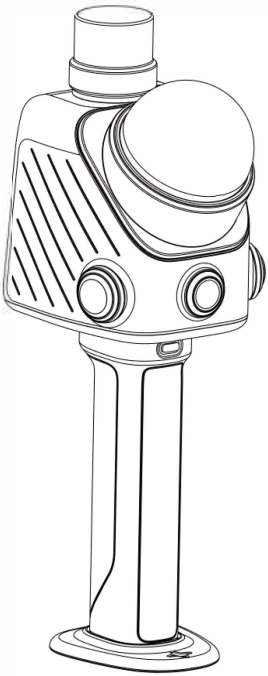
FJDTrion

DelGeo

ПОСТАВКА ГЕОДЕЗИЧЕСКОГО ОБОРУДОВАНИЯ



X1 scanner

User Manual

2026-9 | Rev. 1.0

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DelGeo

ПОСТАВКА ГЕОДЕЗИЧЕСКОГО ОБОРУДОВАНИЯ

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Revision history

Version	Date	Description
1.0	2026.09	Initial release

Important notice



Follow this manual and all accompanying instructions when operating the product.
Improper use may damage the device or reduce its performance. If you experience any problems during use, contact FJD Trion technical support.

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Preface

Thank you for choosing the FJD Trion X1 Scanner (hereinafter referred to as the X1). Read this manual carefully before use and follow all instructions to understand and operate the 3D laser scanner correctly.

Technical support

FJD Trion provides ongoing technical support and product upgrade services from the date of purchase.
Official website: https://www.fjdtrion.com/

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1 Safety precautions

1. The laser safety classification of this product complies with the following standards:

- GB/T 7247.1-2024
- IEC 60825-1:2014
- 21 CFR 1040.10 and 1040.11, except for conformance with IEC 60825-1 Ed. 3, as described in Laser Notice No. 56, dated May 8, 2019

2. Although the product is designed to meet Class 1 eye-safety requirements, never view the emitted laser through magnifying equipment, such as a microscope, head-mounted magnifier, or other optical aid.
3. To minimise the risk of eye exposure, do not look directly into the LiDAR sensor while the device is operating.
4. Do not block or interfere with the LiDAR sensor while it is operating.
5. Keep all cables securely connected during operation. Avoid frequent connection and disconnection.
6. Operate the product within its specified temperature range. Minimise operation at extreme temperatures, as this may reduce battery runtime and service life or create unforeseen risks.
7. The device contains sensitive electrical and mechanical components. Do not bend or pull the cables forcibly, and do not insert unrelated objects into any port.
8. Do not immerse the battery in water. Store it in a cool, dry place when not in use.
9. Do not use or store the battery near high-temperature heat sources, such as open flames or heaters.
10. Use only the supplied charger. Do not use a third-party charger.
11. Do not reverse the positive and negative battery terminals.
12. Do not connect the battery directly to a power outlet.
13. Do not connect the positive and negative battery terminals with metal objects, as this may cause a short circuit.
14. Recharge the battery at least once every three months to prevent over-discharge.
15. Do not disassemble the handle housing, solder directly onto the battery, or puncture the battery with sharp objects.
16. Charge the battery only at ambient temperatures from 0°C to 45°C. The permitted discharge temperature range is -20°C to 50°C when the battery is installed in the complete device.
17. Do not remove the battery while the device is operating.
18. Do not supply power directly through the data port.

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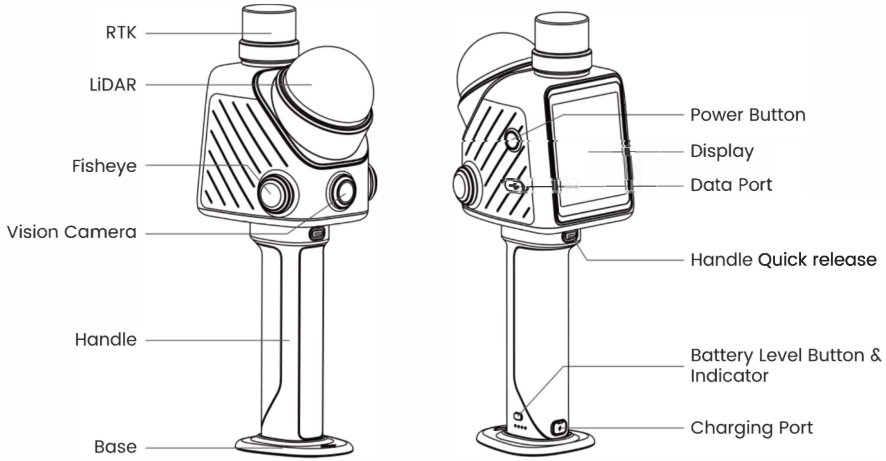
2 Product overview



Specifications			
Weight	1.3 kg (excluding accessories and optional base)	Dimensions (excluding battery)	114 × 152 × 329 mm
Accuracy	2-20 mm	Laser wavelength	905 nm
Scanning range	40 m (10% reflectivity) 70 m (80% reflectivity)	Laser class	Class 1 eye-safe
LiDAR field of view	360° × 62°	LiDAR sensors	1
Point cloud processing	Real-time	Point rate	384,000 points/s
Point cloud colour preview	Real-time preview on mobile device	Power supply	Battery or DC power
Power input	14.4 V, 5 A	Charge port	USB-C
Data transfer	USB 2.0	Power consumption	19 W
Operating time	2.5 h per battery	Wi-Fi	2.4 GHz

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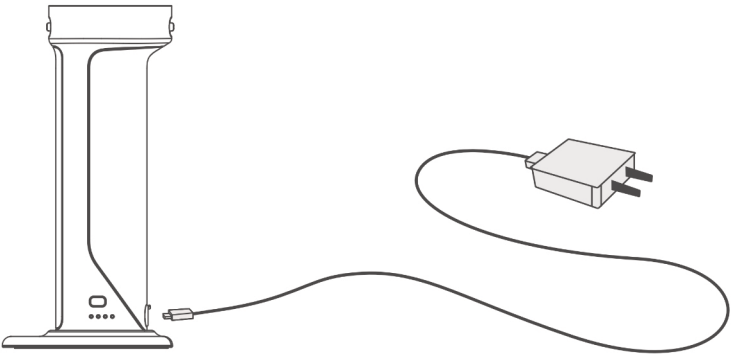
Specifications			
Operating temperature	-20°C to 50°C	Storage capacity	512 GB / 1 TB
Fisheye camera field of view	360° × 360°	Fisheye camera resolution	48 MP × 2
Visual camera field of view	80° × 44°	Visual camera resolution	1280 (H) × 1024 (V)
Point cloud colour processing	Real-time and post-processing	RTK integration	Real-time

3 Getting started

3.1 Assembly and connections

Step 1 - Charge the battery: Connect the battery to the charger. Fully charge the battery before first use.



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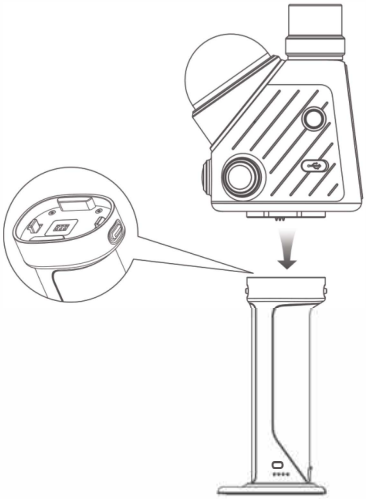
Step 2 - Install the battery: Align the battery with the connector on the main unit and insert it until securely seated.



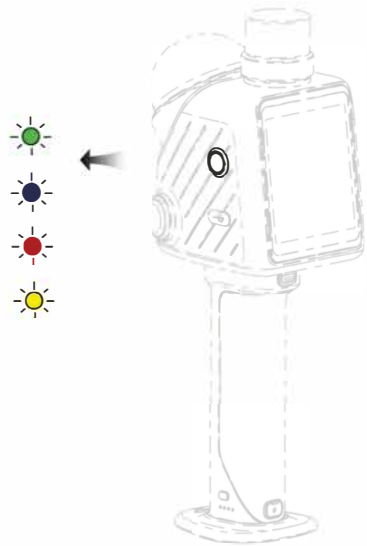


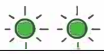
Illustration	Light pattern	Device status
	Green, slow flashing	Starting up
	Green, double flashing	Shutting down

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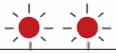
Illustration	Light pattern	Device status
	Green, solid	Standby in Wi-Fi STA mode
	Blue, solid	Standby in Wi-Fi AP mode
	Red, slow flashing	Data capture
	Yellow, fast flashing	Device fault
	Red, double flashing	High-temperature warning
	Blue, flashing	Scan initialisation, data saving, or Wi-Fi mode switching (STA/AP)

Function	Button action	Press duration (s)	Indicator sequence
Power on	Press and hold	0.2 < t < 1	Green, slow flashing → Green, solid
STA → AP	Press once, then press and hold	0.2–0.5 s → >1 s	Green, solid → Blue, flashing → Blue, solid
AP → STA	Press once, then press and hold	0.2–0.5 s → >1 s	Blue, solid → Green, solid
Start scanning	Press and hold	t = 1	Green (blue), solid → Blue, flashing → Red, slow flashing
Stop scanning	Press and hold	t = 1	Red, slow flashing → Blue, flashing → Green (blue), solid
Power off	Press and hold	3 < t < 5	Green (blue), solid → Green, double flashing → Off
Force shutdown	Press and hold	t > 8	Any state → Off

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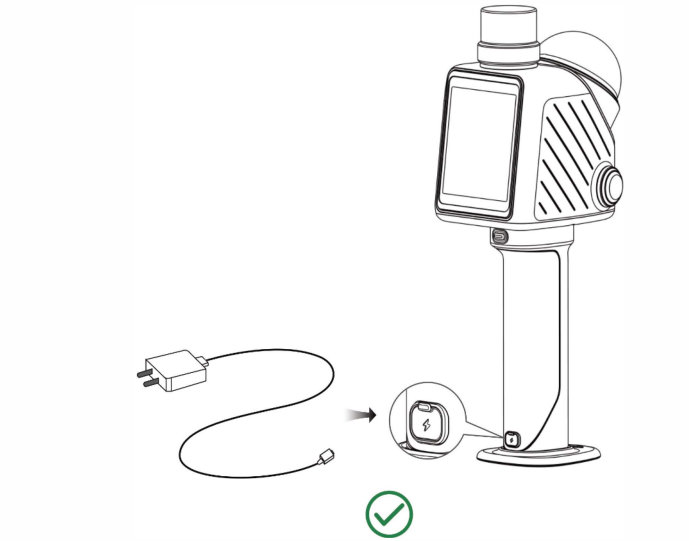
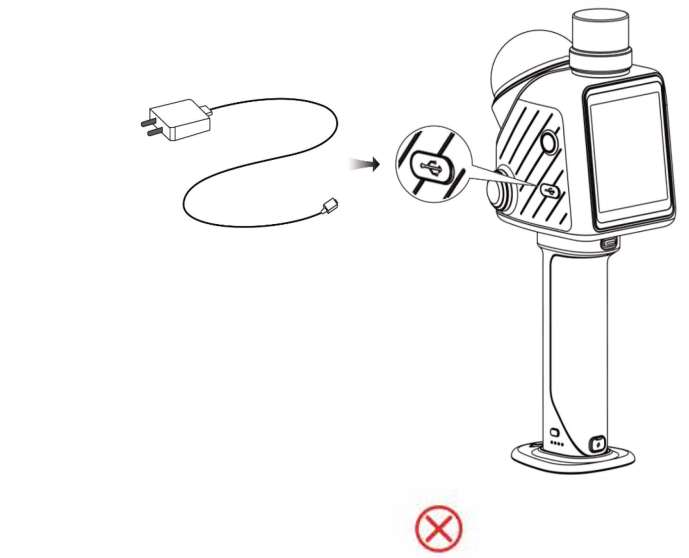
3.2 Charging the battery

- Charging the battery separately: Connect the supplied charger to thee USB-C port on the bottom of thehandle. Charging takes approximately 2 hours. Press the buttonbeside the battery indicators once to checkthe charge level; the number of illuminated indicators showss the remaining charge.
- Charging during operation: Connect the supplied charger tothe device charging port. The device cancontinue operating while it charges.





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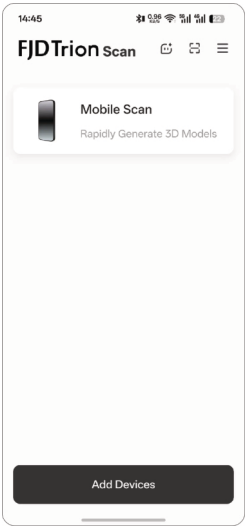
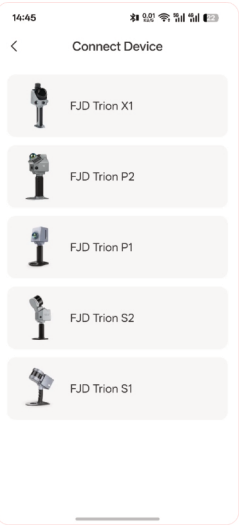
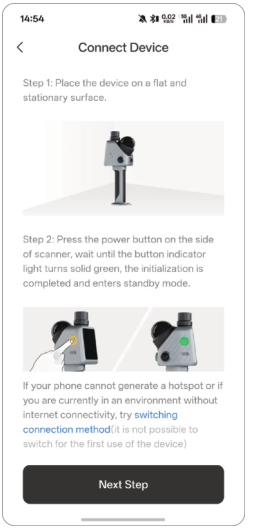
3.3 Connecting the device

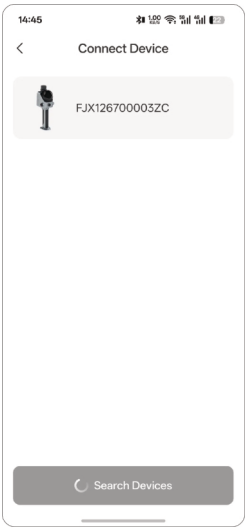
APP connected device:

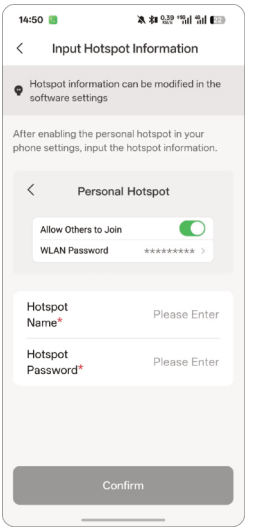
1. STA mode: Select Add Device → FJD Trion X1 →Next →Select the device with the matching serial number → Enter the name and password of the hotspot createdon the phone → Select Confirm. The appopens the operating screen automatically.













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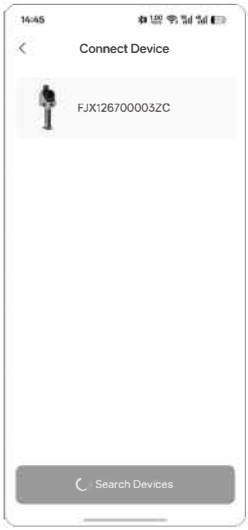
2. AP mode: Press once, then press and hold to switch Wi-Fi mode → Disable mobile data on the phone → Select Add Device → FJD Trion X1 → Next → Select the device with the matching serial number → Connect to the device Wi-Fi network → Open the phone's Wi-Fi settings → Enter the password fjdtrionx1 → Return to the app. The operating screen opens automatically.

AP mode web interface: Enter http://10.33.68.254 in the browser address bar.











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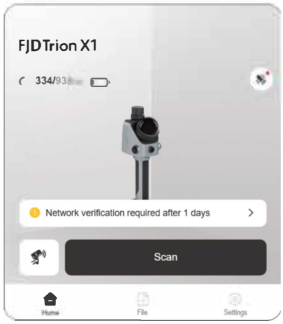
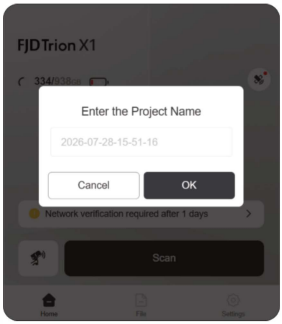
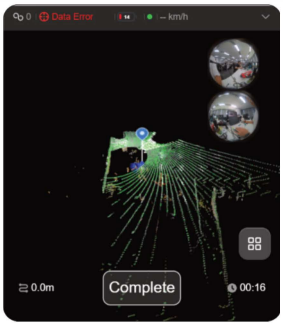
3.4 Data capture

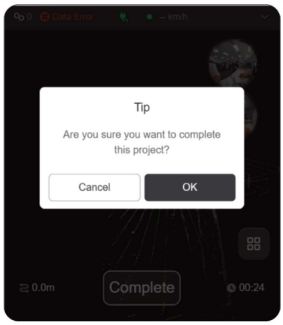
To capture data, select Start Scan → Enter a project name → Select Confirm → When scanning is complete, select Finish.

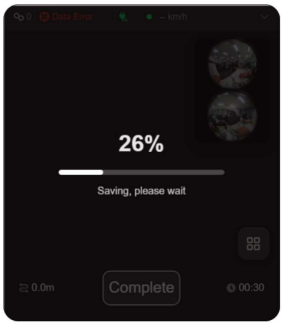












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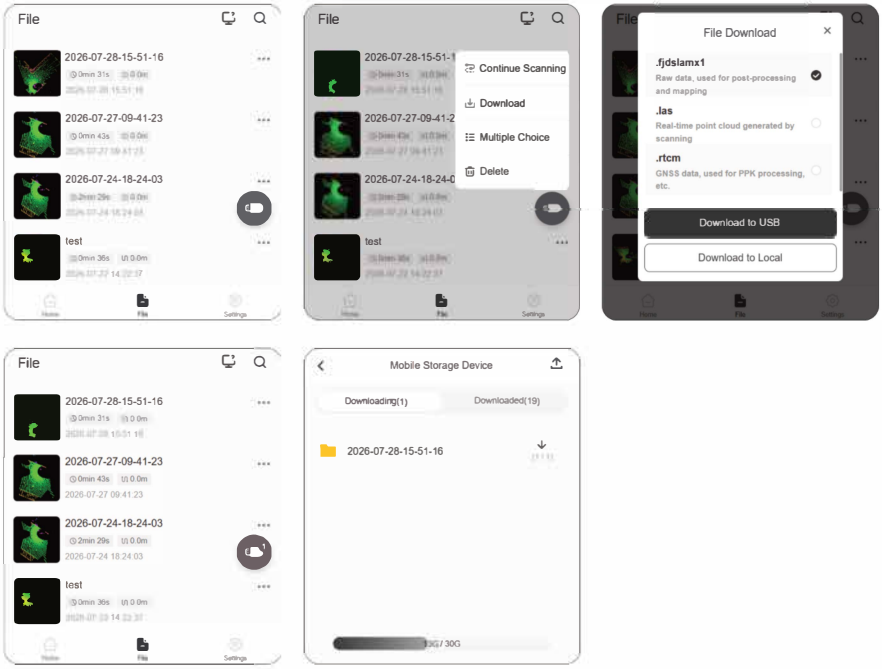
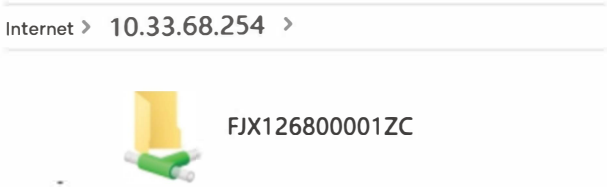
3.5 Data download

- Method 1 - USB drive: Insert a USB drive into the data port on the main unit → Select the required data → Select Download to USB Drive.



- Method 2 - Local network: Connect the PC to the Wi-Fi network created by the scanner, or connect the scanner to the PC with a USB-C data cable. Open File Explorer on the PC, enter \\10.33.68.254, and press Enter to open the shared drive named after the device serial number.



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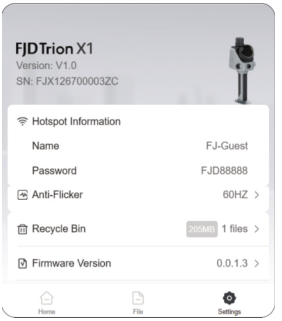
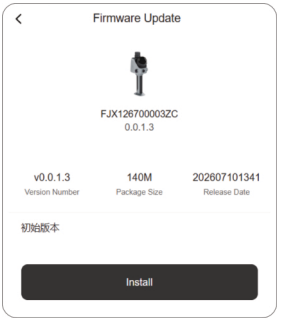
3.6 Firmware update

After connecting the device to the internet, open Settings and select Firmware Version. If a new version is available, the device displays a notification. Select Update Now to download the update package. When the download is complete, confirm the version number, file size, and date, then select Install. Do not power off the device during the update. When the update is complete, the device restarts automatically and the status indicator changes from flashing green to solid green.





3.7 Shutting down the device

Press and hold the power button for 3-5 seconds. The power-button indicator changes from solid green to double-flashing green. The device powers off after approximately 5 seconds.

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