



Swappable batteries

For maximum convenience, FreeScan Trak Nova Series features detachable batteries for extended scanning time. Easily swap out batteries to keep your workflow uninterrupted, even during long projects or in remote locations.

SHINING 3D

Easy to Carry, Light to Move



Compact and complete

Pack up and go—everything you need is neatly contained in one case, making it easy to transport and set up anywhere.



Built for stability, designed for flexibility

The carbon fiber structure is both lightweight and durable. This design ensures reliable performance in diverse conditions, keeping your system functioning optimally.



Remote button control

Easy scanning workflow operations via buttons on the sensor, instead of mouse-clicking on the computer.

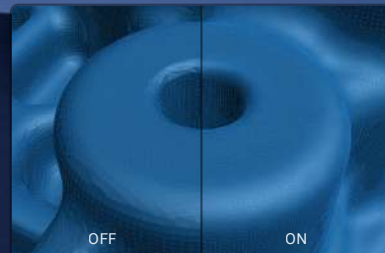
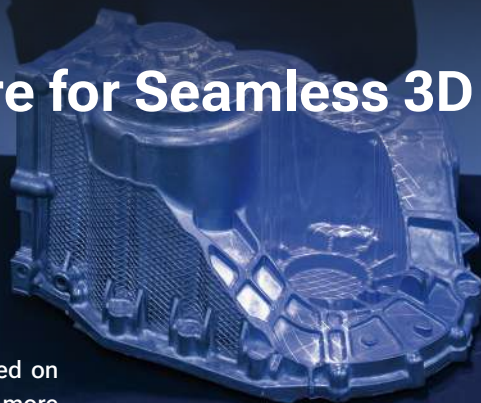


Advanced Software for Seamless 3D Measurement



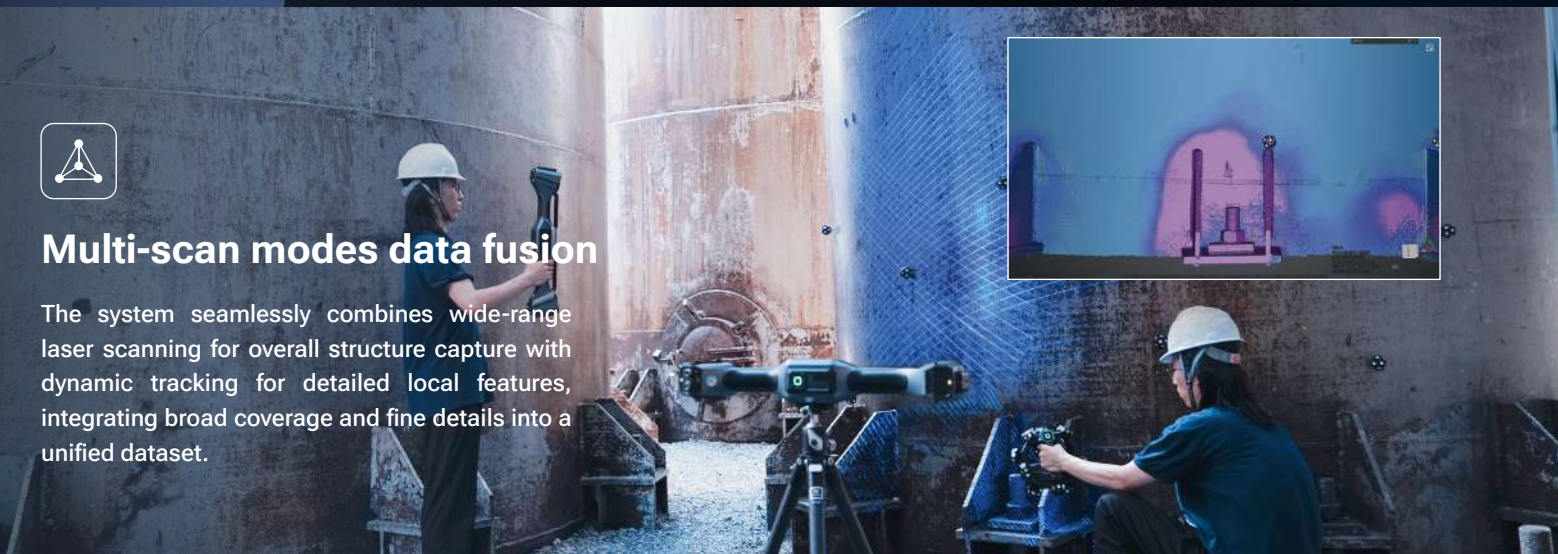
Intelligent resolution

Automatically adjusts mesh resolution based on the object's curvature, ensuring clearer and more detailed features.



Multi-scan modes data fusion

The system seamlessly combines wide-range laser scanning for overall structure capture with dynamic tracking for detailed local features, integrating broad coverage and fine details into a unified dataset.



AI feature recognition

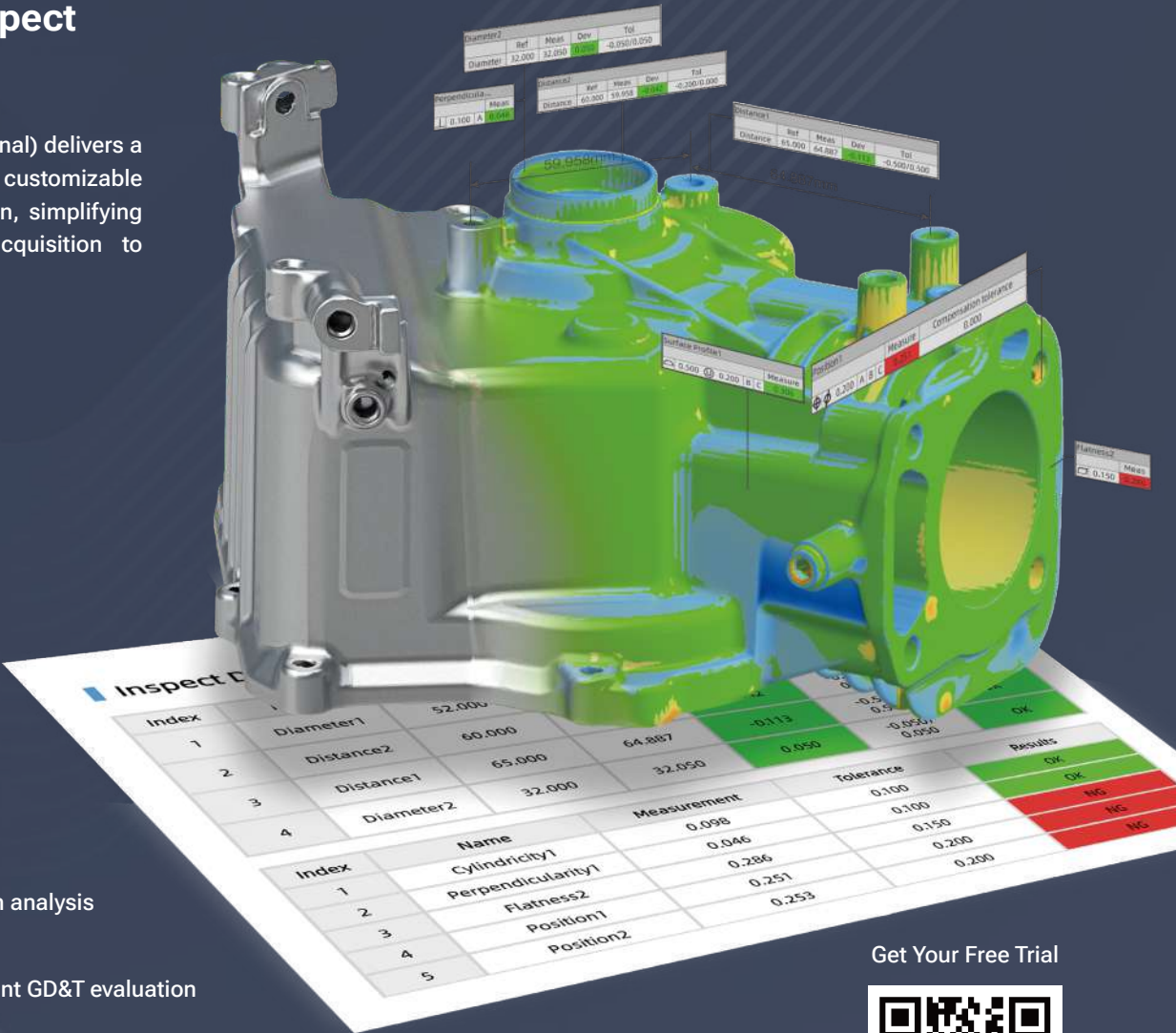
Intelligent boundary detection provides fast, precise measurement of round holes, rectangular holes, and slots, ensuring high-quality and high-accuracy data capture.





SHINING3D Inspect (Optional)

SHINING3D Inspect (optional) delivers a streamlined, modular, and customizable approach to 3D inspection, simplifying workflows from data acquisition to reporting.



Full-field deviation analysis



Standard-compliant GD&T evaluation



Application-oriented inspection modules



Automated and customizable reporting

Get Your Free Trial





Mobile Workstation

An all-in-one mobile 3D scanning workstation with a high-performance computer and built-in power supply, designed for flexible on-site 3D scanning and inspection. Compatible with FreeScan Trak Nova Series.



All-in-one system, ready for shop floor.



Move to the part, not the other way around.



Simplified setup. Touchscreen operation.





FreeProbe Series (Optional)

FreeProbe line-up, paired with FreeScan Trak Nova Series, offering a portable, high-precision probing solution for detailed point-based measurements.

With dynamic tracking and wireless probing, it delivers easy, free movement without the need for fixed setups, providing metrology-grade accuracy across various environments and part sizes.



Wireless & Portable



Various Probe Tips



Quick Start with Fast Pairing



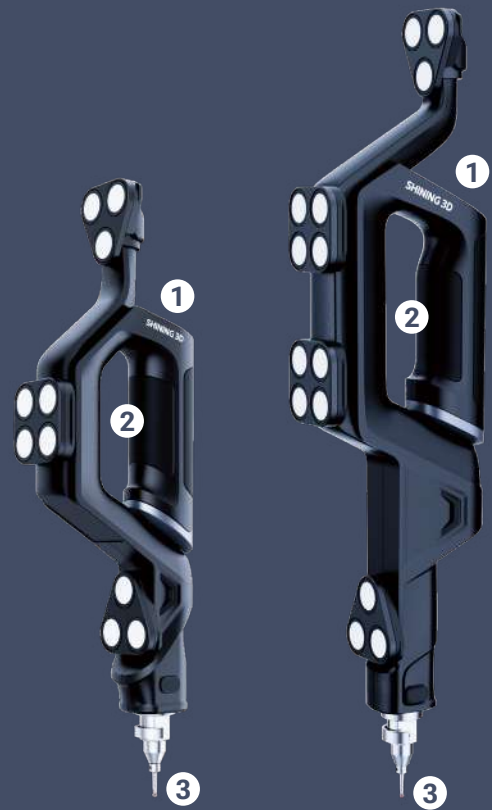
Ergonomic Design



Seamless Inspection Software Integration

Learn More





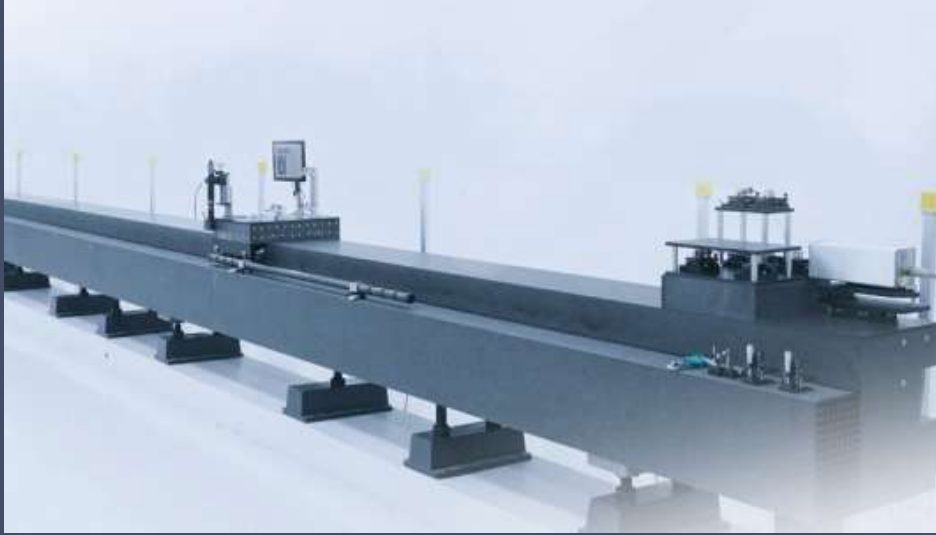
1 Multi-Function Buttons

2 Easy Grip

3 Multiple Tip Options

SHINING 3D Accuracy Laboratory

The SHINING 3D Accuracy Laboratory is accredited to ISO/IEC 17025 by CNAS. The laboratory is equipped with a comprehensive suite of calibration instruments and conducts calibration and verification services in strict accordance with internationally recognized standards, including VDI/VDE 2634 and ISO 10360.



[Learn More](#)



Through these capabilities, the laboratory provides authoritative technical support and reliable quality assurance to partners and customers worldwide.



Proven Across Industries



Industrial Component Reverse Engineering



Exterior Panel Quality Assurance



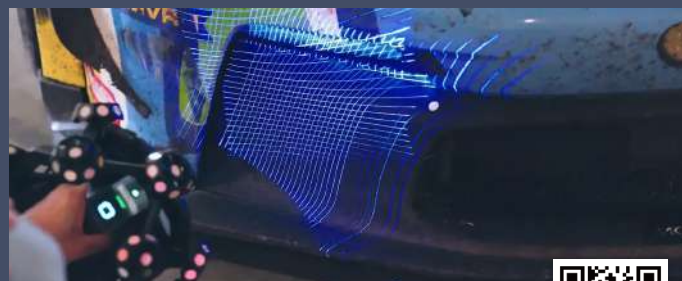
Mining Equipment Maintenance



Electric Aircraft Research



Crash Repair Verification



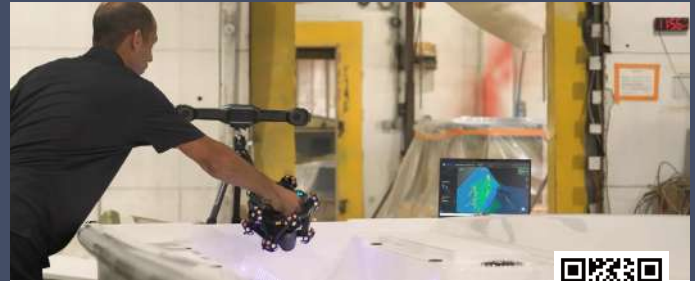
CFD Simulations



Explore how manufacturers and professionals worldwide use FreeScan Trak Nova Series to solve real-world 3D measurement challenges.



Heavy Equipment Refurbishment



Marine Molds Inspection



Stamping Parts Inspection



Automotive Sheet Metal QC



Race Car Modification



Digital Restoration



SPECIFICATIONS

	FreeScan Trak Nova+	FreeScan UE Nova+	FreeProbe Series (Optional)
Accuracy	0.02 mm (0.00079 in)	0.072 mm (0.00283 in)	0.025 mm (0.00098 in)
Volumetric accuracy	0.062 mm (12m³) 0.00244 in (423.78 ft³)	/	0.062 mm (12m³) 0.00244 in (423.78 ft³)
Volumetric accuracy with VPG	0.046 mm + 0.012 mm/m (extension volume) (0.00181 in + 0.00047 in/ft)	0.072 mm + 0.012 mm/m (0.00283 in + 0.00047 in/ft)	0.046 mm + 0.012 mm/m (extension volume) (0.00181 in + 0.00047 in/ft)
Scan speed	7,600,000 points/s	5,714,000 points/s	100 measurements/s
Resolution	0.01 ~ 10 mm (0.00039 ~ 0.39370 in)	0.5 ~ 10 mm (0.01969 ~ 0.39370 in)	/
Flexible FOV	Up to 2600 x 2200 mm (102.36 × 86.61 in)		/
VPG	Included (no coded markers required)		/
FOV indicator of VPG	Included		/
High-speed scan	Included (62 laser lines)	Included (62 laser lines)	/
Detailed scan	Included (25 parallel laser lines)	Included (support near mode)	/
Deep pockets scan	Included (1 laser line)	/	/
Working distance	300 mm (11.81 in)	1200 mm (47.24 in)	/
Depth of field	TE Nova+: 380 mm (170 ~ 550 mm) 14.96 in (6.69 ~ 21.65 in) UE Nova+: 4000 mm (500 ~ 4500 mm) 157.48 in (19.69 ~ 177.17 in)	2300 mm (300 ~ 2600 mm) 90.55 in (11.81 ~ 102.36 in)	/
Connection	Wireless & Wired mode (fiber optic)		
Output formats	stl, obj, ply, asc, 3MF, P3		
Working temperature	-10 ~ 40 °C (14 ~ 104 °F)		
Working humidity	10% ~ 90% RH		
Net weight	TE Nova+: 1.2 kg (2.6 lb) UE Nova+: 1.6 kg (3.5 lb)	1.6 kg (3.5 lb)	FreeProbe 2: 0.46 kg (1.0 lb) FreeProbe 2 Pro: 0.59 kg (1.3 lb)
Dimensions	239 × 191 × 232 mm (9.41 × 7.52 × 9.13 in)	580 × 119 × 87 mm (22.84 × 4.69 × 3.43 in)	FreeProbe 2: 50 × 110 × 363 mm (1.97 × 4.33 × 14.29 in) FreeProbe 2 Pro: 50 × 114 × 455 mm (1.97 × 4.49 × 17.91 in)
Certifications	CE, FCC, ROHS, WEEE, KC, FDA, UKCA, IP50, TELEC, TiSAX		/
Acceptance test	VDI/VDE 2634 Part 3 & ISO 10360 certified (Tested in the ISO/IEC 17025 accredited accuracy lab)		ISO 10360 certified (Tested in ISO/IEC 17025 accredited accuracy lab)
Recommended computer configuration	OS: Windows 10 Pro (64-bit) / Windows 11 Pro (64-bit) Processor: Intel Core i7 or i9 (13th/14th Gen HX) or above; Intel Core Ultra 9 285HX or above Graphics card: NVIDIA GeForce RTX 5080 Laptop GPU or above VRAM: 16G or above; RAM: 64G or above		

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Scan speed	6,140,000 points/s	4,600,000 points/s	100 measurements/s
Resolution	0.01 ~ 10 mm (0.00039 ~ 0.39370 in)	0.5 ~ 10 mm (0.01969 ~ 0.39370 in)	/
Flexible FOV	Up to 2600 x 2200 mm (102.36 × 86.61 in)		/
VPG	Included (no coded markers required)		/
FOV indicator of VPG	Included		/
High-speed scan	Included (50 laser lines)	Included (50 laser lines)	/
Detailed scan	Included (7 parallel laser lines)	Included (support near mode)	/
Deep pockets scan	Included (1 laser line)	/	/
Working distance	300 mm (11.81 in)	1200 mm (47.24 in)	/
Depth of field	TE Nova: 380 mm (170 ~ 550 mm) 14.96 in (6.69 ~ 21.65 in) UE Nova: 2700 mm (800 ~ 3500 mm) 106.30 in (31.50 ~ 137.80 in)	2300 mm (300 ~ 2600 mm) 90.55 in (11.81 ~ 102.36 in)	/
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Authorized Reseller

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