



SHINING 3D



FREEPROBE 2

User Manual

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Welcome

Symbol Conventions

Symbol	Description
	Note: This symbol is used to inform you of the additional information of the product.
	Caution: This symbol is used to inform you of incorrect operations that may damage the device or result in data loss. Any damages resulting from misuse are not covered by the warranty.
	Warning: This symbol is used to inform you of the potential risks that may result in serious personal injury and other safety incidents.

The Declaration of Intellectual Property and Disclaimer

Thank you for using the products of SHINING 3D TECH CO., LTD. (hereinafter referred to as the "SHINING 3D"). Before you use the products, please carefully read and understand this declaration. Once you use this product, it indicates that you fully accept this statement and promise to comply with the relevant regulations.

1. The contents of the Product Instruction and User Manual (hereinafter collectively referred to as the "Product Usage Documentation") are critical to your personal safety, legal rights, and liabilities. Before you use the products, please ensure that you have carefully read the Product Usage Documentation, and use the product correctly in accordance with the requirements of the Product Usage Documentation. We also recommend that the products be operated by trained professional technicians.
2. Please inspect and/or maintain the product before use. If the product is damaged, deformed or in any other abnormal condition, stop using it immediately and contact the after-sales service personnel for maintenance. SHINING 3D will not be responsible for any problems caused by your failure to inspect or maintain the product in a timely manner.
3. SHINING 3D does not guarantee the applicability of the outcomes of your use of the products, and you are responsible for verifying the quality and functionality of the outcomes. You should check and verify thoroughly that any outcomes meet your requirements before using them, for which you bear full responsibility. If any damage arising from using the outcomes of any products, you shall bear the corresponding risk, and SHINING 3D shall not bear any responsibility.
4. SHINING 3D owns complete intellectual property rights for the contents of the for which you bear full responsibility. Without the written consent of SHINING 3D, it is not allowed to copy, transmit, publish, adapt, compile or translate any contents of the Product Usage Documentation in any form for any purpose.

5. The Product Usage Documentation is a guidance for installing, operating, and maintaining the product instead of serving as the quality guaranty for the products. SHINING 3D makes all efforts to ensure the applicability of the Product Usage Documentation, but reserves the right of final interpretation. Images and diagrams in the product documentation are presented to provide convenience to user understanding. In the event that any images or diagrams are inconsistent with the physical products, the later shall prevail. In addition to the mandatory provisions of laws and regulations, the contents of the Product Usage Documentation are subject to changes without further notice.
6. SHINING 3D shall not be held responsible for any damages and/or losses caused by human factors, environmental factors, improper storage and use, or any other factors other than due to the quality of the product. SHINING 3D also shall not be held responsible for any indirect anticipated profit loss, loss of reputation and other indirect economic losses. Except as otherwise expressly provided by laws and regulations, the total liability assumed by SHINING 3D (regardless of cause) shall not exceed the purchase price of the products you paid to SHINING 3D.
7. Disputes arising from this Declaration and the Product Usage Documentation thereof shall be governed by the laws of the People's Republic of China, excluding its conflict of law rules. In the event that certain provisions are in conflict with the applicable law, these provisions will be reinterpreted in full accordance with the law, while other valid provisions will remain in force.
8. All disputes between you and SHINING 3D that arise from, shall first be resolved amicably through negotiation. If a dispute cannot be resolved through friendly negotiation, any party may submit the dispute to the Court of Xiaoshan District, Hangzhou City, Zhejiang Province, People's Republic of China for litigation and settlement.
9. In the event of any questions about the contents of this Declaration and application of Product Usage Documentation, please contact us by the contact information provided in the User Manual. Thank you for your cooperation and support! We hope that our products can bring you a great experience of using.

FCC statement

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

Changes or modifications not expressly approved by the manufacturer could void the user's authority to operate the equipment.

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Industry Canada Statement

This Class A digital apparatus complies with Canadian ICES-003.CAN ICES-3(A)/NMB-3(A).

This device complies with Industry Canada license-exempt RSS standard(s).

Operation is subject to the following two conditions: (1) This device may not cause interference, and (2) This device must accept any interference, including interference that may cause undesired operation of the device.

Le present appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes : (1) L'appareil ne doit pas produire de brouillage, et (2) L'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

This equipment complies with radiation exposure set forth for an uncontrolled environment. Cet équipement est conforme à l'exposition aux rayonnements prévue pour un environnement non contrôlé.

EU

The device can touch the surface of an object and mark points to obtain three-dimensional coordinated information, achieving different detection objectives, and it will be used in the factory environment to obtain the three-dimensional coordinated information of the components, compliant with the Class A equipment limits.

Warning: Operation of this equipment in a residential environment could cause radio interference.

Frequency Range (RF)

2.4 GHz SRD: 2402-2480 MHz, <10 dBm (.e.i.r.p)

About Probe

Appearance Introduction

The Probe can touch the surface of an object and mark points to obtain three-dimensional coordinate information, achieving different detection objectives.

Indicator Status

- Green (flashes once): Power on normally, pairing successful, or point marking successful.
- Blue (flashes continuously): Pairing in progress.
- Red (flashes once): Pairing failed or point marking failed.
- Red (steady): Battery level below 25%.

Sound

- Beep (once): Power on and connected successfully or point marking successful.
- Beep (twice): Power off, low battery warning, pairing failed, or point marking failed.



Device Button	Press once
Device upper  key	Point marking
Device upper  key	Confirm (generate feature)
Device upper  key	Undo (step back)
Device upper  key	Move cursor up
Device upper  key	Move cursor down
Device lower-left key	Point marking
Device lower-right key	Point marking

Probe Connection

Please follow the steps below to connect the probe; once connected successfully, you can use the probe for point marking.

Steps

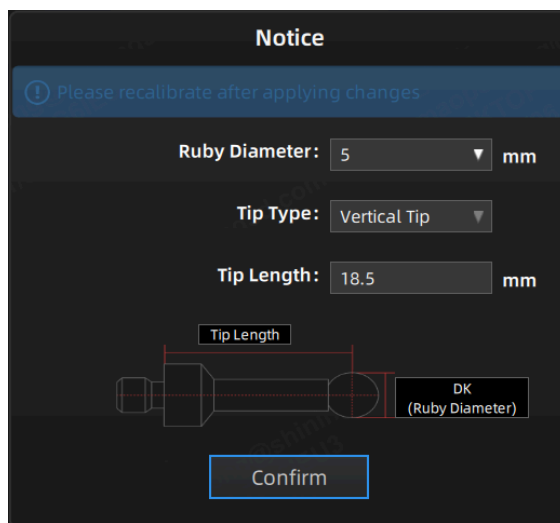
1. Install the battery in the probe's battery compartment and press any button on the probe to turn it on.
2. Launch the **FreeScan Trak** software.

3. Click **Probe > Connection Guide** on the upper right corner of the interface.
4. According to the illustration in the **Connection Guide** window, long press the $\checkmark$ button and the $\wedge$ button on the probe to pair the probe with the software.

 Note

- After successful pairing, the probe will beep once; at the same time, a successful connection pop-up will appear in the software.
- If pairing fails, please click **Retry** to attempt pairing the probe again.

5. After pairing is complete, the probe configuration window will automatically appear, where you can fill in the diameter and the length of the probe.



 Note

- Ruby Diameter: Please enter a value between 0.3 and 10, with a maximum of one decimal place (unit: mm).
- Tip Type: Only the vertical probe is supported.
- Tip Length: Please enter a value between 1 and 200, with a maximum of two decimal places (unit: mm).
- The probe comes with 3 mm diameter, 18.5 mm length and 5 mm diameter, 17.5 mm length. You can replace the tip according to your needs, as shown in the diagram, and enter the corresponding diameter and length before calibrating the probe.
- After replacing the tip, please recalibrate to ensure the accuracy.

6. Click **OK** to complete the pairing.

Probe Calibration

If the probe has not been used for a long time or if there is a decrease in accuracy when using the probe for marking, please perform probe calibration first.

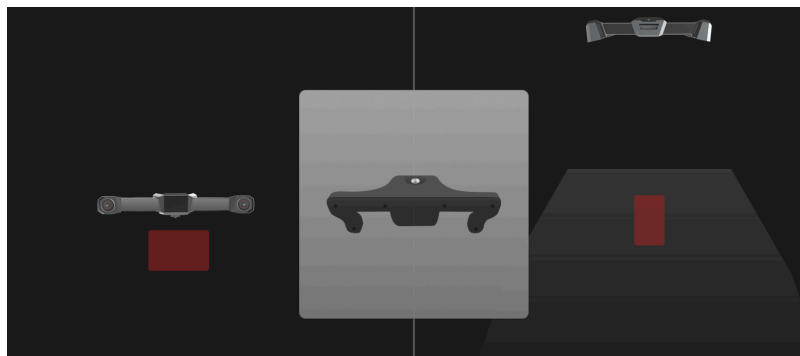
Steps

1. Press any button on the probe to turn it on.
2. Launch the **FreeScan Trak** software.

Note

If the probe has not been paired with the software, please perform [pairing](#) first.

3. In the calibration interface, select **Probe Calibration**.
4. After entering the probe calibration interface, move the probe calibrator to the corresponding position as indicated on the screen.



5. Place the tip of the probe at the designated position as shown on the interface, adjusting the probe's position to continuously align with the red indicator diagram until the entire probe calibration process is completed and a successful calibration popup appears on the screen.



Note

If calibration fails, please recalibrate; if calibration fails multiple times, please contact [technical support](#) promptly.

Operation

Connection

Steps

1. Press any button on the probe to power it on.
2. Launch the **FreeScan Trak** software.

Note

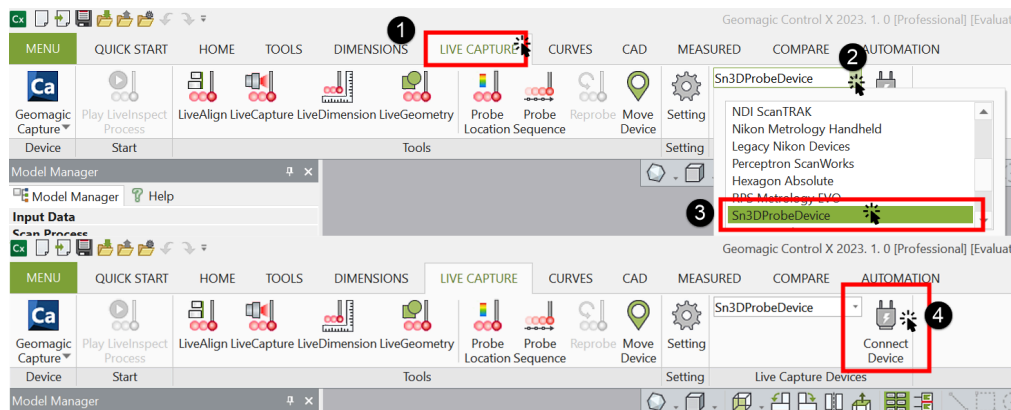
- If the probe is not paired with the software, please perform [pairing](#) first.
- If the probe is paired but not calibrated, please perform [calibration](#) first.

3. After selecting **Probe Mode** in the software, open the third-party software.

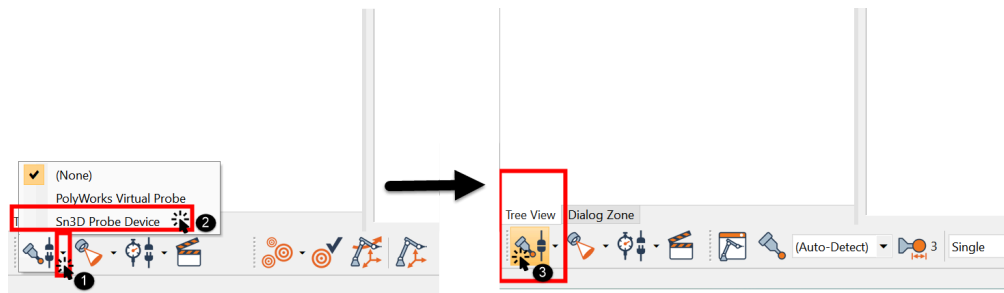
Note

- After selecting **Probe Mode**, the default third-party software opened in the application is Polyworks Metrology Suite. If you need to change the third-party software, you can do through the settings on the upper right side of the software.
- The third-party software supported in **Probe Mode** mode is Polyworks Metrology Suite (2023) and Geomagic Control X (2023.1).

4. In the third-party software, click **Connect Device** or **Sn3D Probe Device**.



How to connect the probe in Geomagic Control X



How to connect the probe in Polyworks Metrology Suite

Marking and Measurement

Steps

1. After entering the software interface, select **Track Mode** to scan.
2. Import the data into the third-party software.
 - In  > **Probe Settings**, after selecting the opened third-party software, the scanned model file will be automatically imported into the opened third-party software.
 - After scanning and optimization in **Photogrammetry** or **Scan Global Markers**, click  in the right-side function bar to import the data into Polyworks.
3. After connecting the probe in the opened third-party software, you can use the probe to add feature points and do measurement in the opened third-party software.



Note

- Please exit the third-party software before continuing to use the **FreeScan Trak** software.
- You can directly import the data to Polyworks for measurement when running the FreeScan Trak software with the device online.
- To add feature points with the Probe, ensure its tip is within the range of the tracker's camera and in the same plane as the camera. Gently poke at the object to be measured, and click the [functional buttons](#).

Battery Specifications

- Battery Type: Rechargeable Lithium-ion Battery
- Battery Model: 14500 Battery
- Battery Voltage: 3.7 V



Note

The device only comes with a probe charging case. Please prepare the batteries for the probe yourself according to the specifications mentioned above.

Cautions

Before using the battery and the probe charging case, please read the following safety precautions to prevent dangerous situations such as battery explosions.

Caution

- Do not charge the battery for a long time.
- Do not reverse the positive (+) and negative (-) terminals.
- Do not directly solder the battery terminals.
- Do not disassemble the battery and the charging case at will.
- Do not put the battery into a fire or apply direct heat to it.
- Do not place the battery in a microwave oven or pressurized container.
- Do not use or store the battery near any source of heat such as a fire or heater.
- Do not short-circuit the battery by connecting wires or other metal objects to the positive (+) and negative (-) terminals.
- Do not connect the battery directly to wall outlets or car cigarette-lighter sockets.
- Replace the damaged battery shell to prevent leak or fire accident.
- Do not put any objects on the charging case when it's charging the battery, in order to keep good ventilation and heat dissipation.
- Do not connect the charging case with power for a long time. Cut off the power after using the charging case to avoid safety hazards.
- Store the battery and the charging case in an environment that is clean, dry, and free of inflammable materials like powder, liquid, and metal scraps.
- Do not use the battery if it gives off an odor, generates heat, becomes discolored or deformed, or appears abnormal in any way. If such batteries are in use or being recharged, remove them from the device or charger immediately and discontinue use.

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