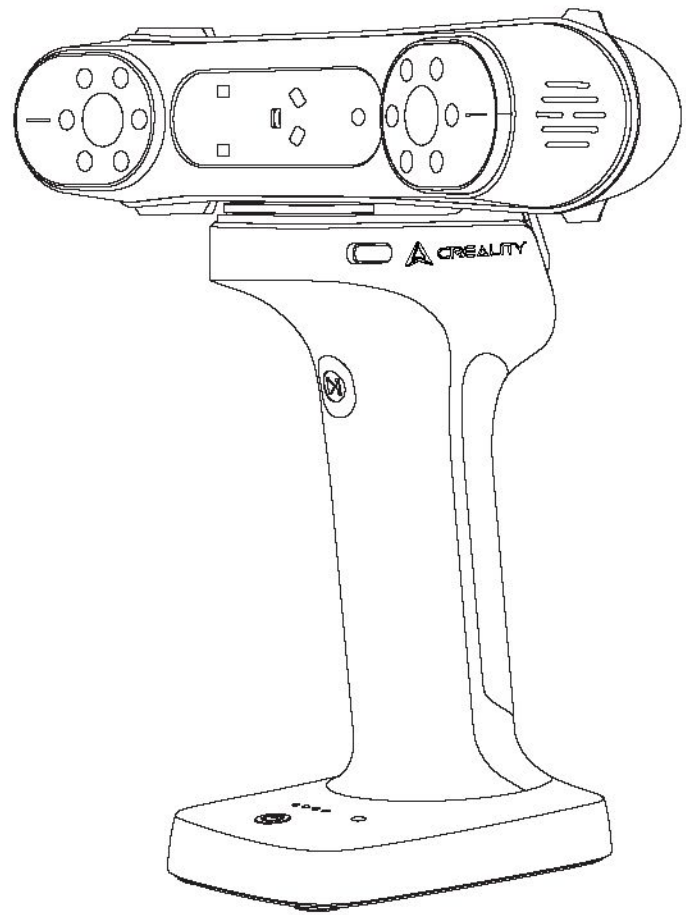
CREALITY



Creality RaptorX

3D Scanner

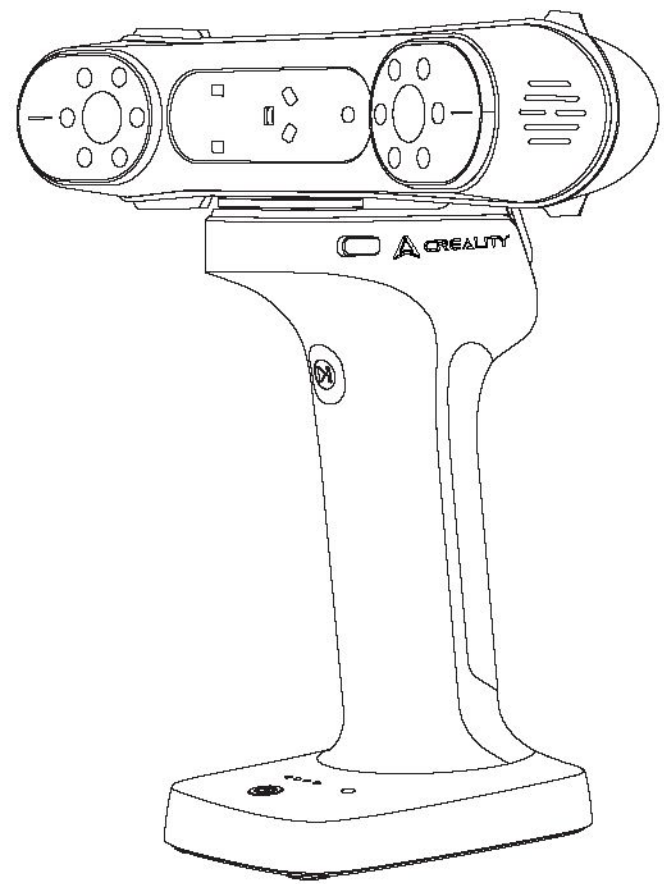
Small To Large. Scan It, Make It

Quick Guide V1.0

1. PRODUCT INTRODUCTION

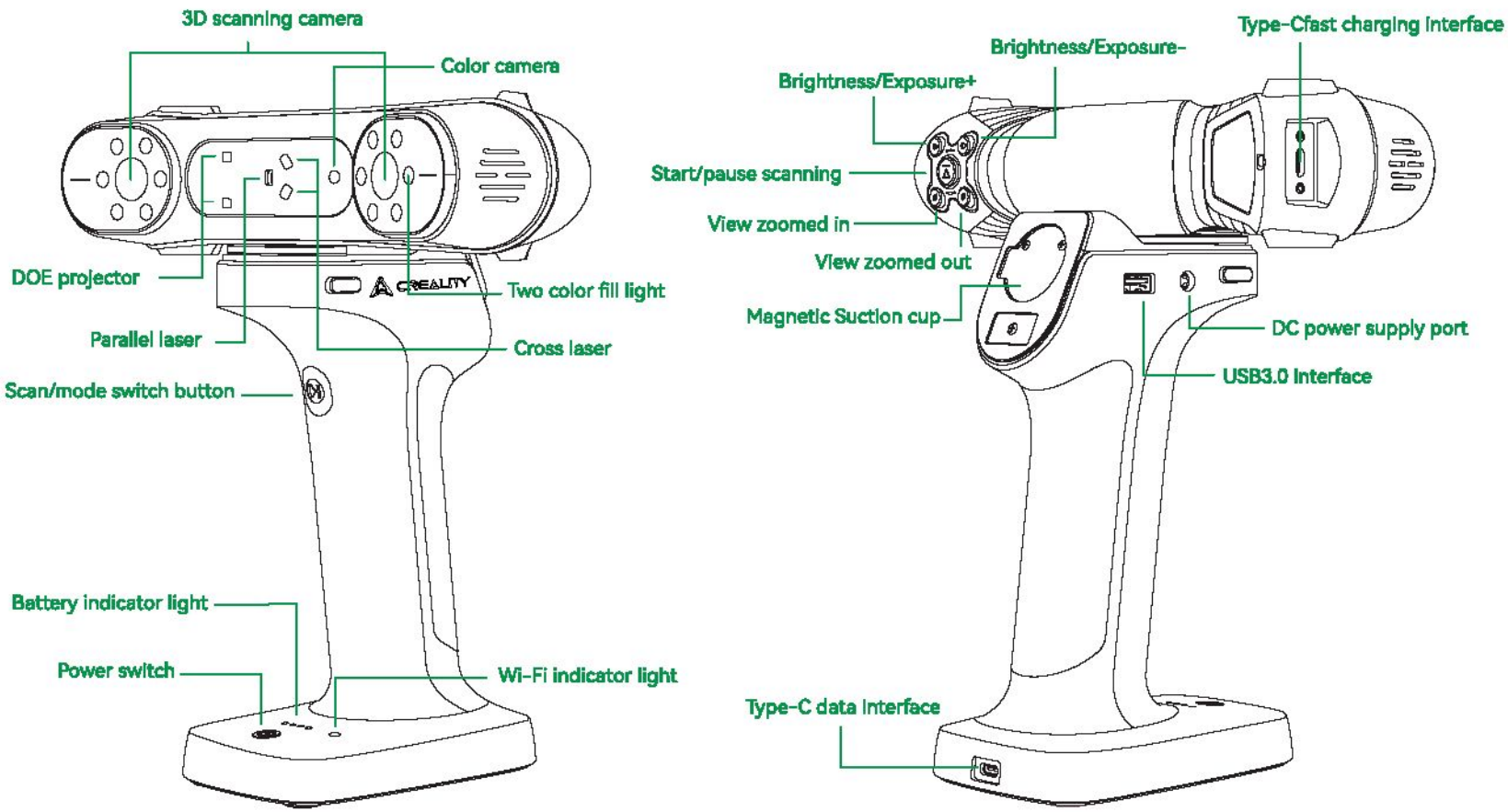
Creality RaptorX is a metrology-grade 3D scanner with a maximum accuracy of 0.02mm, and wireless scanning. It has three light sources (blue light, white light, and infrared), and can simultaneously achieve large-format high-speed scanning of cross-laser lines (34 lines) , fine scanning of parallel laser lines (7 lines) , and infrared scanning. It is suitable for scanning medium-to-large complex parts in the fields of automotive parts , reverse engineering, product design, energy engineering, and heavy industry, and can achieve full-size inspection, reverse design, 3D printing, additive manufacturing and other applications. It is also suitable for scanning targets such as human bodies, faces, and cultural relics.

The matching wireless scanning handle allows RaptorX to get rid of the constraints of wires and has very good portability. When scanning wirelessly, the mobile phone can be used as the scanner screen, making the scanning process easier and more comfortable.



2. PRODUCT INFORMATION

2.1 Scanner Introduction



2.2 3D Scanner Button Description

Button	Scanner Feedback	Indicator light feedback
▶|	Short press once to start scanning, press again to pause; long press ≥ 3 seconds to end scanning. Double-click to switch between 7-line or 17-line crossed laser modes.	The middle indicator light flashes once
	Short press to increase laser brightness by one level in parallel line mode, or increase IR camera exposure in infrared mode.	/
	Short press to decrease laser brightness or reduce IR camera exposure.	/
	Short press to zoom in.	/
	Short press to zoom out.	/

2.3 Wireless Scanning Charging Handle Buttons/Interface Description

Button	Wireless scanning charging handle 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 turns blue
	Press once to start scanning; press again to pause scanning; press for ≥ 3 seconds to end scanning; double-click to switch between 7-line laser or 17-line cross laser.	/
	The Type-C charging port can charge the wireless scanning charging handle and supports 30W fast charging.	/
	12V_DC power supply interface, to power the scanner.	/
	USB3.0 communication interface, data communication interface between wireless scanning handle and scanner.	/

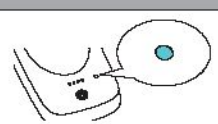
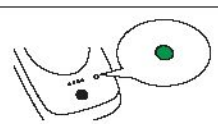
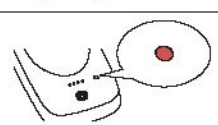
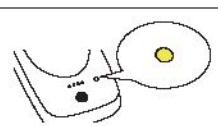
2.4 Indicator Llight Instructions

Indicator light with color	Status or Meaning	Reference Color
Steady green	Device running normally or scanning distance is optimal.	
Flashing red	Device in abnormal state.	
Flashing yellow	Device in upgrade mode.	
Steady orange-red	Scanning distance too close.	
Steady orange	Scanning distance relatively close.	
Steady light blue	Scanning distance relatively far.	
Steady dark blue	Scanning distance is too far	

*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 restore the scanning stitching relationship.

*When the device is in standby mode, the indicator light will enter a breathing state to save power.

2.5 Wireless Scanning Charging Handle Indicator Light Description

Battery Indicator	Wireless Scanning Charging Handle Feedback
	All 4 lights on indicate 75%-100% power.
	3 lights on indicate 50%-74% power.
	2 lights on indicate 15%-49% power.
	1 light on indicates <15% power, please charge soon.
WiFi Status Indicator	**Indicator Light Feedback**
	Steady blue light during startup, flashing blue when the device is ready.
	Steady green light when WiFi successfully connects with software.
	Steady red light when WiFi or upgrade fails.
	Steady yellow light during OTA upgrade.

3. Wireless Scan Handle Product Parameters

Product Name	Scan Bridge
Scanner Compatibility	CR-Scan Otter, CR-Scan Raptor, Creality RaptorX
WiFi Protocols	WiFi6, backward compatible
Frequency band	5GHz
Transfer rate	Parallel line 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 port	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	193.7 mm x 119.8 mm x 81.7 mm
weight	444g
Operating temperature	-10℃ to 40℃
Operating humidity	0-90%RH

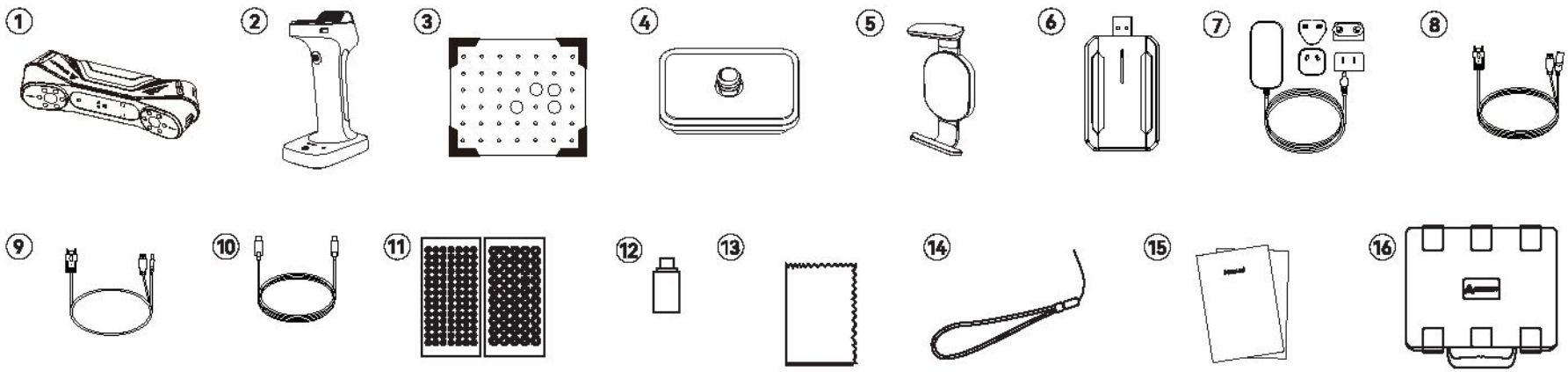
4. 3D Scanner Product Parameters

Creality RaptorX			
Scanning Mode	7 blue parallel laser lines	34 blue laser lines (cross)	NIR（Infrared binocular structured light）
Accuracy	Up to 0.02mm		Up to 0.05mm
Volume Accuracy	0.02mm+0.06mm/m		0.05mm+0.1mm/m
Scanning Rate	420,000 measurements/s	1,020,000 measurements/s	3,580,000 measurements/s
3D Resolution	0.02-2mm		0.1-2mm
Scanning Speed	Up to 60fps		Up to 20fps
Minimum Scanning Volume	5mm x 5mm x 5mm		150mm x 150mm x 150mm
Single Capture Range	270mmx170mm@300mm	270mm x 170mm@300mm 341mm x 232mm@400mm 397mm x 290mm@500mm 452mm x 348mm@600mm	630mm×550mm@1000mm
Working Distance	150mm-400mm	200-600mm	170mm-1200mm

Color Mapping	Support		
Alignment Mode	Marker		Marker / geometry / texture
3D Imaging Camera Resolution	1920x1200		
RGB Color Supplemental Light	12 white LEDs		
Outdoor Scanning	Below 50,000 lux	Below 100,000 lux	Below 30,000
Marker Recognition Enhancement	12 blue LEDs		
Laser Safety	Class I(eye safe)	Class II (eye safe)	Class I(eye safe)
Button	Mechanical		
IMU	Support		
Output Format	OBJ/STL/PLY		
Input Power	12V 2A		

Data Interface	TypeC/USB3.0
Device Dimensions	215mmx50mmx74mm
Device Weight	405g
Calibration Board	High-precision glass calibration board
Wireless Scanning	Support
System Support	Windows/macOS
Operating Temperature	-10°C to 40°C
Operating Humidity	0-90%RH
[1] Accuracy is evaluated in laboratory conditions and actual results may be affected by operating environments such as temperature, vibration, and other factors.	

3. PACKING LIST

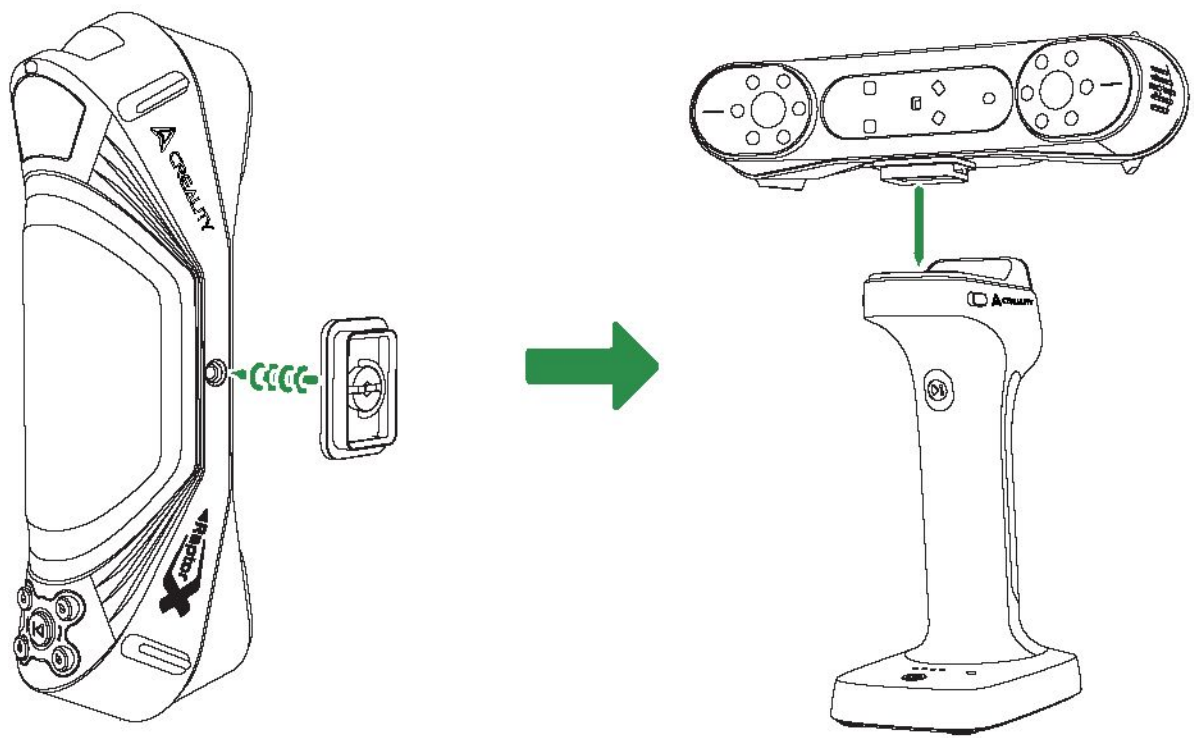


1. Creality RaptorX 3D Scanner	9. Scan Bridge Data Cable
2. Scan Bridge Wireless Scanning Charging Handle	10. Fast charging data cable
3. High Precision Glass Calibration Plate	11. Reflective marking points (D6mm*40 sheets, D3mm*40 sheets)
4. Hand-tightening quick-release card	12. Type-C Adapter
5. Magnetic phone holder	13. Cleaning cloth
6. WIFI 6 USB Wireless adapter	14. Lanyard
7. Adapter + adapter	15. Quick Operation Guide Certificate & Warranty Card
8. USB 3.0 data cable (Type-C/Type-A)	16. Safety Box

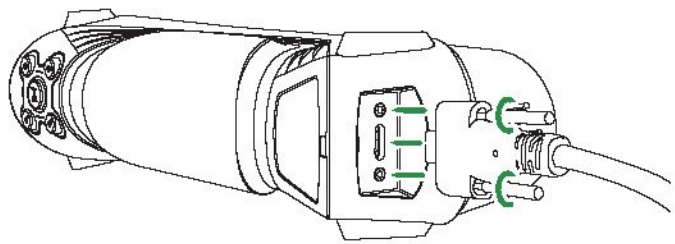
4. DEVICE CONNECTION

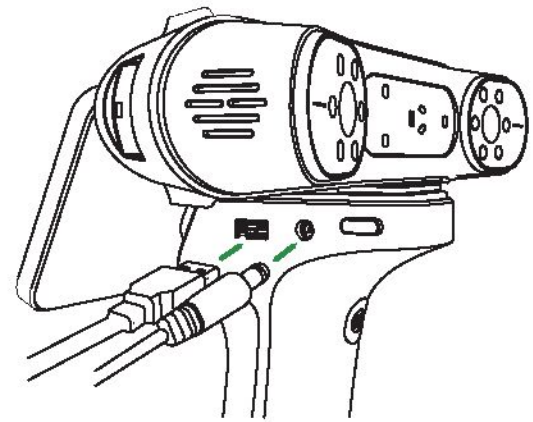
4.1 Wireless Scan Connection

1、Install the RaptorX scanner onto the wireless scanning and charging handle as shown in the diagram.

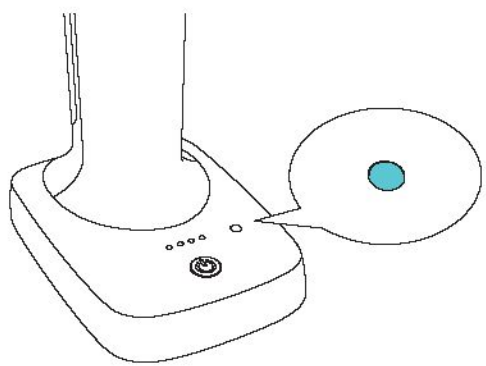


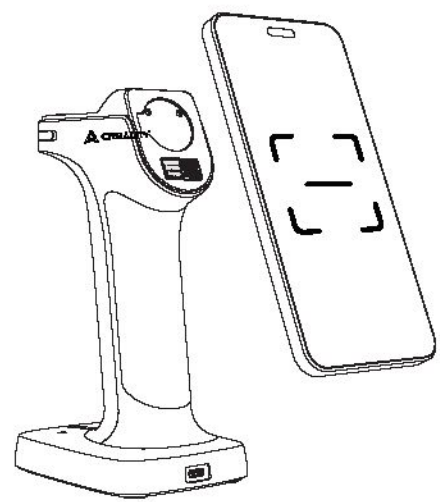
2、Connect the USB 3.0 data cable to the 3D scanner and the wireless scanning charging handle as shown in the figure.



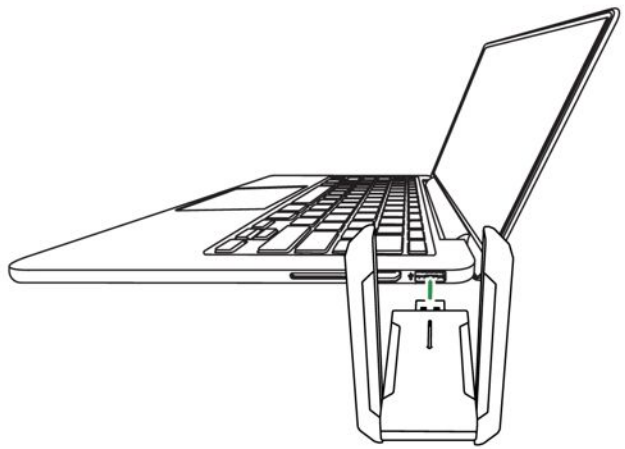


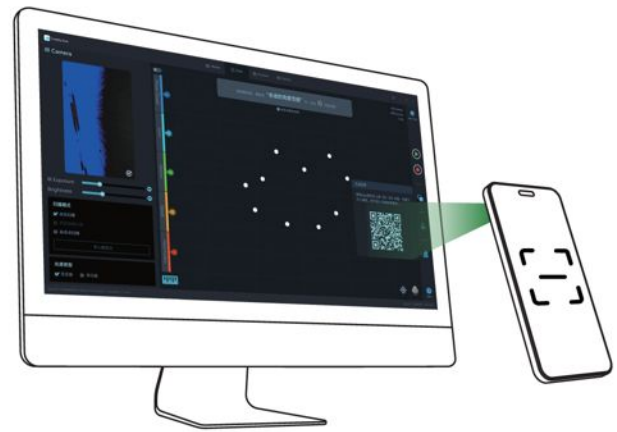
3、Short press the power switch. When the WiFi status indicator turns blue and flashes, it means that WiFi is ready. Use your mobile phone to scan the wireless QR code to connect to WiFi，clip the magnetic mobile phone clip on the mobile phone and then fix it on the wireless scanning charging handle, as shown in the figure.





4、 Insert the wireless network card into the USB 3.0 port of the computer, connect the wireless network card to the wireless network of Scan Bridge, open the Creality Scan software on the computer , select Wireless Screen Mirroring in the function bar on the right side of the software, and scan the Wireless Screen Mirroring QR code with your mobile phone to ensure that the software screen on the computer can be synchronized to the mobile phone, as shown in the figure .





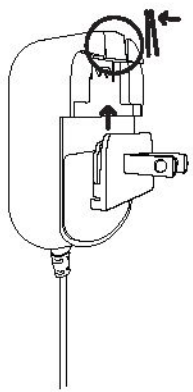
5、Clip the magnetic phone holder onto the phone and then fix it on the wireless scanning charging handle to perform wireless scanning, as shown in the figure.





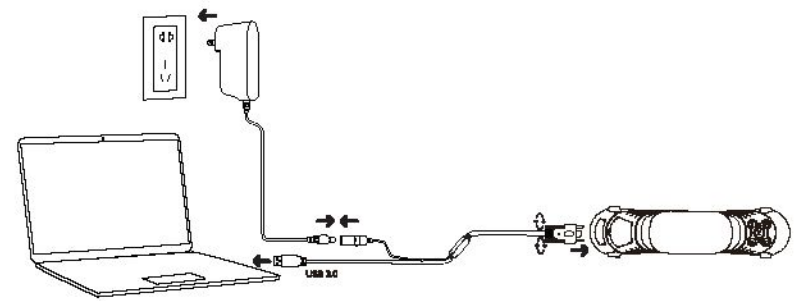
4.2 Wired Scan Connection

1、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 shown in the figure below.



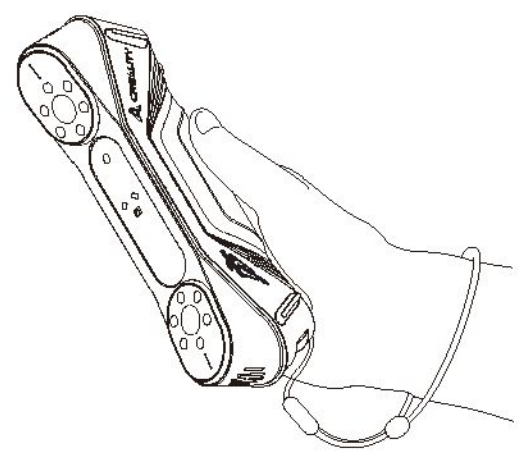
2、Device connection

(1) Insert the Type-C port of the data cable into the device and tighten the screws.
(2) Connect the DC power cable female end of the data cable to the DC male end 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 shown in the figure below



3、Use precautions

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



5. CREALITY SCAN SOFTWARE SYSTEM OPERATION

5.1 Creality Scan Software System Requirements

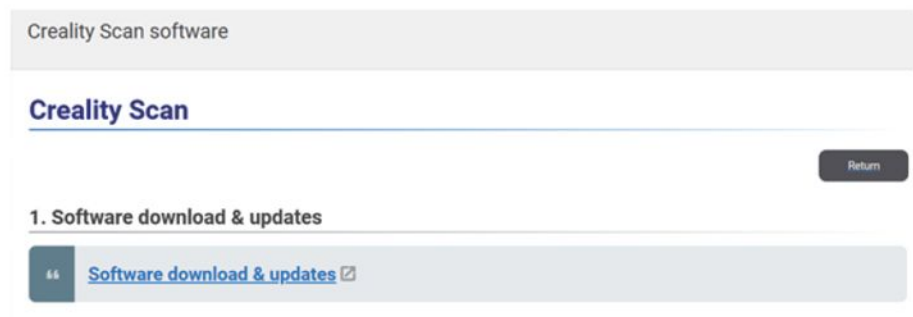
System requirements		
	It is recommended to use a computer with the following configuration or higher: i7-Gen7 CPU, Nvidia graphics card (6GB video memory), 16GB memory Windows 10/11 (64bit) Software version: V3.3.0 or above	 Software Icon
	It is recommended to use M1/M2/M3 series processors and 16GB memory Software version: V3.3.0 or above	

5.2 Creality Scan software download and installation

Creality Scanner software download address: https://wiki.creality.com/en/software

Go to the official Creality Wiki software download page, click Creality Scan software, find the appropriate software version to download

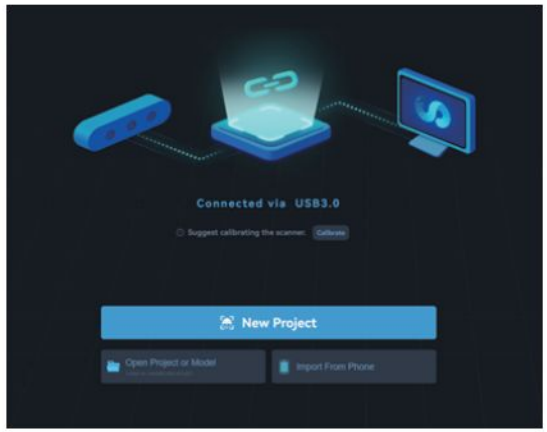
Note: After you have completed the software installation on your MAC, please authorize the Creative 3D Scanner to read and write files so that you can optimize the point cloud and generate a model when using the software.



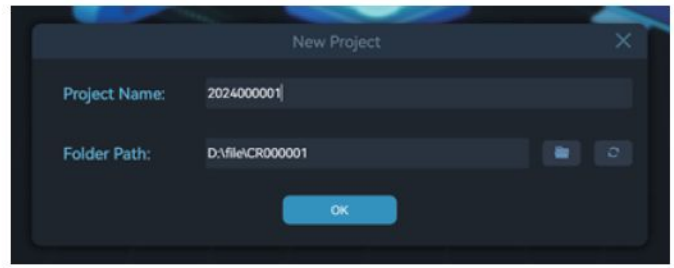
6. FIRST SCANNING

(1) Connect the device and open the installed Creality Scan software.

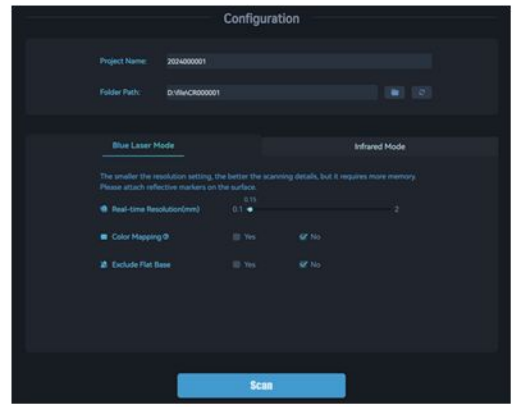
(2) Click [New Project] in the Creality Scan software, as shown below:



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



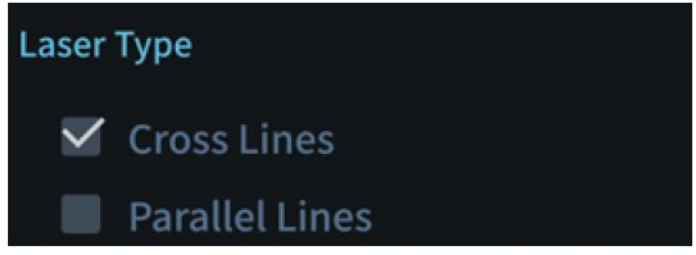
(4) Enter "Model name", select "Folder path", and select the scanning mode and related configuration items according to the characteristics of the scan object. Finally, click the [Scan] button to enter the scan preview interface, as shown below



7. SCANNING STEPS

7.1 Scan mode selection

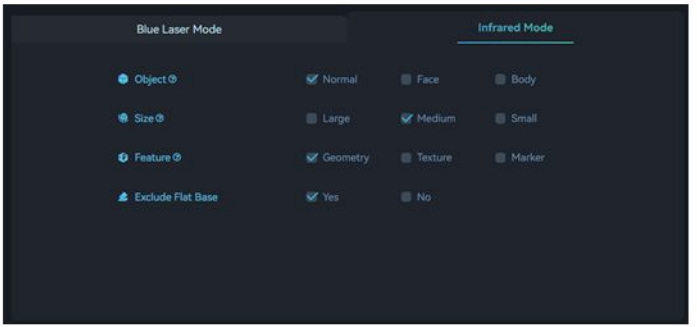
1、If you need to scan the object with high precision and detail, please select the "Parallel Lines" mode in the " Laser Mode". In this case, you will need the assistance of marker points. If the object is small, you can stick the reflective marker on the table. You don't need to stick the marker on the surface of the object. If you want to scan the other side of the object, please use the multi-project stitching function of Creality Scan software to stitch the point clouds of multiple scans into a complete model. If the object is large, you need to stick the marker on the surface of the object.
If the object is large, you can select the "cross line" mode in the " laser mode". At this time, you need the assistance of marking points to perform high-speed scanning.
When scanning in laser mode, you need to select an appropriate dot pitch. The smaller the dot pitch, the finer the scanned model will be, but it will consume more memory and may also affect the scanning frame rate.



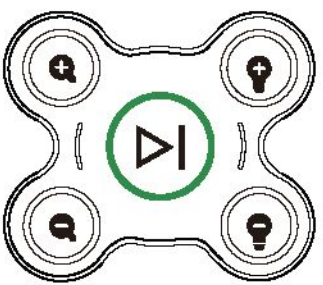
2、Blue laser mode will result in higher resolution than selecting "Color".
Infrared mode can be used to scan targets such as faces and bodies without the need to attach markers. Infrared scanning also supports texture mode and marker mode scanning.
For more information about Creality RaptorX,
please visit: https://wiki.creality.com/en/3d-scanner
blue laser mode is as follows:

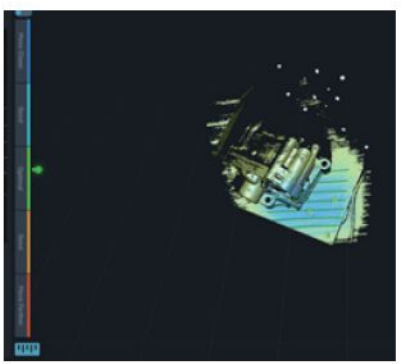


The reference configuration for infrared mode is as follows:

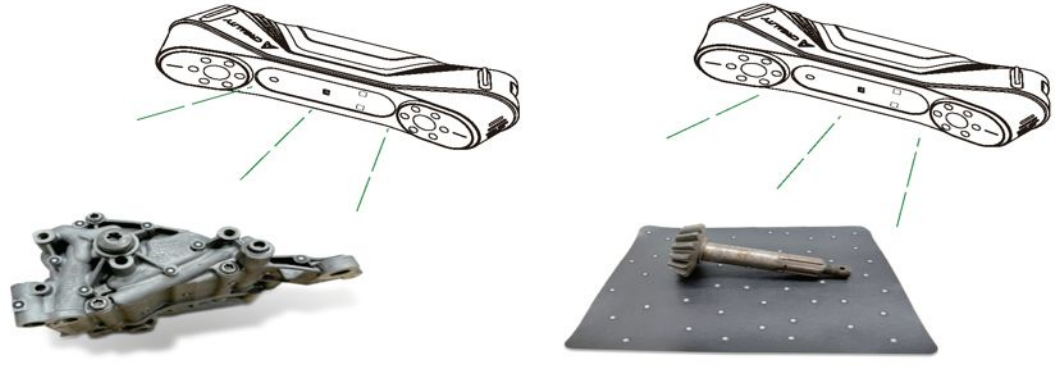


3、Adjust the scanner and the scanned test piece to a suitable distance, that is, when the scanner indicator light is green (as shown in the right figure), or the distance indicator bar on the software interface is at the best, it means that it is at the best scanning distance.





4、Short press the "Scan" button on the wireless scanning and charging handle, or short press the button on the scanner ⏯, or click ▶ the button on the software interface, and keep the scanner pointed at the object to start scanning.



5、Use the scanner to perform a 360° scan of the object to be scanned. When the scan is completed, press and hold the "Scan" button on the wireless scanning charging handle for ≥ 3S, or press and hold for more than 3S on the scanner ⏯, or click on the software interface ■ to complete the scan. Perform post-processing in the Creality Scan software to obtain a complete 3D model Please set the appropriate dot pitch). The effect is as shown on the right:



Note: The above button operations can also be performed in Creality Scan software. For specific software operations, please visit:
https://wiki.creality.com/3d-scanner

8. FAQs

1、How to get better model details?
①The parallel line mode is more precise than the infrared mode;
② During the scanning process, adjust the exposure time of the IR camera to ensure moderate exposure; in parallel line mode, the laser intensity also needs to be adjusted;
③ Try to maintain the best distance;
④ When optimizing the point cloud, you need to set a smaller point distance; when the object size is small, the point distance can be set to 0.1mm (note that the smaller the point distance, the more memory and processing time will be consumed);
⑤ When constructing the mesh, the number of facets of the model should be set large enough.
For more scanning tips, please visit: https://wiki.creality.com/3d-scanner

2、How do I scan the bottom of an object?
① Creality Scan software provides the function of multi-project splicing, which can obtain a complete model of the object through multiple scanning and splicing;
② First scan the visible part to get a partial model, then flip the object over and continue scanning through repositioning to get the complete model (this method is only applicable when the marking points are attached to the surface of the object) .
scanning through repositioning to get the complete model (this method is only applicable when the marking points are attached to the surface of the object) .

3、How to charge the wireless controller?
When only one of the power indicator lights on the wireless controller is on, please charge it in time. For charging, please bring your own charging head for existing electronic products on the market, connect it to the fast charging data cable, and plug it into the type-c port at the rear end of the controller base to charge. When all four lights are not flashing, it means it is fully charged. Under normal circumstances, a 20V-1.5A (30W) charging head can be fully charged in only 2.5 hours, and the charging time of other charging heads varies according to the power.

4、When do you need to use the marker mode?
Parallel line mode and cross line mode require reflective marking points;
Infrared mode: When the geometric features of the object surface are not rich, you can stick reflective markers on the surface of the object and scan it in marker mode.

5、When can texture mode be used?
When the surface geometric features of an object are not rich but the texture is very rich (such as a vase), you can scan it directly using the texture mode.

6、When is calibration required?
when the device is not used for a long period of time (such as a week) or when it experiences a collision.
When high scanning accuracy is required, please calibrate before scanning.

7、Can I use the calibration plate from other scanner models?
The calibration plate of other scanner models cannot be used. Each time you calibrate, you need to scan the QR code on the back of the calibration plate first, otherwise the calibration accuracy will be affected. Please keep the calibration plate properly.

8、What precautions should be taken when storing calibration plates?
After each use, please carefully put the calibration plate back into the bag and keep it properly. Do not contaminate, scratch, or squeeze the calibration plate with heavy objects to avoid loss or damage of the calibration plate.

9、How to perform calibration?
Enter the [Quick Calibration] interface in the Creality Scan software and follow the animation prompts to calibrate.

9. TROUBLESHOOTING

● **What to do if the system cannot recognize the scanner:**
Confirm that the device cables are properly connected
If the device is connected correctly, try to reconnect the power cord to see if the scanner can be reconnected.
If it is still not connected, please connect the USB cable of the device first, then plug in the power cord
The Win computer cannot connect to the scanner;
If you are using a desktop computer, it is recommended to connect to the USB 3.0 port on the back of the host;
Confirm that you are using Windows 10/11 64bit system;
The installation path of the scanner software Creality Scan must be in an all-English path.
● **What to do if you can't see the preview video stream in the application on Windows system?**
Check whether the computer configuration meets the minimum configuration requirements of the scanner;
Check that the device is powered using the adapter that comes with the package and make sure it is connected properly;
Creality RaptorX ...* related camera in "Cameras" ;
Open Windows Settings - Privacy - Camera, confirm whether the system camera permission is turned on, and confirm whether the desktop application has permission to access the camera.
● **What should I do if I can't see the preview video on the Mac application?**
Check whether the computer configuration meets the minimum configuration requirements of the scanner;
Check that the device is powered using the adapter that comes with the package and make sure it is connected properly;
The scanner is updated to the latest firmware version;
Use a separate USB Type A to Thunderbolt or USB3 adapter. Try not to use a multi-function, multi-device USB C adapter.
Install CrealityScan directly in the App directory. Do not install it in a subdirectory under the App directory.
● **In Windows system, what should I do if the USB3.0 interface is recognized as USB2.0?**
You can try to quickly reinsert the USB cable, or connect the USB cable to the USB 3.0 port on the PC first, and then connect it to the USB type-C port on the scanner.
For more questions, please refer to the creality wiki :https://wiki.creality.com/3d-scanner

Information for CE-RED
Supports Wi-Fi functionality, enabled by default upon startup.
Port 22 is open by default for SSH service.
Port 53 is open by default for DNS service.
Ports 80 and 3517 are open by default for LuCi service.
Port 8090 is open by default for command transmission service.
Ports 8556/8557/8888/8900 are open by default for image data transmission service.
Scanner equipped with multiple cameras. When using the cameras, your images will be collected and used.

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Análisis, información compartida y localización de fallos

Creality wiki
La guía paso a paso para ayudarle a empezar

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