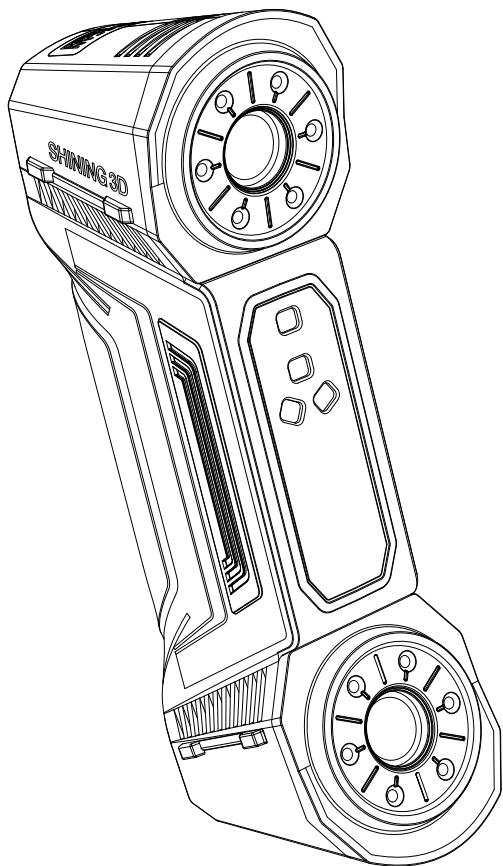# SHINING 3D

For More Shining Ideas

FREESCAN
COMBO

Quick Start Guide

Compliance

LVD/EMC Directive

This product complies with the European Low Voltage Directive 2014/35/EU and EMC Directive 2014/30/EU.

WEEE Directive-2012/19/EU

The product this manual refers to is covered by the Waste Electrical&Electronic Equipment(WEEE) Directive and must be disposed of in a responsible manner.

This device complies with "IEC 60825-1:2014 Safety of laser products"
＜1.5mw 450nm 940nm

The UKCA marking is the product marking used for products being placed on the market in Great Britain (England, Scotland and Wales).

Federal Communications Commission Certified.

RoHS Restriction of Hazardous Substances Certified.

Korea Certification Certified.

IP50 Protected from limited dust ingress. Not protected from liquids.
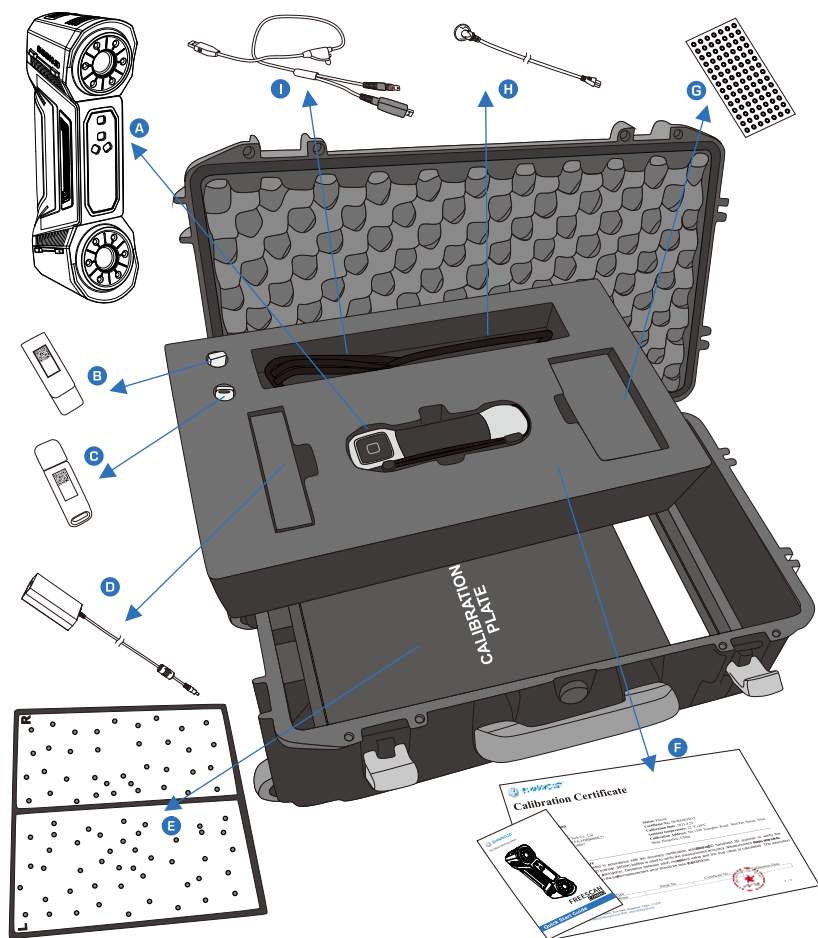
Welcome!

Thank you for purchasing the FreeScan Combo scanner. We hope you enjoy scanning with your new scanner.

This quick start guide will help you get started. For more detailed information, please visit our support center:
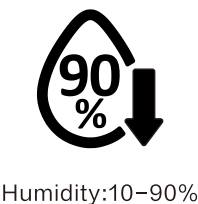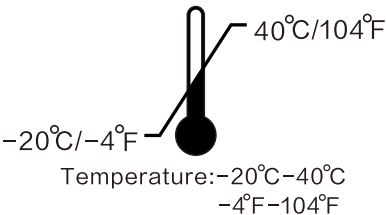
https://support.shining3d.com/en/support/home

WHAT'S IN THE BOX

A	FreeScan Combo	**F**	Certificate and
B	USB Drive		Quick Guide
C	Dongle	**G**	Markers
D	Power Adapter	**H**	Power Cable
E	Calibration Plate	**I**	USB Cable

Operating Condition

40℃/104℉

−20℃/−4℉

Temperature:−20℃−40℃
−4℉−104℉

90
%

Humidity:10−90%

Recommended System Requirements

|	
CPU	Intel Core i7 −10700 or above
Graphics card	NVIDIA GTX/RTX series cards, GeForce RTX 3060 or above
Graphics memory	6GB or above
RAM	32GB or above
USB	3.0
Operating system	Windows 10(or Pro)，Windows 11(or Pro), 64−bit only

Connect Your Scanner
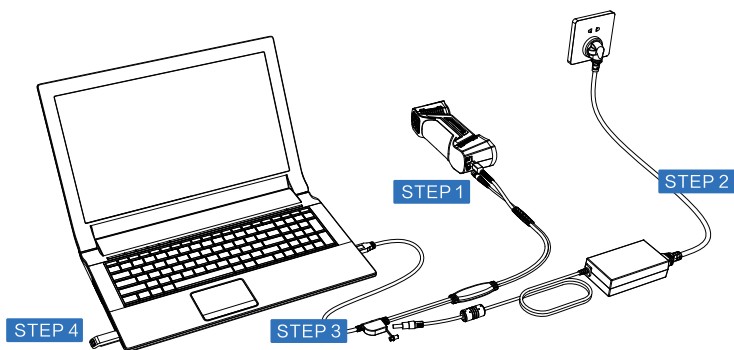
STEP 1

Align the plug of the cable into the bottom jack of the Combo.

Note:
Make sure that the blue marked point and arrow match up.
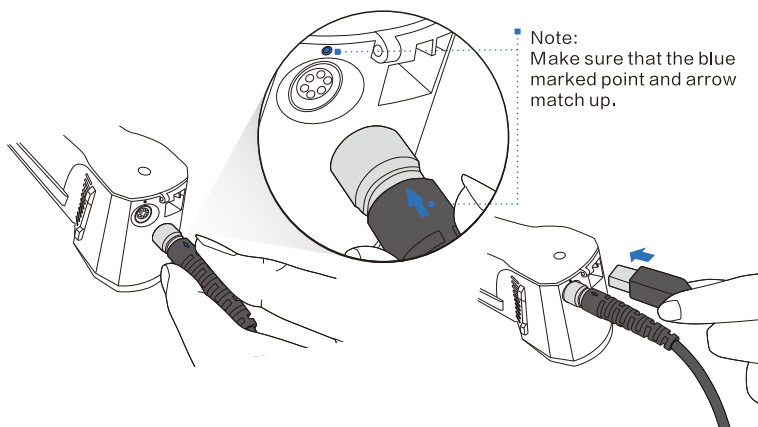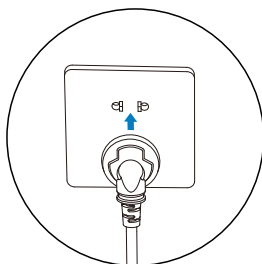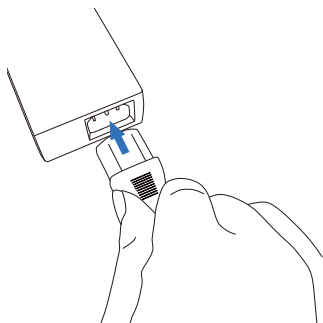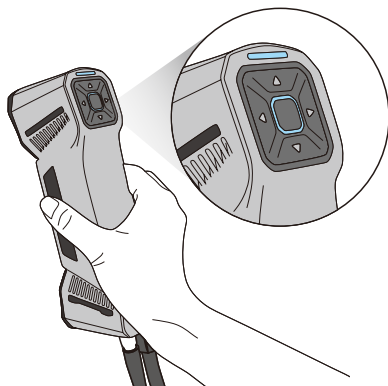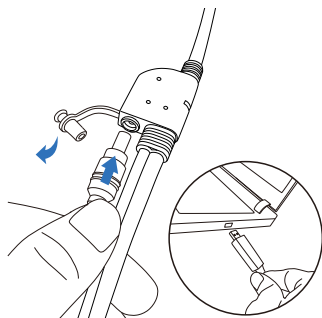
Note:
When unplugging, make sure to pinch the METAL END of the cable instead of the rubber part.
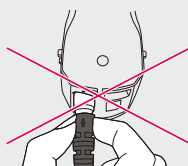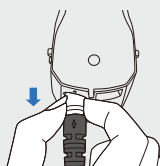
STEP 2

Connect adapter → Power on

STEP 3

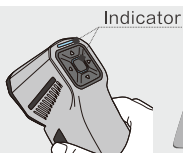Open protective cover → Connect cables
→ Connect PC port

LED light shows blue
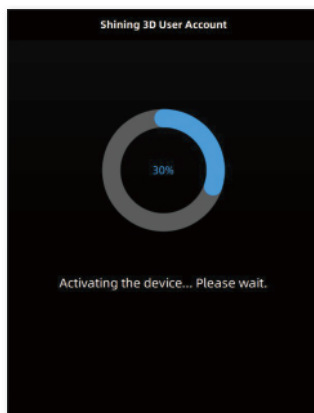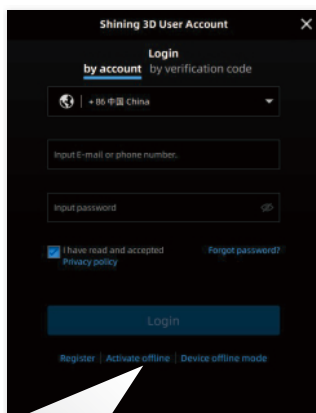
STEP 4

Insert the dongle.

Indicator

LED Indicator
Indicating scanning distance.

Place the scanner properly.
(Please refer to Safe Handling P17)

Activate the device

1.Go to passport.shining3d.com to register a free user account.

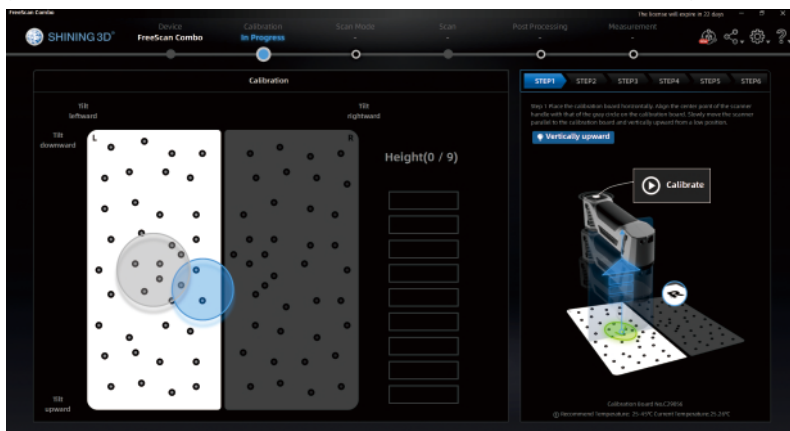2.Login with your new account, and the device will be activated automatically.

Note:
If the computer is not connected to the internet, you can click and activate the scanner offline.
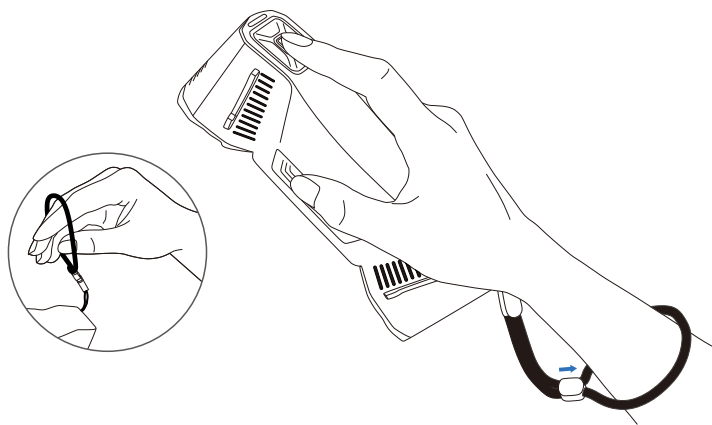
The software enters the calibration interface after activation.

(Please refer to P6 How to hold the scanner and Calibration)

How to hold the scanner

Put on and tighten the wrist strap. Hold the scanner securely as shown in the picture.
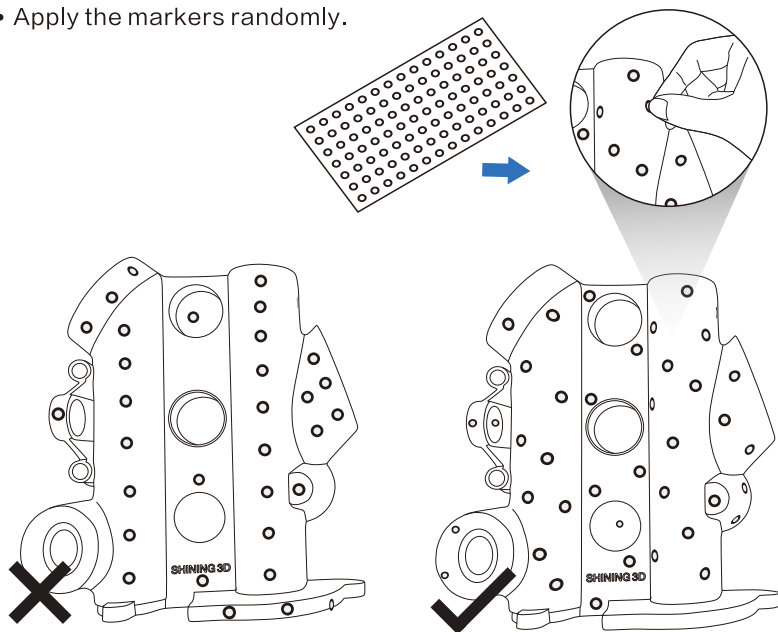

How to calibrate

Follow the steps of the calibration wizard in the software.
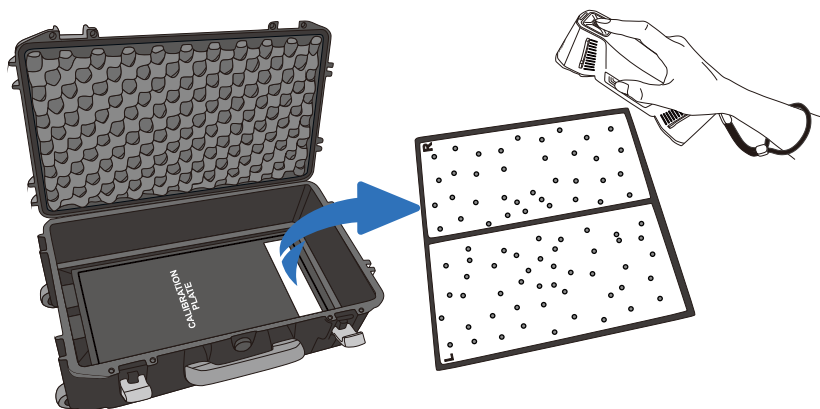
How to apply markers?

Using markers alignment.

- Mandatory for laser.
- Apply the markers randomly.

Small object

- Apply the markers around the object (on the table).
- Apply the markers on pyramids, and put pyramids around object.
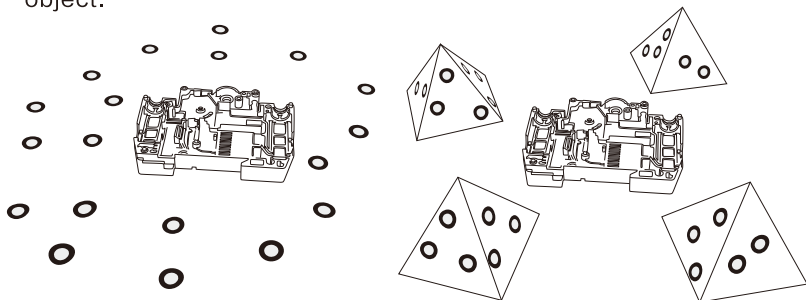
Scanner button controls

❶ Click to zoom in or zoom out .
❷ Click to increase or decrease brightness.
❸ Double click to call out menu.
❹ Click to switch scanning status.

Scan

1.Straight

During scanning, keep the scanner cameras facing straight to the object.

Scanning distance

2.Moving

Move the scanner around the subject steady while checking the image on the screen. Maintain a suitable distance while moving.

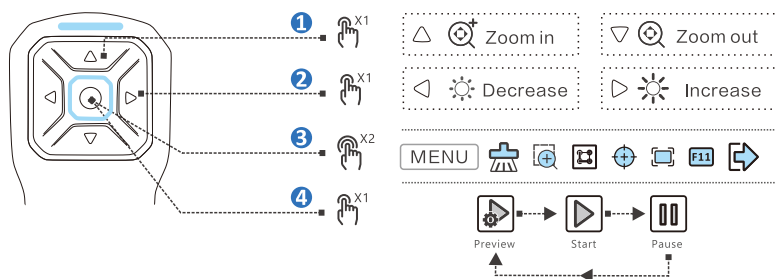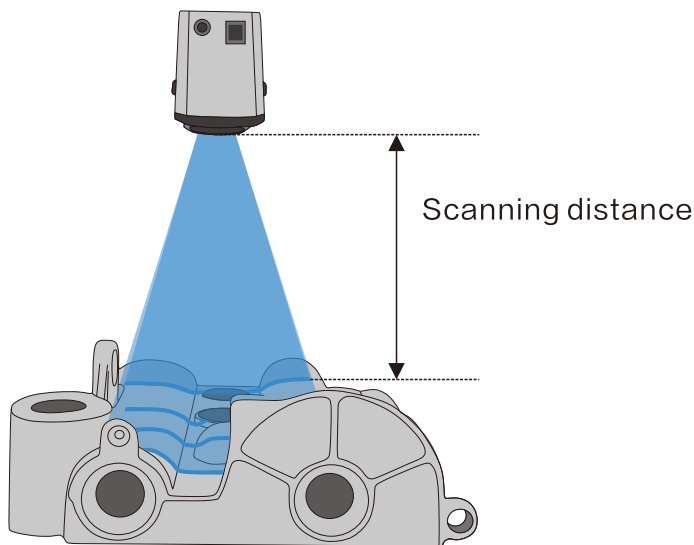Move the scanner over the surface to scan the entire object.

3.Adjust the brightness until the laser line is basically complete and clear.

Scan Setting
Brightness

You can adjust the brightness by clicking and moving the slider left and right to set a value.

You can also adjust the brightness with the scanner button.
(Please refer to P8 Scanner button controls)

Preview object with markers ✗

Preview object with markers ✓

Laser scan mode

1.Select Scan mode "Laser scan".

2.Create a New project group(or Open project group).

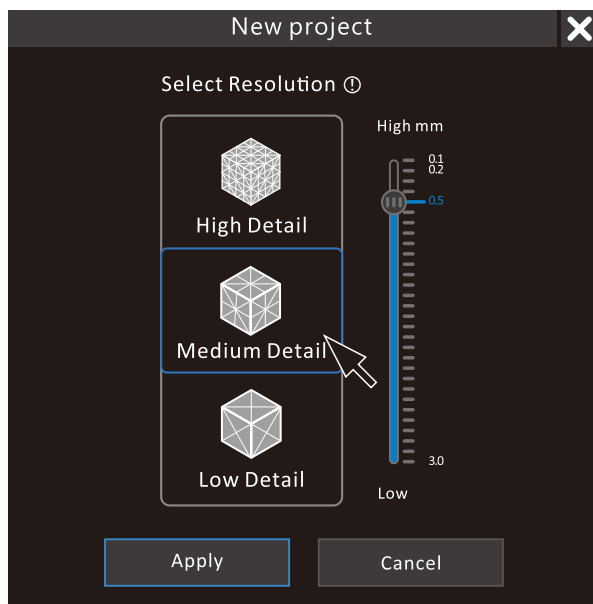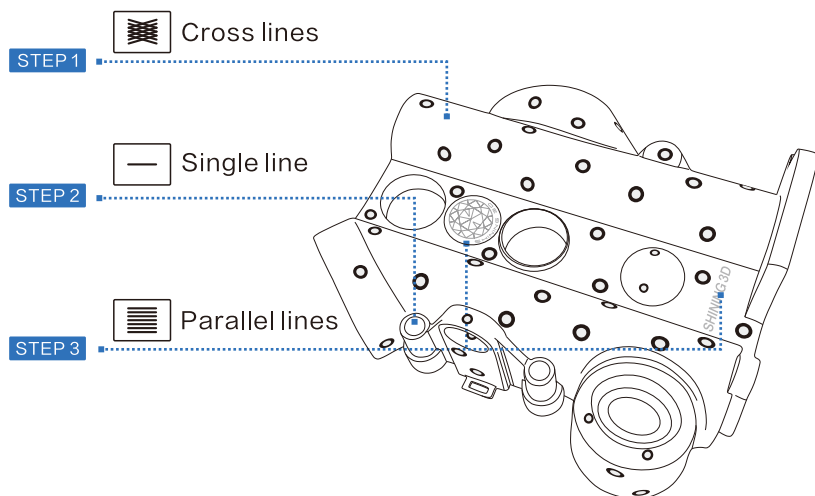New project group   Open project group

3.Select the suitable resolution.

Light source mode

Choosing the right light source to get complete data faster.

STEP 1 ▦ Cross lines

STEP 2 — Single line

STEP 3 ▦ Parallel lines

STEP 1 Scanning large area quickly.

▦ Cross lines

Light source mode

STEP 2 Scanning deep holes.

□ Single line

STEP 3 Scanning fine details.

▤ Parallel lines
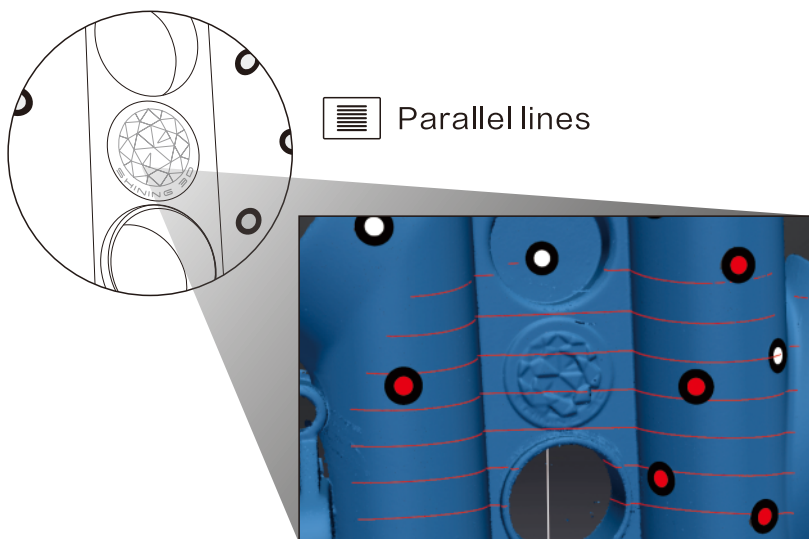
IR scan mode

1. Select Scan mode "IR Mode".

Laser scan   IR Mode

2. Create a New project group(or Open project group).

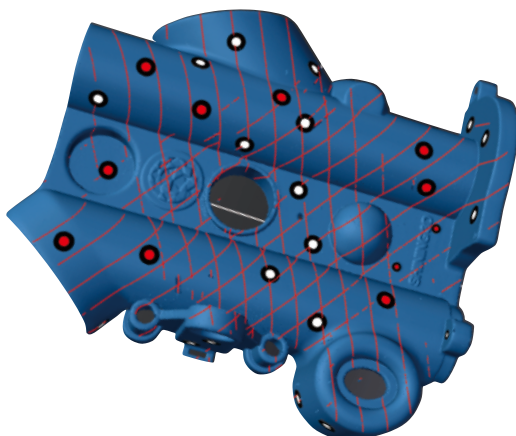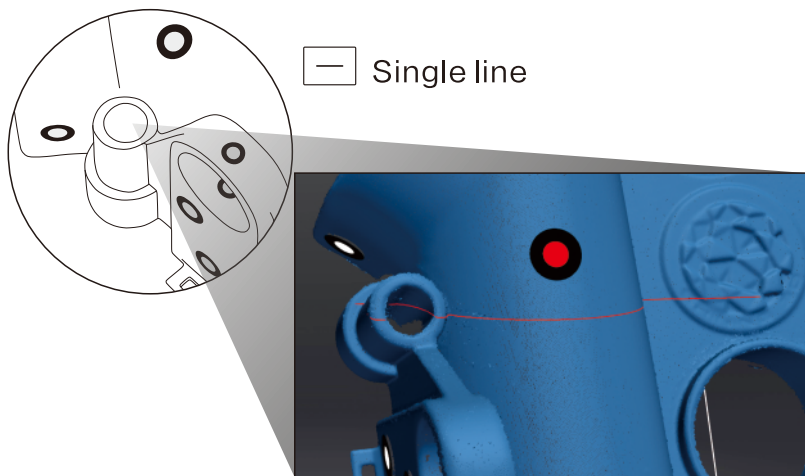New project group   Open project group

3. Select Scan mode "Object" and the suitable object size.

New project

Scan Mode ⓘ

Portrait   Object

Object size ⓘ
● Medium and large objects   ○ Small objects

Alignment ⓘ
● Features
○ Hybrid
○ Global Markers

Select Resolution ⓘ
0.5
0.2 ——○———— 3.0

Apply   Cancel   ⋮
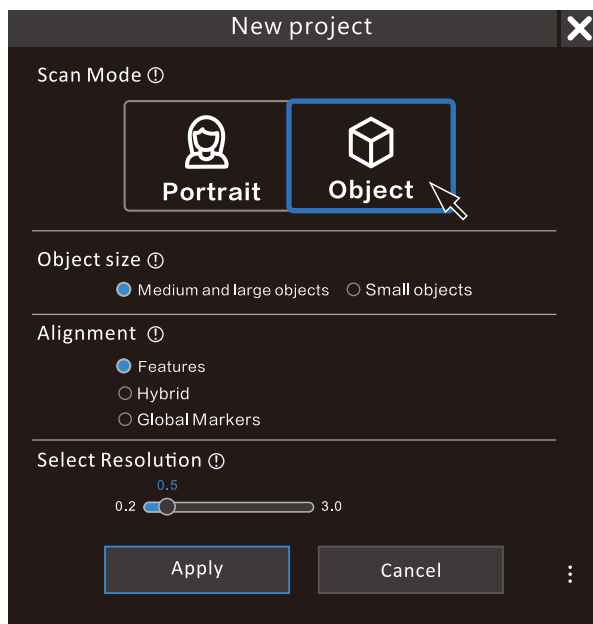
Scan setting

Adjust the brightness until the camera window pattern is clear and the object is slightly reddish.
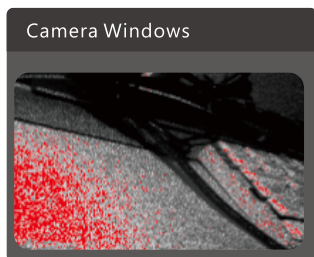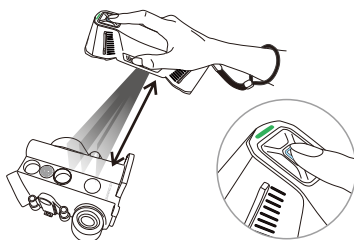
Camera Windows

Brightness

You can adjust the brightness by clicking and moving the slider left and right to set a value.

You can also adjust the brightness with the scanner button.
(Please refer to P8 Scanner button controls)

Scan within the working distance range, the indicator turns green.
(Please refer to P15 Distance)

Working distance

160   600
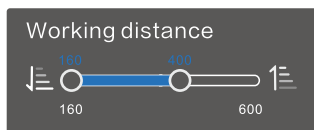
Data quality indicator can help you assess the surface quality.

Data Quality Indicator

SHINING 3D®
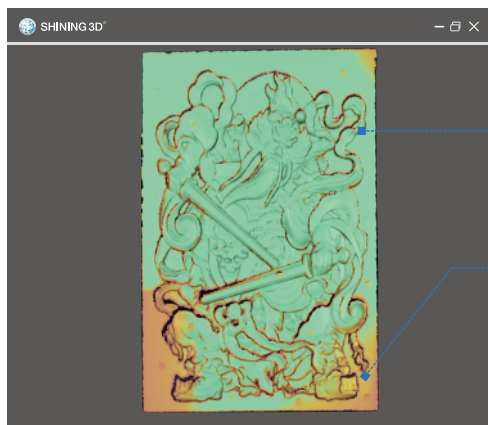
Green
Sufficient data

Red
Insufficient data (area needs further scanning)

Distance

During scanning, it is crucial to maintain the distance between the scanner and the object being scanned.
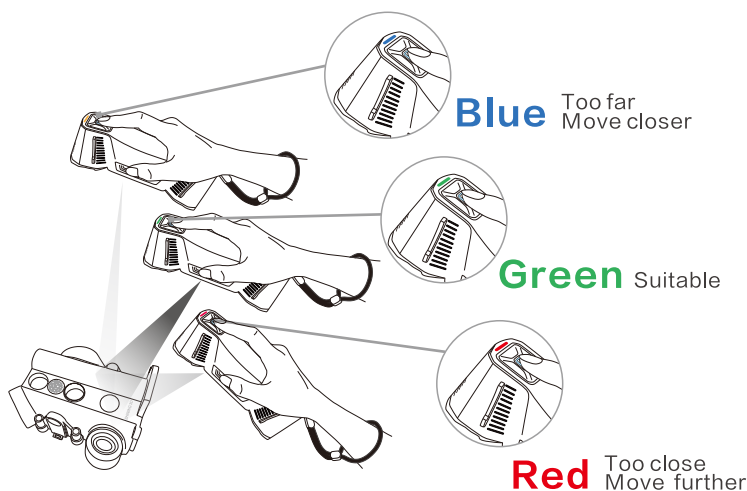

Blue Too far
Move closer

Green Suitable

Red Too close
Move further

Tracking Lost

When "tracking lost" appears, re-direct Combo to a region which you have already previously scanned in order to resume scanning process.
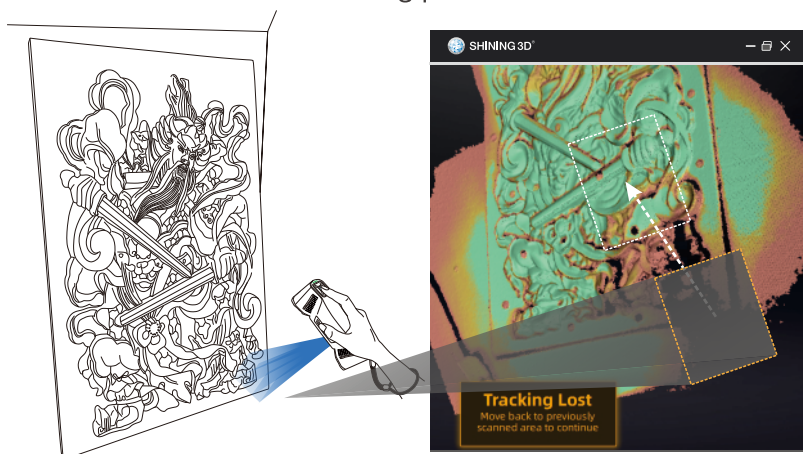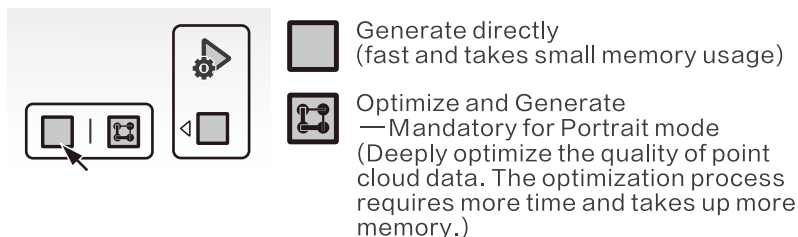
Generate Point Cloud
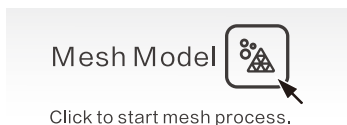
Editing the data after completing or pausing the scan.

Generate point cloud after scanning and editing data.

Generate directly
(fast and takes small memory usage)

Optimize and Generate
—Mandatory for Portrait mode
(Deeply optimize the quality of point cloud data. The optimization process requires more time and takes up more memory.)

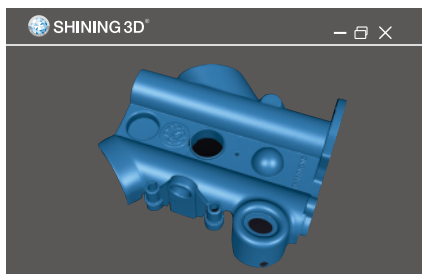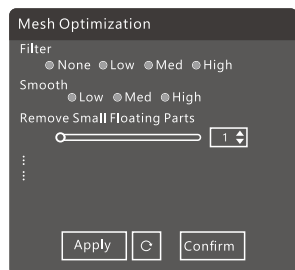# Mesh

Meshing is to convert the point cloud into a triangular mesh surface.

Select the suitable mesh type for post–processing.

Mesh Model

Click to start mesh process.

Click Apply to preview meshing. Click Confirm to go with current result.

Mesh Optimization

Filter
○None ○Low ○Med ○High

Smooth
○Low ○Med ○High

Remove Small Floating Parts

1

Apply   ↻   Confirm

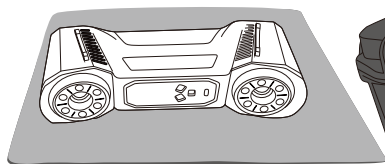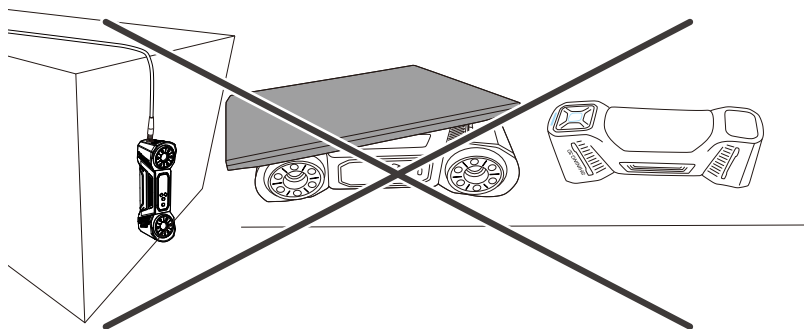SHINING 3D®

Safe Handling

Calibration plate

1. Always make sure that the working side of the calibration plate is clean and free of scratches.

2. If cleaning board becomes necessary, gently wipe it with damp cloth without chemicals and alcohols, avoid markers.

3. After using the calibration plate, put it back in the original case.
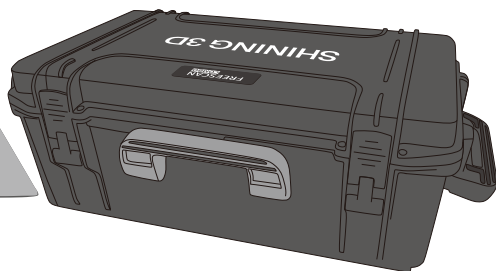
Scanner

Avoid dropping, hanging or applying force to the scanner.
Avoid placing the cameras of the scanner facing down.
Place the scanner on a soft blanket when not in use.

To protect the camera glass

Please store all the items in the original case after each use.

SHINING 3D

Technical Support

Register at https://support.shining3d.com/en/support/home to submit a support ticket and track your ticket status.

User manual: file:///C:/Shining3d/FreeScan/res/docs/freescan/1.2.4/combo/en-us/disclaimer/disclaimer.html

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Instagram: https://www.instagram.com/shining3d/

YouTube: https://www.youtube.com/Shining3DScanner

■ ▪ ▪

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