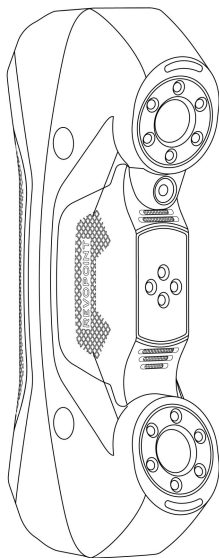


MetroY Series 3D Scanner

Quick Start Guide

V1.2



Thank you for choosing a Revopoint 3D scanner! Please carefully read this Quick Start Guide before your first scan.

Begin by downloading the **Revo Metro** software for your PC from the Support - Download section on Revopoint's website at global.revopoint3d.com for your MetroY Series 3D Scanner.

Go to the bottom of the Download page to get the latest Quick Start Guide.

Visit Revopedia for more details on our products and usage.

Follow our YouTube account, Revopoint 3D, for tutorial videos.

This content is subject to change. Please refer to the latest version.



Please keep the scanner away from water and other liquids, and avoid dropping or hitting it. This product's operating environment temperature range is 0°C to 40°C (32°F to 104°F). Please use the product only within this range.

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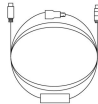
What's in the Box

1



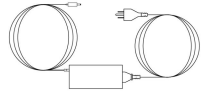
MetroY 3D Scanner

2



USB Type-C to
Type-C Cable

3



Power Adapter

4



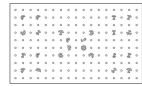
Markers x 200

5



Carrying Case

6



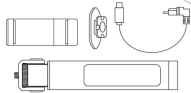
Calibration Board

7



Quick Start Guide
Certificate & Warranty

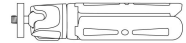
8



Mobile Kit (3rd Gen)

MetroY
Pro

9



Tripod

MetroY
Pro

10



Dual-axis Turntable

MetroY
Pro

11



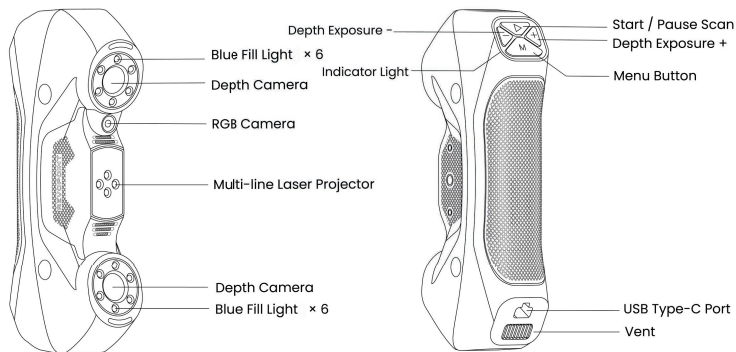
Sample Bust

MetroY
Pro

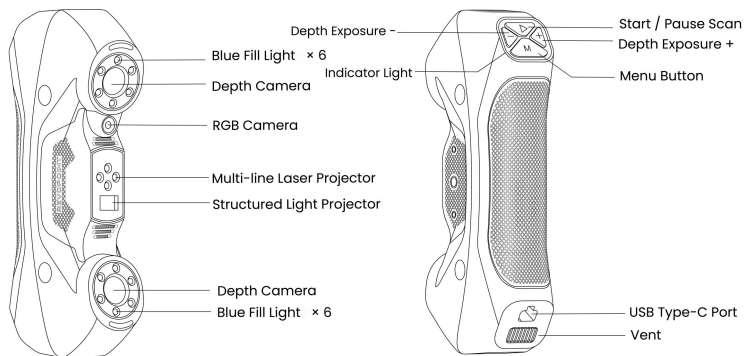
Note: The appearance of the scanner varies slightly depending on the model.
The Power Adapter may vary depending on the country or region.

Product Profile

MetroY:







MetroY Pro:



Indicator Light States

Green - Single flash	Power on
Red - Flashing	Powering up
Green - Solid	Powered
Green - Flashing	Operating normally

Button Functions

	Start/Pause
	Increase depth camera exposure
	Decrease depth camera exposure
	Zoom in/Zoom out central preview window or Custom settings

System Requirements

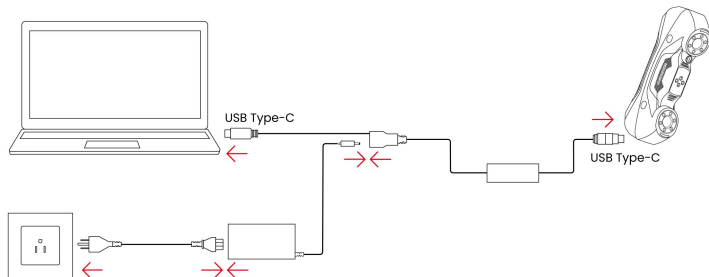
Before your first scan, please download the Revo Metro software from Revopoint's website at global.revopoint3d.com. The system requirements are as follows:

Minimum PC Requirements	
<p>Windows System Version: Windows 10/11 (64-bit) RAM: ≥ 32 GB CPU: Intel i7 13th Gen or AMD Ryzen 7 5800 GPU: NVIDIA GeForce RTX 3060 (8 GB)</p>	<p>macOS System Version: macOS 11.0 or better RAM: ≥ 18 GB CPU: M3 Pro/M4</p>
Recommended PC Requirements	
<p>Windows System Version: Windows 10/11 (64-bit) RAM: ≥ 64 GB CPU: Intel i9 12th Gen or better GPU: NVIDIA RTX 4060 (8 GB) or better</p>	<p>macOS System Version: macOS 11.0 or better RAM: ≥ 24 GB CPU: M4 Pro or better</p>

Note: If you're unsure about the CPU configuration, please ensure that the CPU has cores ≥ 8, threads ≥ 16, and a base frequency ≥ 2.4GHz. Please ensure the USB port on your PC is USB 3.0 or above. Only in Laser Line Scanning modes, a dedicated graphics card is required for acceleration. AMD and MAC GPUs do not currently support acceleration.

Scanner Connection

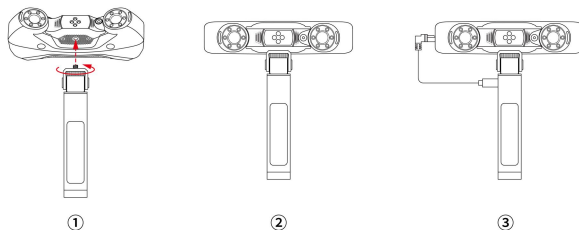
Wired Connection



As shown in the above diagram, power the scanner and connect it to the PC's USB 3.0 port.

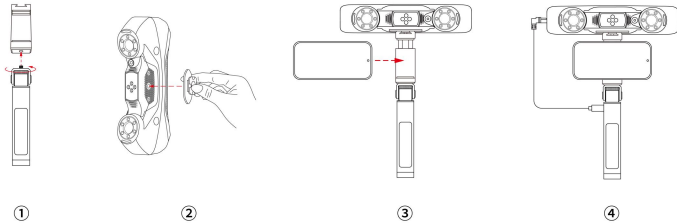
Note: The two ends of the USB cable must not be used interchangeably. Follow the labels on the connectors to ensure correct connection between the scanner and the computer. If the connection fails or the frame rate drops below 10 fps, disconnect from the PC while leaving the power on, then reconnect the connector.

Wireless Connection



1. Follow steps ① and ② to align the screw on the battery grip with the threaded hole on the scanner's side, then turn the wheel to secure it.
2. According to step ③, connect the battery grip to the scanner using the power cable from the Mobile Kit for power supply.
3. Find and connect to the Wi-Fi network "METROY-REVO-XXXXXXX" (no password required) on your PC. Open Revo Metro, wait for the scanner to connect, then start scanning.

MetroY / MetroY Pro also supports wireless casting to a phone via Revo Mirror:



1. Following steps ①, ②, and ③, mount the Mobile Kit (phone holder, battery grip, quick-release plate) onto the scanner.
2. According to step ④, connect the battery grip to the scanner using the power cable from the Mobile Kit for power supply.
3. Download the Revo Mirror software for both your PC and phone from the Support - Download section on Revopoint's website.
4. After connecting both PC and phone to the "METROY-REVO-XXXXXXXX" Wi-Fi, open Revo Metro on the computer, wait for the scanner to connect and reach the scanning page, then click the casting button.
5. Tap the detected device to be mirrored in the mobile Revo Mirror app.
6. Follow the prompt on the PC to enter the PIN code to complete the initial pairing. Then, click "Enter Screen Mirror Mode" to control the scanning process.

Note: Mobile Kit can be purchased from Revopoint's online stores.

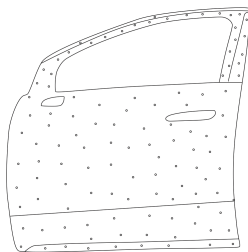
Scanning Modes Introduction

- ① **Cross-Lines:** Captures shiny metals and black objects. It's more efficient than Parallel Lines mode.
- ② **Parallel-Lines:** Captures fine and complex details at a lower speed.
- ③ **Single-Line:** Performs accurate scans of localized deep holes, grooves, and narrow areas using marker tracking.
- ④ **Full-field (Only MetroY Pro):** Rapidly capture feature-rich objects.
- ⑤ **Auto Turntable (Only MetroY Pro):** The turntable, scanner, and Revo Metro work together to automatically scan an object in single-shot mode, streamlining the process and creating detailed, color-accurate 3D model if needed.

Scanning Tips

- ① Operate the scanner at room temperature around 20°C (68°F). Warm up the device for 10 minutes before calibration and use of the laser line mode to achieve optimal accuracy.
- ② Scan in a clean indoor environment and ensure that there are no other objects within the scanner's field of view.

- ③ When using Marker Scan, place markers irregularly on the object, ensuring at least 5 markers can be detected in a frame. **For best accuracy, attach markers to flat surfaces and avoid soft pads or cloths.**



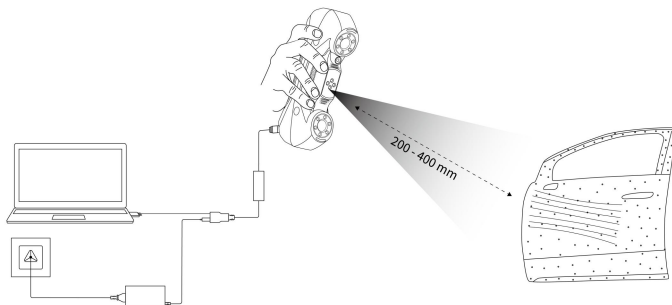
- ④ MetroY uses a Class 1 laser projector, while MetroY Pro uses a Class 2M. Avoid looking directly at the laser or using magnifying tools like telescopes or cameras, as it can damage your retina. Keep reflective surfaces such as mirrors away from the beam's path.

⑤ **Instructions for Using Scanning Spray**

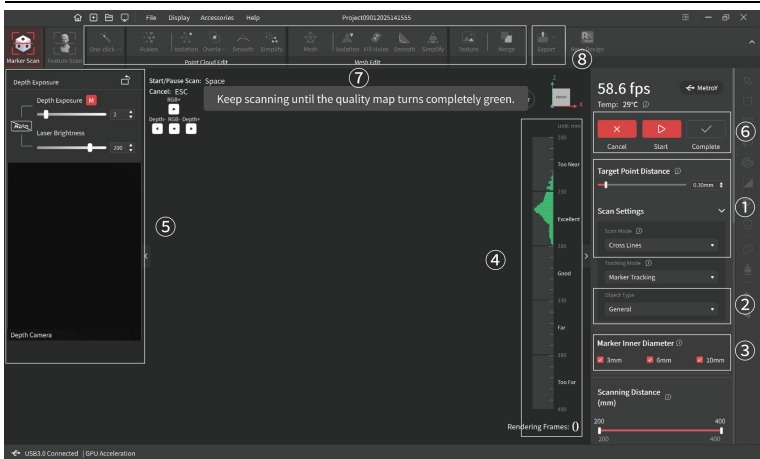
- For transparent or highly reflective objects (e.g., glass, stainless steel, electroplated surfaces), both line laser and structured light scanning require scanning spray.
- For dark reflective or metallic reflective surfaces (e.g., black paint, machined aluminum alloy), line laser scanning can be performed without spray, but Full-field scanning and Auto Turntable scanning require scanning spray.

| Your First Scan

E.g., Handheld Scanning



After the scanner is connected, click the **New Project** button on Revo Metro's Home page to enter the Marker Scan interface, then set parameters and start your scan using the following steps:



※ Please refer to the actual interface in Revo Metro.

- ① Choose scanning mode based on your needs. For laser line scanning, set the target point distance before scanning.
Note: Increasing point distance speeds up scanning, decreasing it enhances detail but slows the process.
- ② Choose Object Type according to your requirements.
- ③ Select the inner diameter of the markers currently in use to enhance scanning accuracy.
Note: Only Revopoint standard marker sizes are supported.
- ④ Move the scanner closer or further away from the object until the scanning distance indicator bar shows **Excellent** or **Good**.
- ⑤ Click the Auto button to automatically set the Depth Cameras' exposure, or turn off the Auto exposure and adjust the slider until there are as few blue and red areas on the object in the Depth Camera preview window as possible and the entire object appears gray.
- ⑥ Click the button to begin your scan. During the scan, aim the scanner at the object, move it slowly and steadily around the object, and keep the distance between the scanner and the object at 250 - 350 mm. In Revo Metro, refer to the distance indicator bar to ensure an excellent distance. Click the button to pause and check your model anytime during your scan. If the model is incomplete, click the button to continue your scan. Click the button to finish the scan when the model is complete.
Note: When scanning with laser line modes, the model's color will gradually change. Blue indicates higher quality, so it's best to scan the same areas from different angles and finish when the model is mostly blue.
- ⑦ Click **One-click Edit** to process the model automatically, or manually edit using Fusion, Mesh settings, and other tools for a more detailed model. When manually processing point cloud fusion, it is suggested to use the system's recommended point distance. Minimal point distances increase calculation time. See Revo Metro's Learning page User Manual for details.
- ⑧ After post-processing, export the model in formats such as PLY, OBJ, or STL.

Scanner Calibration

Recalibrate the scanner via Revo Metro's home page using the Calibration program to maintain accuracy. The scanner was professionally calibrated at the factory. **Before scanning, check accuracy through the calibration program and recalibrate as instructed if needed.**

Ensure the computer is plugged in during calibration. You can calibrate the scanner as follows:

- ① Download the latest version of Revo Metro from the Support - Download section on Revopoint's website at global.revopoint3d.com and open it.
- ② Power the scanner and connect it to a USB 3.0 port on a PC using the provided USB Type-C to Type-C Cable and power adapter.
- ③ When the software shows Scanner Connected, click [Scanner Calibration] on the bottom left of Revo Metro's Home page to start calibration.
- ④ Complete the accuracy check and calibration following the on-screen instructions.

Laser Specifications

① MetroY:

MetroY complies with IEC 60825-1:2014.

It is classified as a CLASS 1 LASER PRODUCT (450 nm, maximum output power < 0.39 mW)



② MetroY Pro:

MetroY Pro complies with IEC 60825-1:2014.

It is classified as a CLASS 2M LASER PRODUCT (450 nm, maximum output power < 1mW)



Specifications

Name	MetroY	MetroY Pro
Scanning Type	Handheld	Handheld and Desktop
Technology	Multi-line Laser Scan	Multi-line Laser Scan and Full-field Structured Light Scan
Scannable Object Size	Small to Medium	Small to Medium
Single-frame Precision, up to	0.01 mm	0.01 mm
Single-frame Accuracy, up to	0.02 mm	0.02 mm
Volumetric Accuracy	0.02 mm + 0.04 mm × L (m), L is the length of the object.	0.02 mm + 0.04 mm × L (m), L is the length of the object.
Fused Point Distance, up to	0.05 mm	0.05 mm
Working Distance	200 ~ 400 mm	200 ~ 400 mm
Single Capture Area at Nearest Distance	123 × 130 mm at 200 mm	152 × 138 mm at 200 mm
Single Capture Area at Furthest Distance	290 × 260 mm at 400 mm	332 × 276 mm at 400 mm
Angular Field of View (H x V)	43 × 33°	49 × 38°
Minimum Scan Volume	10 × 10 × 10 mm	10 × 10 × 10 mm
Maximum Scan Volume	1 × 1 × 1 m	1 × 1 × 1 m
Scanning Speed, up to	Multi-line Laser Scan: 1,500,000 Points/s	Multi-line Laser Scan: 2,000,000 Points/s Full-field Structured Light Scan: 7,000,000 Points/s
RGB Camera Resolution	2 Megapixels	2 Megapixels
Color Scanning	Yes	Yes
Tracking Methods	Marker, Global Marker	Marker, Global Marker, Feature

MetroY Series 3D Scanner Quick Start Guide

Outdoor Scanning	No	No
3D Light Source	30 Blue Cross Laser Lines 15 Blue Parallel Laser Lines Blue Single Laser Line	34 Blue Cross Laser Lines 15 Blue Parallel Laser Lines Blue Single Laser Line 62 Line Blue Full-field Structured Light
Fill Lights	12 Blue LEDs	12 Blue LEDs
CPU	4 core ARM, 2.0 GHz	4 core ARM, 2.0 GHz
Built in Chip Computing	Depth Computing	Depth Computing
Buttons	4	4
Output File Formats	PLY, OBJ, STL, ASC, 3MF, GLTF, FBX	PLY, OBJ, STL, ASC, 3MF, GLTF, FBX
Ready to Print 3D Models	✓	✓
Wi-Fi	6	6
Connector Type	USB Type-C to Type-C	USB Type-C to Type-C
Power Requirements	DC 12V, 3A	DC 12V, 3A
Scanner Weight	447 g	450 g
Dimensions (L x W x H)	211 × 94 × 47 mm	211 × 94 × 47 mm
User Recalibration	Yes	Yes
Supported Accessories	Marker Block Kit, Mobile Kit (3rd Gen)	Marker Block Kit, Mobile Kit (3rd Gen), Dual-axis Turntable

*The above information is for reference only. Please check the latest specifications on the Revopoint website.

IC Warning

This device complies with Industry Canada's 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.

This Class B digital apparatus complies with Canadian ICES-003.

IC RF Statement:

When using the product, maintain a distance of 20cm from the body to ensure compliance with RF exposure requirements.

FCC Warning

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.

Any Changes or modifications not expressly approved by the party responsible for compliance 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 to 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.

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment.

This equipment should be installed and operated with a minimum distance of 20cm between the radiator & your body.

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Scan the QR code with your
phone to contact us.