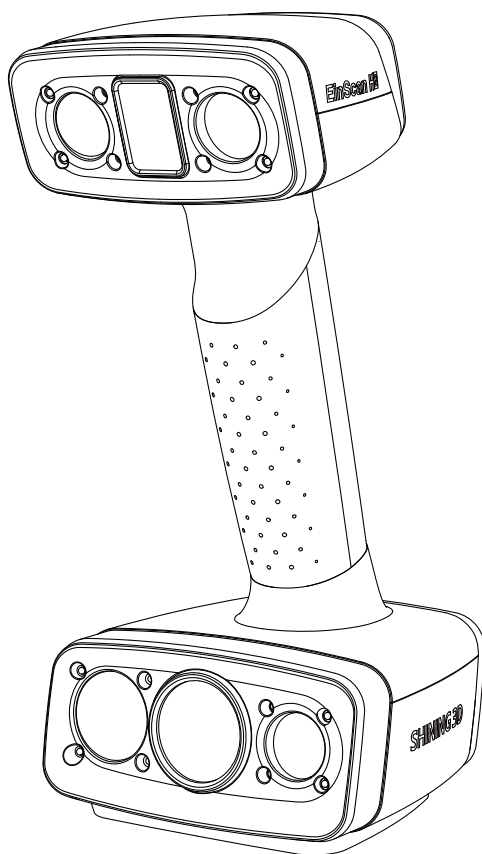




# SHINING 3D

For More Shining Ideas



## EinScan **H2**

## 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" 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.



Restriction of Hazardous Substances Certified.



Korea Certification Certified.

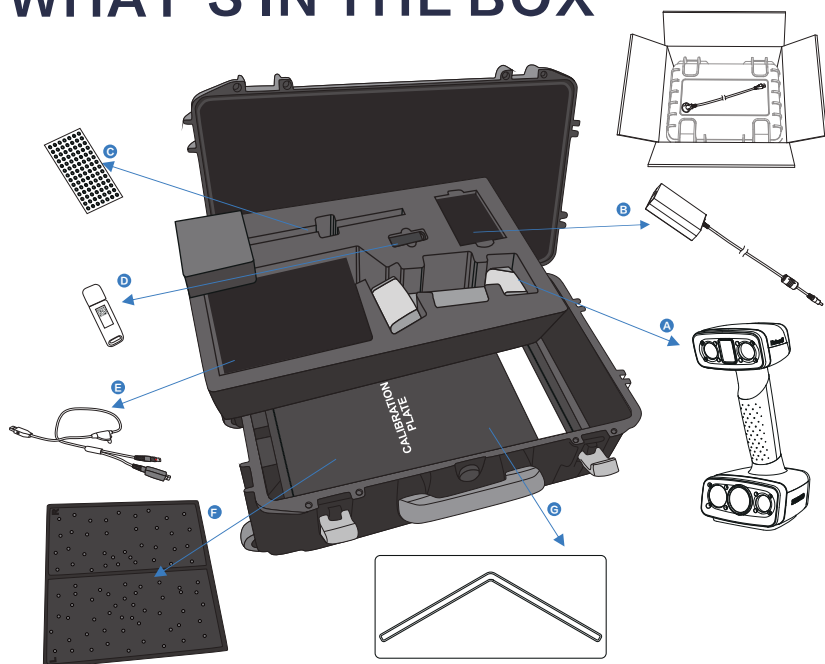
## Welcome!

Thank you for purchasing the EinScan H2 3D scanner. We hope you enjoy scanning with your new scanner.

You can login to our user platform [passport.shining3d.com](https://passport.shining3d.com) to get more learning material, the latest software, etc.

For technical support, please visit our support center [support.einscan.com](https://support.einscan.com).

# WHAT'S IN THE BOX



- A. Scanner
- B. Power adaptor
- C. Markers
- D. USB drive
- E. Connection cable (USB, DC IN)
- F. Calibration board
- G. Position paper

Note: Serial number can be found on the bottom of the scanner or on the back of the calibration board, which is like "einscanxxx-hhxx000x00"

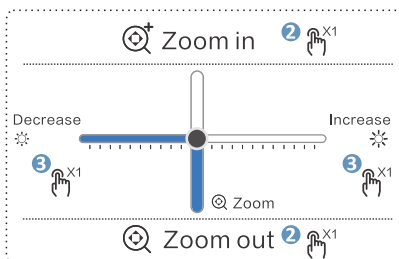
## Recommended Configuration

OS	Win10/11, 64-bit
Graphics card	NVIDIA GTX/RTX, RTX2060 or better
Video memory	≥6GB
Processor	Intel I7-11700 or better
Memory	≥64GB

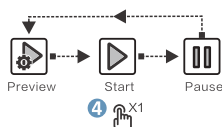
## Required Configuration

OS	Win10, 64-bit
Graphics card	NVIDIA GTX1060
Video memory	≥4GB
Processor	Intel I7-8700
Memory	≥16GB

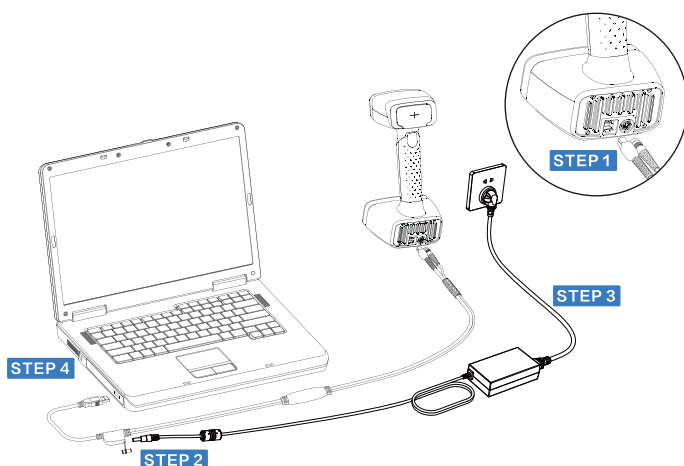
# Scanner button controls



- ① Working distance indicator
- ② Zoom in / Zoom out
- ③ Brighter / Darker
- ④ Preview / Scan / Pause

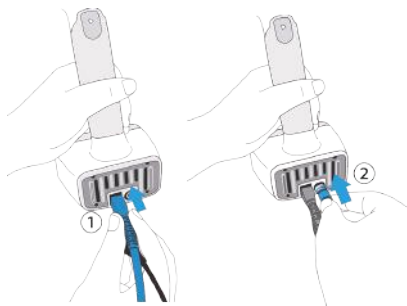


## Connect Your Scanner



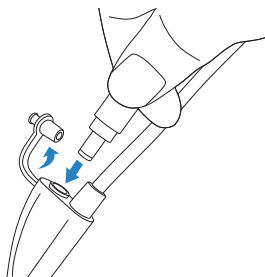
## STEP 1

Plug USB and DC IN into the bottom of Scanner.



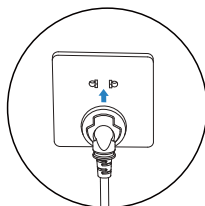
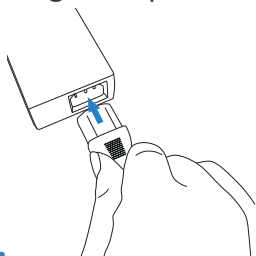
## STEP 2

Plug the power cable into the connection cable.



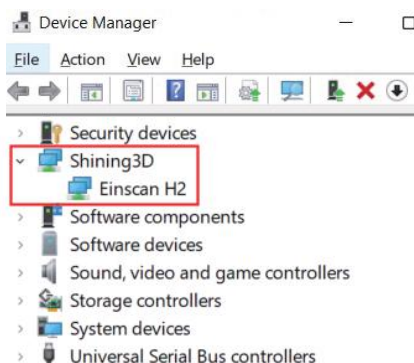
## STEP 3

Powered on, the upper light board lights up once, and the bottom two light strips remain constant.



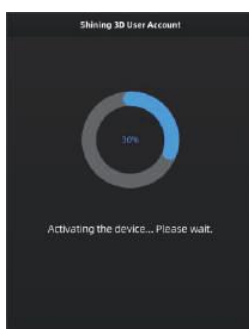
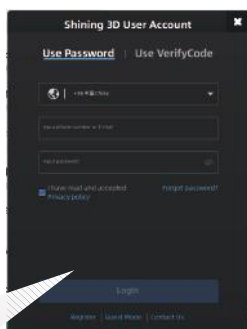
## STEP 4

Plug the other side of connection cable into the USB 3.0 port of computer. Now you can see our device in your Device Manager.



# Activate the device

1. Download software from:  
<https://www.einscan.com-Support-Download Center-Einscan H2-Software>
2. Click and follow the installation wizard of EXScan.
3. Launch the software, and register a shining 3D user account.
4. Login with your new account, and the device will be activated automatically.

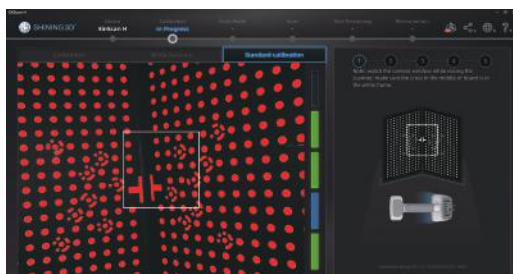


## Note:

1. If the computer is not connected to the internet, you can choose "offline activation".
2. If you fail to download software or can't do registration, please contact [einscan\\_support@shining3d.com](mailto:einscan_support@shining3d.com)
3. After activation, you can use this registered user account to login to [passport.shining3d.com](https://passport.shining3d.com) for related learning material and the latest software.

The software enters the calibration interface after activation.

(Please refer to **How to Calibrate**)



# How to calibrate

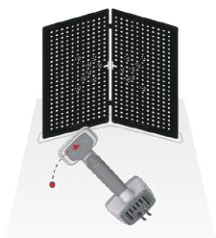
## Standard Calibration

- 1.Put the calibration board vertically onto the position paper.
- 2.Follow the instructions from the software to finish 5 positions.
- 3.While holding the scanner, make sure it is upright to the center of the board. Bring the scanner closer or farther to the board till all the required distance captured.

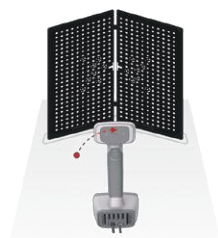
### STEP 01



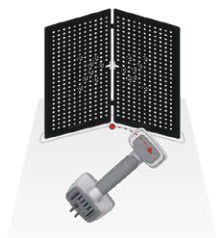
### STEP 02



### STEP 03



### STEP 04



### STEP 05



# How to calibrate



## White Balance Calibration

Hold the scanner vertically to the back side of calibration board (white). Move the scanner up and down till a photo taken at the right distance.

The first time installing the software, standard calibration is required by default. Quick calibration can be used for re-calibration when accuracy reduction or misalignment during scanning. Only one position should be done during quick calibration

## Note:

1. Customer calibration is recommended to do every 14 days for daily use.
2. Move the scanner at a steady and slow speed.
3. Make sure to protect the calibration board and keep it clean, no scratches or stains on the black surface with white dots.
4. The Calibration board is matched to the Device with the same Serial Number. Doing the calibration with an incorrect calibration board may fail to generate good scan data or optimum accuracy.
5. Clean the calibration board with clear water only, do not use alcohol or chemical liquid to clean the calibration board.



# Before scanning

Check if the objects meet the requirements below:

1. Rich geometry or texture features

2. No transparent, mirror like or reflective surfaces

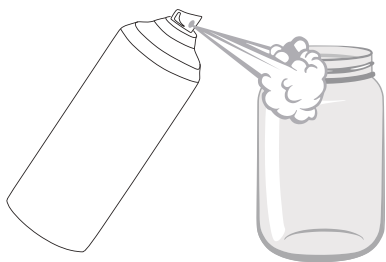
3. Rigid object

If the objects don't meet ALL requirements, some preparations need to be done before scanning. Please refer to the next page.

## How to deal with it?

Surface type: Transparent/Mirror like/Reflective surfaces

Dust with anti-glare spray

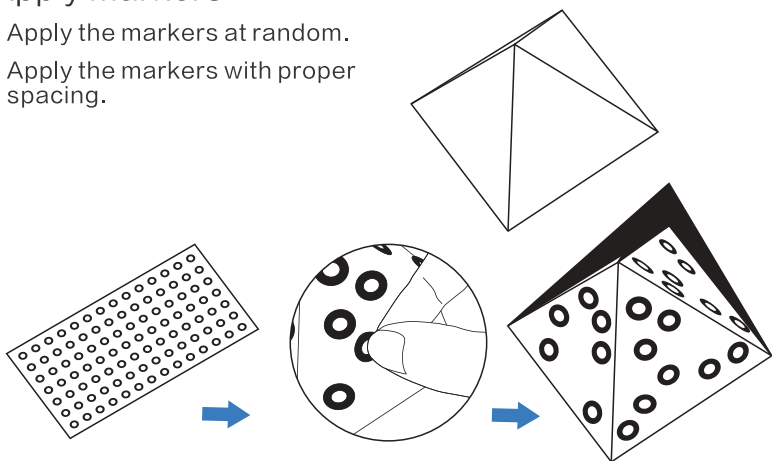


## How to deal with it?

Surface type: Thin/Flat/Repetitive features

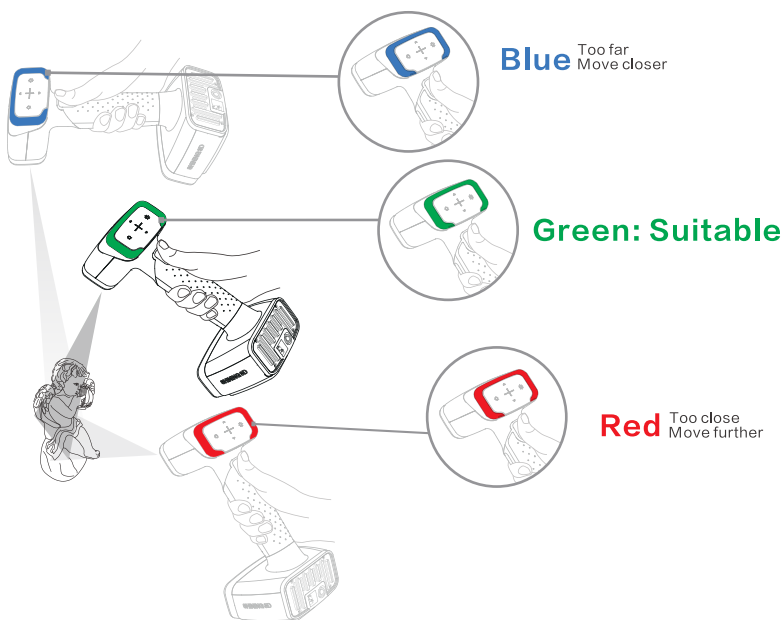
Apply markers

- Apply the markers at random.
- Apply the markers with proper spacing.



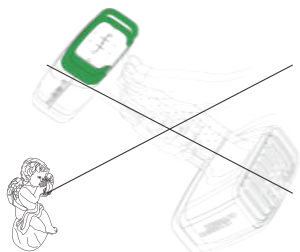
## Distance

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

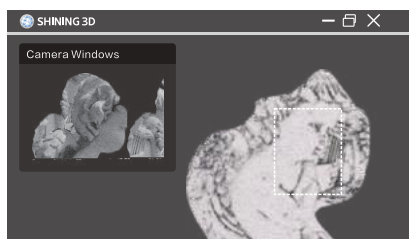


## Movement

Please move the scanner gently to continue scanning and build an object surface.



Avoid fast movement



Scanned region with sufficient data

When you lost tracking, direct Einscan H2 at a region you've already scanned to resume scanning.

# Scanning mode introduction

EinScan H2 based on hybrid structure light technology of LED and invisible infrared light, provides high quality 3D data with full color and makes human body scanning easier.

**White Light Mode:** Capable of quickly scanning high-precision and high-detail data.

**IR Mode:** Involve two modes--portrait mode and object mode.

①**Portrait Mode:** Using invisible infrared light, safe to the human eye; Added non-rigid alignment and hair mode, can handle the slight shaking of the human body and hair details during scanning very well.

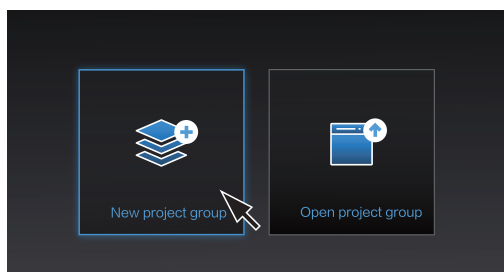
②**Object Mode:** The large FOV enables easy and fast scanning of large objects. It can also scan black and slightly reflective objects.

# Scanning process introduction

1. Select Scan mode "White Light Mode"

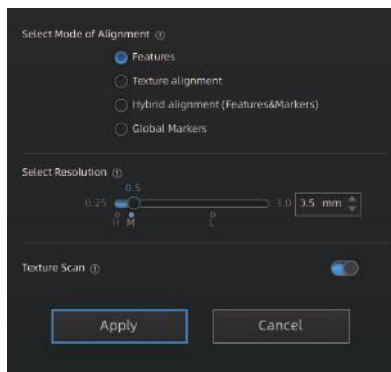


2. Create a New project group (or Open project group).



## 3. Select Mode of Alignment

### White Light Mode:



#### Features

uses object geometric features for auto aligning during scanning. Rich features on the object are required for this mode.

#### Texture alignment

uses objects surface texture to align the scans. Rich texture on the object is required.

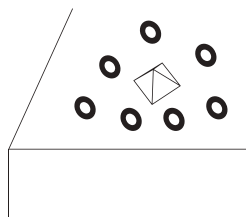
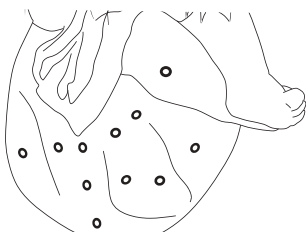
#### Hybrid alignment

uses features, markers to align the scans. Use the function to avoid alignment error in some target parts. By this alignment, we do not need to place the markers all over the part, but only on the region where has less geometry.

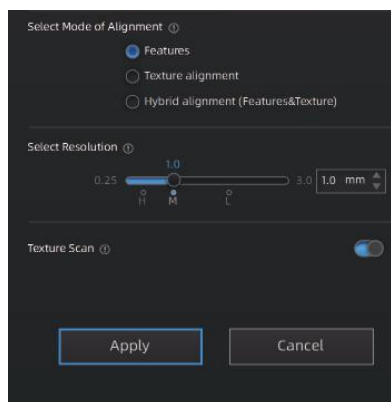
#### Global Markers

uses global markers files to help align the scans. You may add an existed global marker file or scan one.

- Large object:  
Apply the markers directly onto the object.
- Small object:  
Apply the markers around the object (on the table).



### Portrait Mode:



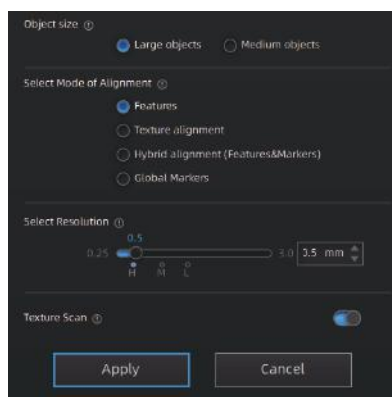
– Hybrid alignment here means feature alignment plus texture alignment.

**FEATURE ALIGNMENT** uses object geometric features for auto aligning during scanning. Rich features on the object are required for this mode.

**TEXTURE ALIGNMENT** uses objects surface texture to align the scans. Texture Scan is required to select if you want to use texture align.

**HYBRID ALIGNMENT** uses two different alignments to align the scans. Use the function to avoid alignment error in some target parts.

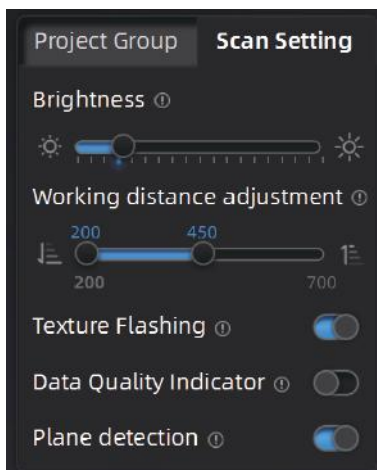
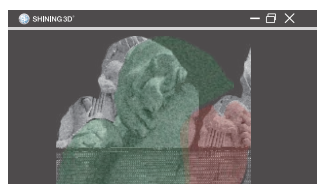
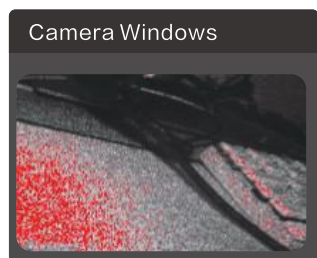
## Object Mode:



- Large objects:  
suitable for objects size larger than 300mm\*300mm\*300mm
- Medium objects:  
suitable for objects size in the range of 100mm\*100mm\*100mm-300mm\*300mm\*300mm

- 
- When select **Global Markers** alignment, if global marker file not import, you need to scan global marker file first.
  - **Hybrid** alignment here means feature alignment plus marker alignment.

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

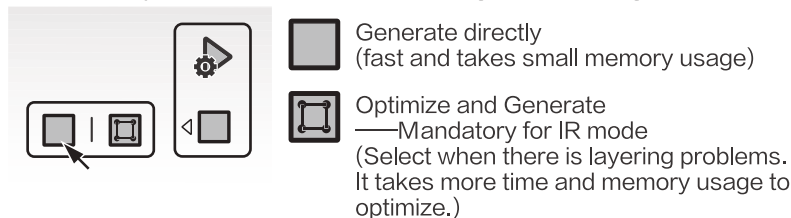


# Generate Point Cloud

Edit the data after pausing or completing the scan.



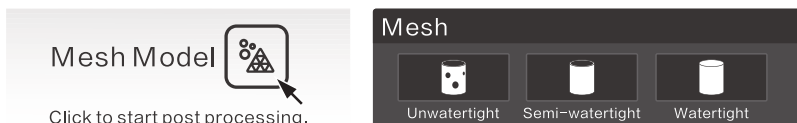
Generate point cloud after scanning and editing data.



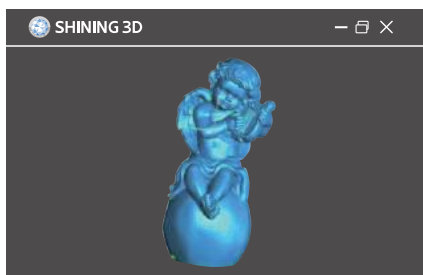
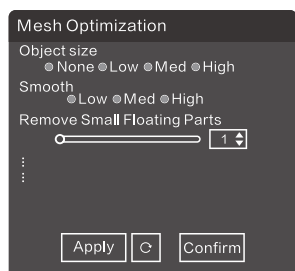
## Mesh

Meshing is to Wrap the point cloud into a triangular mesh surface. The data after mesh can be directly used for rendering, measurement or printing.

Select the suitable mesh type for post processing.



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



## Data output formats

Data output formats:

OBJ, STL, ASC, PLY, P3, 3MF

Compatible with a variety of design software.



# SHINING 3D

## Technical Support

Register at [support.einscan.com](https://support.einscan.com) to submit a support ticket and track your ticket status.

User manual: Get user manual from [www.einscan.com](http://www.einscan.com)—Einscan H2

## Follow Us

Suggest visiting our YouTube channel to watch how-to videos and subscribe to view the latest videos of the products.

**Facebook:** <https://www.facebook.com/shining3d/>

**Twitter:** <https://twitter.com/shining3d>

**Instagram:** <https://www.instagram.com/shining3d/>

**YouTube:** <https://www.youtube.com/Shining3DScanner>

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