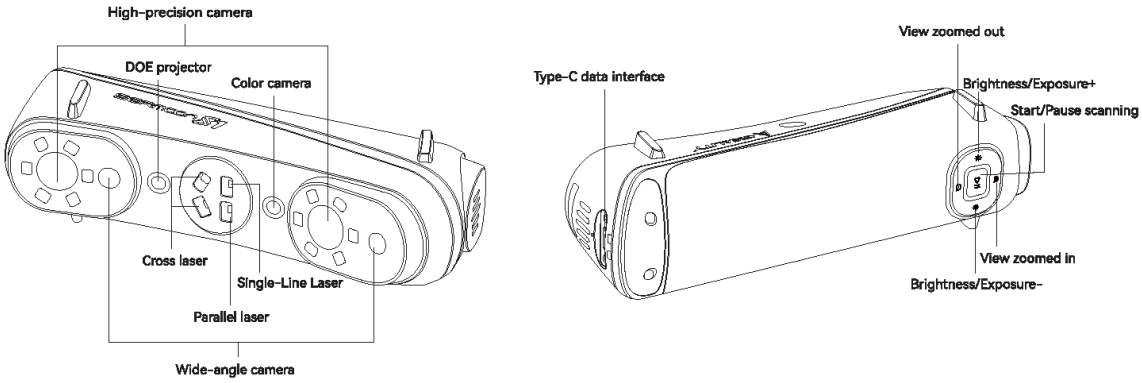
Sermoon S1 User Manual

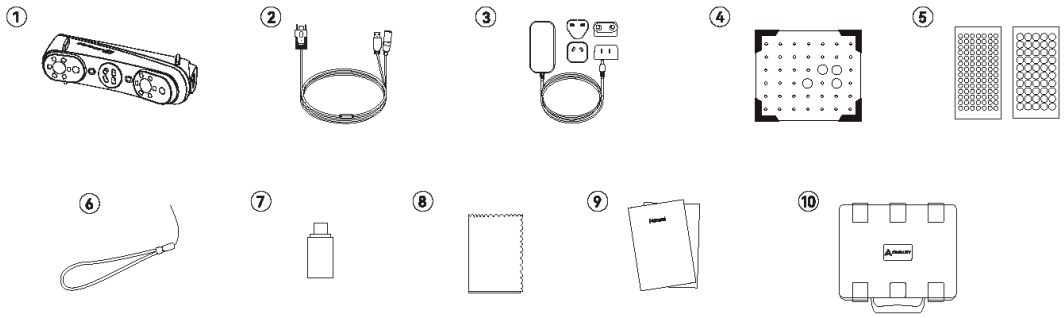
1. Scanner Components Introduction

01 SCANNER COMPONENTS INTRODUCTION EN



2. Packing List

02 PACKING LIST



Parts Name	Quantity	Parts Name	Quantity
1. Sermoon S1 3D Scanner	1	6. Lanyard	1
2. USB 3.0 data cable (Type-C/Type-A)	1	7. Type -C adapter	1
3. Power plug	1	8. Cleaning cloth	1
4. High-precision glass calibration plate	1	9. Quick start guide, certificate of conformity & warranty card	1
5. Reflective markers (D6mm*10 sheets, D3mm*10 sheets)	20	10. Waterproof box	1

3. Software Download and Installation

4. Scanner Connection

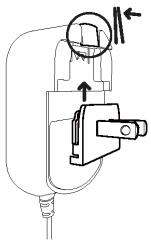
03 CREALITYSCAN 4 SOFTWARE DOWNLOAD AND INSTALLATION

Scanner software download address : https://wiki.creality.com/en/software
Go to the official Creality Wiki software download page, find the CrealityScan 4 software under Creality Scan Software, download and install it.
Note: After you have completed the software installation on your MAC, please authorize the 3D scanner to read and write files so that you can optimize the point cloud and generate a model when using the software.

04 SCANNER CONNECTION

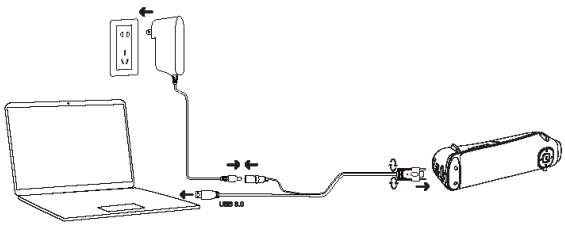
4.1 Adapter installation connection

The user selects the appropriate adapter head according to the country they are in, then presses the adapter lock and pushes the selected adapter head upwards. The specific operation is as shown in the figure below:



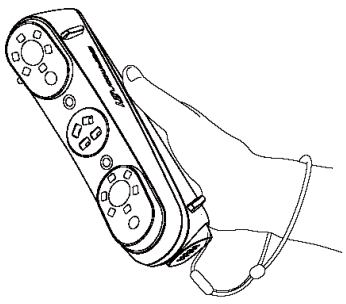
4.2 Device Connection

(1) Insert the Type-C port of the data cable into the device and tighten the screws.
(2) Connect the DC power cable female connector of the data cable to the DC male connector of the adapter.
(3) Plug the Type-A port of the data cable into the USB 3.0 port of the computer.
(4) Plug the adapter into a power socket.
The specific operation is as shown below:



4.3 Usage Notes

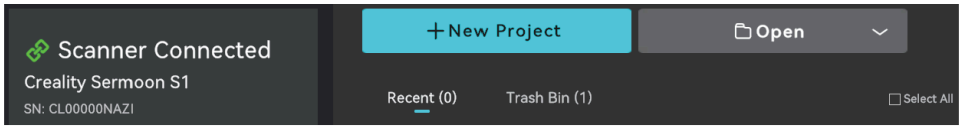
When using the device, tie the lanyard around your wrist (as shown below) to prevent the device from falling and causing damage to it.



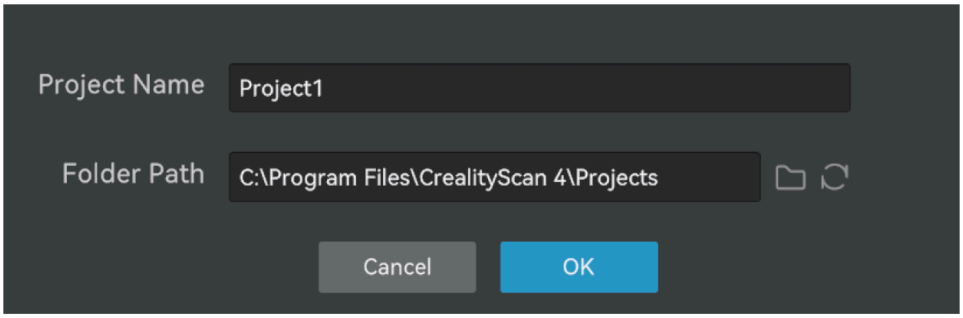
5.First Scanning guide

05 FIRST SCAN

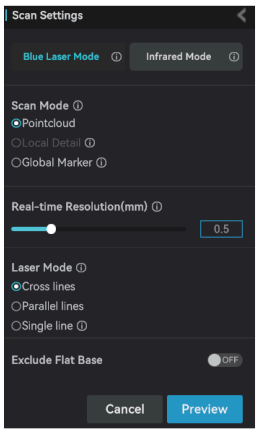
① Connect the device and open the installed CrealityScan 4 software.
② Click [New Project] in CrealityScan 4 software , as shown below:



③Enter the project name in the pop-up bar, select the folder path, and then click the [OK] button, as shown below:



④ Select the scanning mode and related configuration items according to the characteristics of the scan object. Finally, click the [Preview] button to enter the scan preview interface, as shown below:



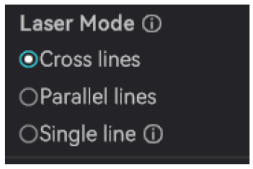
Scanning steps

① Scan mode selection

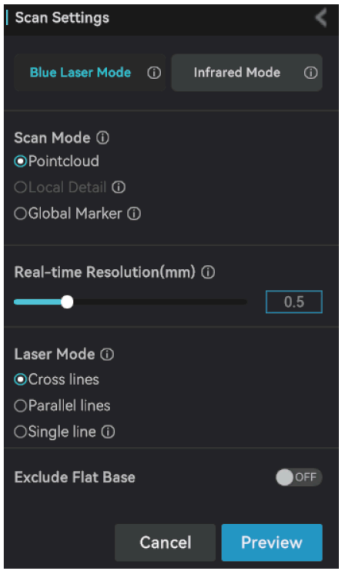
If you need to scan the object with high precision and detail, please select the "Parallel Lines" mode in the "Laser Mode" . In this case, the aid of marker points is required.

When the object is small, you can stick the reflective mark on the table , and there is no need to stick the mark on the surface of the object. If the object is large, you can select the "Cross line" mode in the " Laser Mode " , and you need to stick the mark on the surface of the object, and you can perform high-speed scanning. If you need to scan deep holes, please select the "Single line" mode.

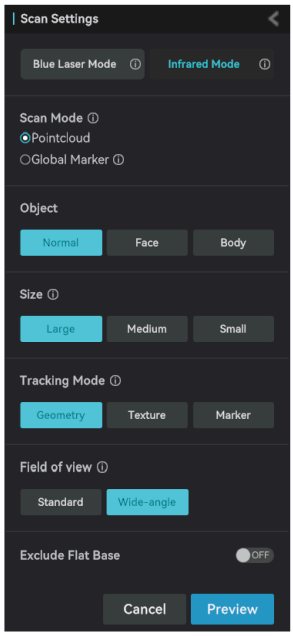
When scanning in laser mode, you need to select an appropriate Real-time Resolution. The smaller the point distance, the finer the scanned model, but it will consume more memory and may also affect the scanning frame rate. If you want to scan the other side of the object, please use the multi-project merging function of CrealityScan 4 software to merging the point clouds of multiple scans into a complete model.



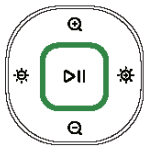
Infrared mode can be used to scan targets such as faces and bodies without the need to attach markers. Infrared scanning also supports texture mode and marker mode scanning.
For more information about Sermoon S1 , please visit: https://wiki.creality.com/en/3d-scanner
The reference configuration for blue laser mode is as follows:

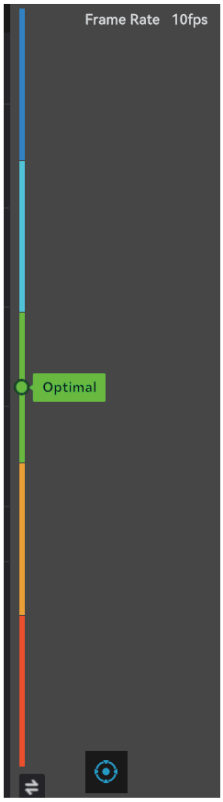


The reference configuration for infrared mode is as follows::

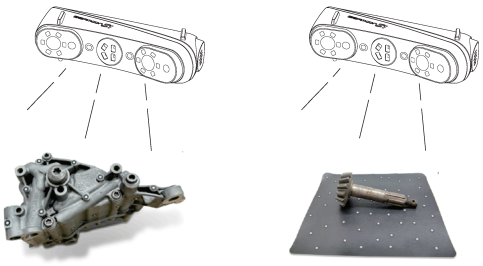


② Adjust the scanner and the scanned test piece to a suitable distance, that is, when the scanner indicator light is green (as shown below), or the distance indicator bar on the software interface is at the best, it means that it is at the best scanning distance.

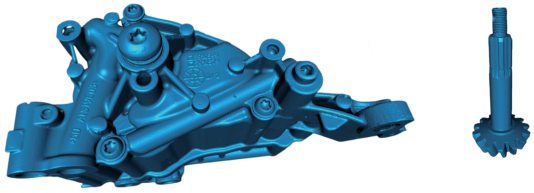




③ Short press the button on the scanner ▷||, or click the [Start] button on the software interface , and keep the scanner pointed at the object to start scanning.



④ Use the scanner to perform a 360° scan of the object to be scanned. When the scan is completed, press and hold the scanner for ▷|| more than 2 seconds, or click [Complete] on the software interface to complete the scan. Perform post-processing in the CrealityScan4 software to obtain a complete 3D model. The effect is as follows:



Note: Please visit Creality official Wiki for more detailed operation tutorials.
https://wiki.creality.com/en/3d-scanner

6.Buttons and Indicator Lights Description

06 BUTTON AND INDICATOR LIGHT DESCRIPTION

6.1 Button Description

button	Scanner Feedback	Indicator light feedback
▷||	Press once to start scanning; press again to pause scanning; press for ≥2S to end scanning. Double-click to switch between single-line, 7-line laser and 34-line cross laser.	The middle indicator light flashes once
☼+	Press once to increase the laser brightness by one level in laser line mode and the IR camera exposure by one level in infrared mode.	/
☼-	Press once to reduce the laser brightness by one level in laser line mode and reduce the IR camera exposure by one level in infrared mode.	/
⊕	Short press once to zoom in one level	/
⊖	Short press once to zoom out one level.	/

6.2 Indicator Light Description

Indicator light with color	Status or meaning	Reference Color
Steady dark blue	Device starting	▷||
Steady green	The device is operating normally or the scanning distance is appropriate.	▷||
Flashing red	Device in abnormal state.	▷||
Flashing yellow	Device in upgrade state.	▷||
Steady orange-red	Scanning distance is too close.	▷||
Steady orange	Scanning distance relatively close.	▷||
Steady light blue	Scanning distance relatively far.	▷||
Steady dark blue	Scanning distance is too far	▷||

*During the device startup process, the blue indicator light is on for a long time, and the startup completion indicator light turns to a green breathing state.
*When the distance indicator starts flashing during scanning, it means that the scanning tracking is lost and the scanner needs to return to the scanned area to re-track.
*When the device is in standby mode, the indicator light will enter a breathing state to save power.

7.Technical Specifications

07 TECHNICAL PARAMETERS

Sermoon S1					
Scanning Mode	Blue single line laser	Blue 7-line laser	Blue 34- line laser	Close-range speckle structured light	Long-range speckle structured light
Accuracy	Up to 0.02mm[1]			Up to 0.075mm[1]	
Volumetric Accuracy	0.02mm+0.08mm/m			0.075mm+0.1mm/m	
Scanning rate	108,000 measurements/s	756,000 measurements/s	1,428,000 measurements/s	4,600,000 measurements/s	
3D Resolution	0.05-2mm			0.1-2mm	
Scanning Speed	Up to 90fps			Up to 30fps	
Min. scan volume	5mm x 5mm x 5mm			150mm x 150mm x 150mm	
Single Capture Range	205mm x 147mm@200mm 293mm x 217mm@300mm 355mm x 289mm@400mm 417mm x 361mm@500mm 506mm x 433mm@600mm			293mm x 217mm@300mm 417mm x 361mm@500mm	689mm x 375mm@500mm 1245mm x 754mm@1000mm
Working distance	200mm-600mm	150mm-400mm	200-600mm	170mm-500mm	200mm-1200mm
Color Mapping	support				
Alignment mode	Marker point/Global marker point			Marker point/Global marks/Geometry/Texture	
Color Supplemental Light	12 white LEDs				
Outdoor Scanning	100,000 lux or less	50,000 lux or less	100,000 lux or less	30,000 lux or less	
Marker Recognition Enhancement	12 blue LEDs				4 infrared LEDs

Laser Safety	Class II (eye safe)	Class I (eye safe)	Class II (eye safe)	Class I (eye safe)	Class I (eye safe)
Device Weight	485g				
Size	225mm×53mm×76mm				
Calibration board	High Precision Glass Calibration Board				
Wireless Scanning	Support (requires accessories)				
System Support	Windows/macOS Android/IOS (requires accessories)				
Computer configuration requirements	Windows: The following or higher configurations are recommended: i7-Gen10 CPU, Nvidia graphics card (8GB video memory), 32GB memory Windows 10/11 (64bit) Minimum configuration: i7-Gen7 CPU, Nvidia graphics card (6GB video memory), 16GB memory Windows 10/11 (64bit) macOS: It is recommended to use M1/M2/M3 series processors and 16GB memory				
Operating temperature	-10°C to 40°C				
Operating humidity	10-90%RH				
[1] Accuracy is evaluated under laboratory conditions; actual results may be affected by the operating environment, such as vibration, temperature, and other factors.					

FCC statements:
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.
NOTE: The manufacturer is not responsible for any radio or TV interference caused by unauthorized modifications or changes to this equipment. Such modifications or changes could void the user's authority to operate the equipment.

NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:
- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
-Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
-Consult the dealer or an experienced radio/TV technician for help.

IC statements:
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.

Cet appareil est conforme avec Industrie Canada RSS exemptes de licence standard(s).
Son fonctionnement est soumis aux deux conditions suivantes:
(1) cet appareil ne peut pas provoquer d'interférences, et
(2) cet appareil doit accepter toute interférence, y compris celles pouvant causer un mauvais fonctionnement de l'appareil.

This Class B digital apparatus complies with Canadian ICES-003.
Cet appareil numérique de la classe B est conforme à la norme NMB-003 du Canada.

CE: This product can be used across EU member states.

Shenzhen Creality 3D Technology Co., Ltd.

Official website: www.creality.com
Tel: +86 755 3396 5666 Customer Service: CS@creality.com
Company address: 18F, JinXiuHongDu Building, Meilong Blvd., Longhua Dist., Shenzhen, China 518131

CLASS 2 LASER PRODUCT
CAN ICES (B) / NMB (B)

Facebook Community

Creality Wiki