Sermoon X1 User Manual

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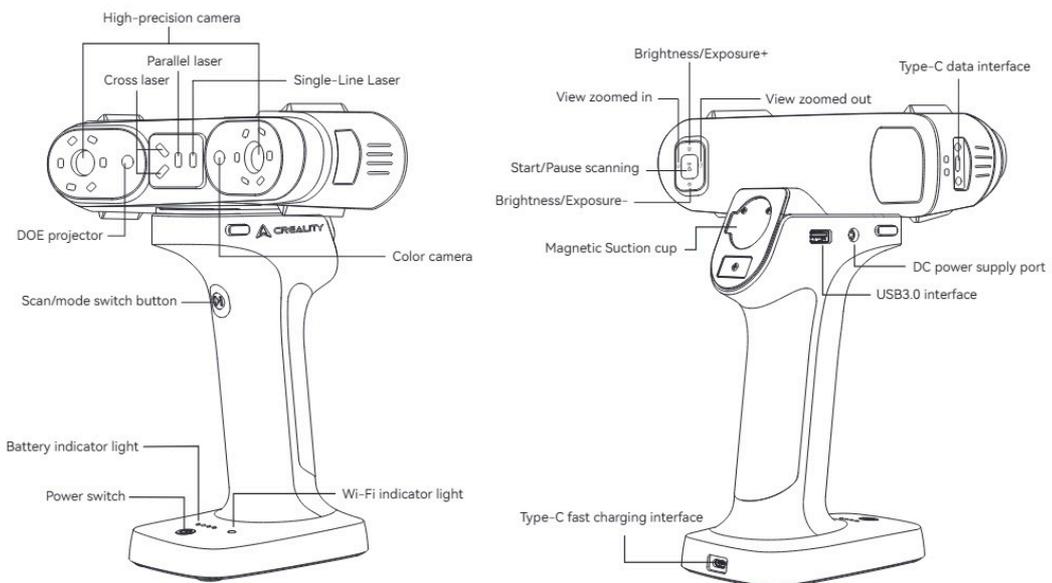
High-precision camera

Parallel laser

Cross laser

Single-Line Laser

DOE projector

Scan/mode switch button

Color camera

Battery indicator light

Power switch

Wi-Fi indicator light

Brightness/Exposure+

View zoomed in

View zoomed out

Type-C data interface

Start/Pause scanning

Brightness/Exposure-

Magnetic Suction cup

DC power supply port

USB3.0 interface

Type-C fast charging interface

02 PACKING LIST

①	Creality Sermoon X1 *1	⑩	Magnetic phone holder *1
②	Scan Bridge *1	⑪	WiFi6 wireless adapter *1
③	Quartz glass high precision calibration board*1	⑫	Type-C Adapter *1
④	Power Supply + Power Adapter *1	⑬	Cleaning cloth *1
⑤	USB 3.0 data cable (Type-C/Type-A)4.5m *1	⑭	Lanyard *1
⑥	Scan Bridge Data Cable *1	⑮	Quick Operation &Guide certificate & Warranty Card *1
⑦	Scan Bridge Fast charging data cable *1	⑯	Ejector pin *1
⑧	Reflective markers (D6mm*40 sheets, D3mm*40 sheets)	⑰	Safety Box *1
⑨	Hand-tightening quick-release card *1		

03 DOWNLOAD AND INSTALL CREALITYSCAN 4

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:
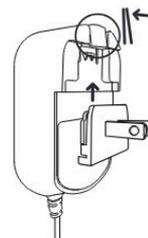
4.2 Device Connection

(1) Insert the Type-Cport 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:
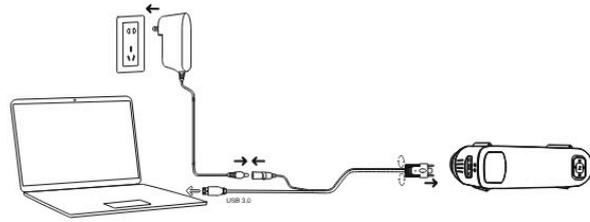
4.3 Wireless Connection

Launch the CrealityScan 4 software and select Sermoon X1 in the beginner's guide to view wired cables and wireless connection methods.
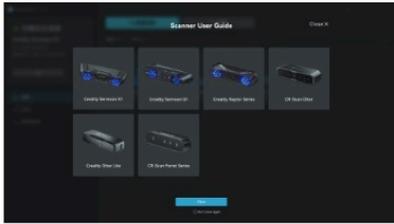
The wireless connection method can also be viewed by clicking the button in CrealityScan on the mobile phone

4.4 Usage Notes

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

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05 FIRST SCAN

Please scan the QR code below to view the scanning and data processing tutorial

06 BUTTON AND INDICATOR LIGHT DESCRIPTION

6.1 3D Scanner Button Description

Button	Scanner Feedback
▷‖	Short press once to start scanning; Short press again to pause scanning; Press and hold for ≥ 2S to end the scan. Double click to switch between single line, 7-line laser, and 34 line cross laser.
☼⊕	Short press once to increase laser brightness by one level in laser line mode and IR camera exposure by one level in infrared mode. Double click to switch between adjusting laser brightness and camera exposure time.
☼⊖	Short press once to reduce the laser brightness by one level in laser line mode and one level in IR camera exposure in infrared mode. Double click to switch between adjusting laser brightness and camera exposure time.
⊕🔍	Short press once to enlarge the view by one level. Press and hold for at least 2 seconds to restart the scanner.
⊖🔍	Short press once to zoom out the view by one level.

6.2 Scan Bridge Button/Interface Description

Button	Scan Bridge Feedback	Indicator Light Feedback
⏻	Press once to turn on the power. Long press (≥2s) to turn off the power. Long press (≥10s) to force shutdown.	WiFi indicator light turns blue
▷	Press once to start scanning, press again to pause. Long press (≥3s) to end scanning. Double-click to switch between 7-line laser or 17-line cross laser.	/
▭	Supports up to 30W fast charging for the wireless scanning handle.	/
◎	12V_DC power supply interface, Provides power to the 3D scanner.	/
▭	USB3.0 communication interface,Transfers data between the scanner and the wireless scanning handle.	/

6.3 3D Scanner Indicator Strip

Button Indicator Light	Status or Meaning	Reference Color
Steady dark blue	Scanner starting	▷‖
Steady green	The scanner is operating normally or the scanning distances appropriate	▷‖
Flashing red	Scanner in abnormal state	▷‖
Flashing yellow	Scanner 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	▷‖

*Note: During the device startup process,the blue indicator lightis 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.

6.4 Scan Bridge Indicator Strip

Battery Indicator	Scan Bridge Feedback
	4 lights on: Power 75%-100%
	3 lights on: Power 50%-74%
	2 lights on: Power 15%-49%
	1 light on: Power <15% (charging recommended)
WiFi Status Indicator	**Indicator Light Feedback**
	Steady blue light: normal startup.Blinking blue light: device is ready, and WiFi is available.
	Steady green light: WiFi connection successful, and communication with the software established.
	Steady red light when WiFi or upgrade fails.
	Steady yellow light during OTA upgrade.

7.1 Sermoon X1 Parameters

Creality Sermoon X1			
Scanning Mode	Deep Hole Scanning	Detailed Scanning	High Speed Scanning	Marker-free Scanning
	blue single laser line	7 blue parallel laser lines	34 blue crossed laser lines	NIR(infrared binocular structured light)
Accuracy	Up to 0.02mm[1]			Up to 0.05mm[1]
Volumetric Accuracy	0.02mm+0.04mm/m			0.05mm+0.1mm/m
Scanning rate	84,000 measurements/s	756,000 measurements/s	1,734,000 measurements/s	5,000,000 measurements/s
Scanning Speed	Up to 90fps		Up to 85fps	Up to 30fps
3D Resolution	0.05-2mm			0.1-2mm
Min. scan Volume	5mm x 5mm x 5mm			150mm x 150mm x 150mm
Single Capture Range	217mm x 167mm at 200mm 325mm x 323mm at 300mm 434mm x 394mm at 400mm 542mm x 463mm at 500mm 650mm x 531mm at 600mm			650mm x 531mm at 600mm 1300mm x 935mm at 1200mm
Working Distance	200mm–600mm	150mm–400mm	200–600mm	170mm–1200mm
Color Mapping	Supported			
Alignment Mode	Marker / Global Marker		Marker / Global Marker / Geometry / Texture	
Color Supplemental Light	12 white LEDs			
Outdoor Scanning	Below 100,000 lux	Below 50,000 lux	Below 100,000 lux	Below 30,000 Lux
Marker Recognition Enhancement	12 blue LEDs			

Laser Safety	Class II (eye safe)		Class I (eye safe)
Device Weight	530g		
Size	216mm*74mm*51mm		
Mechannical Structure	Optoelectronic bracket and lens base, CNC integrated molding Total mechanical locking (better stability, longer lifespan)		
Calibration Board	Quartz glass high precision calibration board Coefficient of thermal expansion: 5.5×10⁻⁷/°C		
Wireless Scanning	Supported		
Operating System	Windows/macOS		
PC Configuration	Windows: Recommended: i7-Gen10 CPU, Nvidia graphics card (8GB VRAM), 32GB RAM, Windows 10/11 (64-bit) Minimum: i7-Gen7 CPU, Nvidia graphics card (6GB VRAM), 16GB RAM, Windows 10/11 (64-bit) macOS: Recommend M1/M2/M3/M4 series CPU, with 16GB RAM		
Interface Mode	USB 3.0		
Imput Power	12V, 3A[2]		
Operating Temperature	-10°C to 40°C		
Operating Humidity	10-90%RH		
Certifications	CE, RoHS, REACH, WEEE, FDA, FCC, UL, IC, RCM, PSE, SRRC, GB 4943.1		

[1] Accuracy is evaluated in laboratory conditions (measurement object is 100mm sphere pair) and actual results may be affected by operating environments such as temperature, vibration, and other factors.
[2] The scanner is designed to operate in conjunction with the Scan Bridge,with an input voltage and current rating of 12V/2A.

7.2 Scan Bridge Parameters

Scan Bridge	
Scanner Compatibility	Otter Series，Raptor Series，Sermoon Series
WiFi Protocols	WiFi6，backwards compatible
Frequency Band	5GHz
Transfer Rate	Laser mode<50fps；Infrared mode<30fps
Battery Type	Lithium battery
Battery Capacity	5000mAh (2 pcs)
Fast Charging Power	30W
Fast Charging Protocol	PD/AFC/FCP
Charging Type	Type-C
Communication Interface	USB-A/USB3.0
Power Supply Interface	DC12V/USB5V
Mobile Phone Holder	Magnetic
Power Switch Button	Mechanical
Scan Switch Button	Mechanical
Size	193.7mm x 119.8mm x 81.7mm
Weight	444g
Working Temperature	-10℃ to 40℃
Working Humidity	0-90%RH

08 SAFETY NOTICE

8 Safety information
About the 3D scanner Sermoon X1
-Please do not disassemble or assemble the equipment without authorization
-Please match the software usage equipment of our company
-Please use the equipment according to the recommended power supply voltage

8.1 Limits of operation of the products
Pay attention to the following matters, otherwise it may cause equipment damage or body failure
-Please avoid significant vibrations and collisions when using this product. Sermoon X1 is a high-precision equipment with a precise internal structure. Severe vibrations or collisions may damage the structure and cause damage to the optical components.
-Please use this device at the recommended temperature and humidity
-Please ensure that the usage environment is suitable, the power socket is well grounded, and the power interface is intact

8.2 Maintenance matters
To clean the equipment, please use a cotton cloth dipped in diluted neutral cleaning agent, wring it out and wipe it. Do not use damp cloths, volatile oils, diluents or other liquids to wipe the equipment, otherwise it may cause damage to the appearance of the equipment, and in severe cases, it may lead to damage to the equipment parts.

Store the device in an instrument box, in a cool and dry place with relatively stable temperature. Please avoid the following places for storage:
-Places with high or low temperature and humidity
-Places with a lot of dust
-Places with corrosive or flammable gases
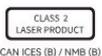-Places with corrosive or flammable liquids

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, 518131 Guangdong, P.R. China

CLASS 2 LASER PRODUCT
CAN ICES (B) / NMB (B)   CE   FC   RoHS   REACH

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