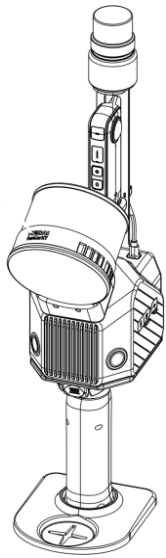
FJDTrion



FJD Trion S2 3D Lidar Scanner

Quick Start Guide

2025-01 | Rev. 1.0

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Revisions:

Version	Date	Description
1.0	2025.01	First release

使用前阅读:

Operate in strict accordance with this user manual and associated manuals.

Improper use may cause device damage and poor performance.

If you have any questions during use, contact the customer service.

Disclaimer:

- The purchased products, services, and features are stipulated by the contract. All or part of the products, services, and features described in this manual may not be within the scope of your purchase or usage. Unless otherwise specified in the contract, all the content in this manual is provided "AS IS" without warranties of any kind, express or implied.
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Preface

Thank you for purchasing this FJD Trion S2 LiDAR Scanner (“S2”). Before use, ensure that you have read this manual carefully and followed the instructions herein to better understand and operate the product.

Technical Support

Starting from the date of purchase, users are provided with the technical support from FJDynamics.

Contact FJDynamics by any of the following methods:

Tel: 1833-330-6660 (United States)

Tel: 496-931-090-130 (Europe)

FJDynamics official website: https://www.fjdynamics.com

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1 Precautions

1. This device satisfies the requirements of the following standards regarding the laser safety:
   - IEC 60825-1:2014;
   - 21 CFR 1040.10 and 1040.11, except for deviations (IEC 60825-1 Ed.3) pursuant to Laser Notice No.56, dated May 8, 2019.
2. Although the device complies with Class 1 safety standards, do not use a microscope, a magnifying glass in any form, or other magnifying devices to look directly at the lasers.
3. For maximum self-protection, do not look directly at the running LiDAR.
4. Do not block or interfere with the Lidar with external force when it is working;
5. Keep the connection cable stable during use and do not plug and unplug it frequently;
6. It is recommended to use this product under normal ambient temperature and minimize the working time under extreme temperature, otherwise it will affect the working time and service life of the battery, or there may be unpredictable risks;
7. This device contains sensitive electrical and mechanical components. Do not forcibly bend or pull the connecting wires, and do not insert objects unrelated to the device into the connectors.
8. 10. Do not mix batteries of scanners with different SNs;
9. It is strictly forbidden to immerse the battery in water. When not in use, it should be stored in a cool and dry environment;
10. It is forbidden to use or place the battery near high temperature heat sources, such as fire, heater, etc.;
11. Please use the original charger when charging;
12. It is strictly forbidden to use the battery with the positive and negative poles reversed;
13. It is strictly forbidden to insert the battery directly into the power socket;
14. It is forbidden to use metal to directly connect the positive and negative poles of the battery to avoid short circuit;
15. The battery should be recharged once every three months to avoid battery discharge;

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16. It is prohibited to disassemble the handle casing, directly weld the battery, or pierce the battery with a sharp object.

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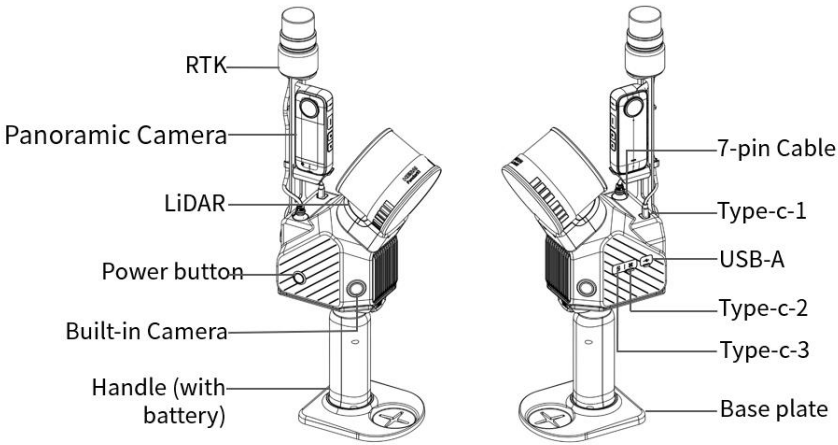
2 Overview

2.1 Introduction



No.	Name	Function
1	RTK	Output latitude and longitude and PPS time, assist in positioning and mapping
2	Panoramic Camera	Point cloud coloring
3	Lidar	Point cloud collection
4	Power button	Power on/off and LED display
5	Built-in camera	Quantity*2, point cloud coloring and VIO
6	Handle battery	Power supply
7	7pin plug	RTK communication and power supply
8	Type-c-1	Panoramic camera communication and power supply

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No.	Name	Function
9	Type-c-2	Data download (device) and whole machine power supply
10	Type-c-3	UAV communication power supply dedicated interface
11	USB-A	U disk copy interface
12	Base	Support and fixation, control point marking

2.2 Parameters

parameters			
weight	1.85kg (without battery & external camera & RTK)	size	107×118×398mm
Accuracy	2 ~20 mm	Laser wavelength	905nm
Scanning distance(m)	120m	Laser Class	Class 1 eye safety
LiDAR Field of View (FOV)	360°×270°	Number of Lidar	1
Point cloud processing method	Real-time solution	Scan frequency	320000 points/s
Point cloud display	Real-time preview on mobile	Power supply	Battery powered
voltage and current	10.8 V,3 A	Charging port	Type-C
Data Transfer	USB-A/Type-c	Power consumption	25W
Battery life	1.5 h(Camera and batteries not included)	Wi-Fi	2.4 GHz
Operating temperature	-10℃~50℃	Memory	512GB
FOV（Panoramic camera ）	360°	Panoramic camera pixels	5.7K
FOV（Built-in camera ）	200°	Built-in camera pixels	12.33MP

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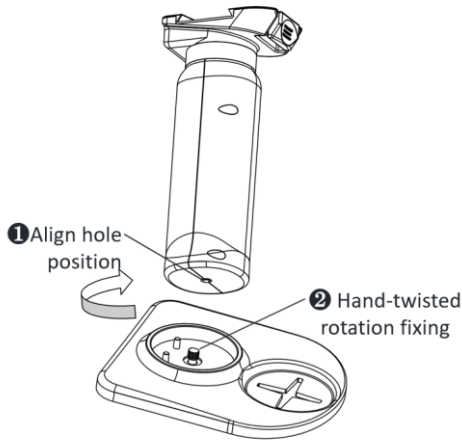
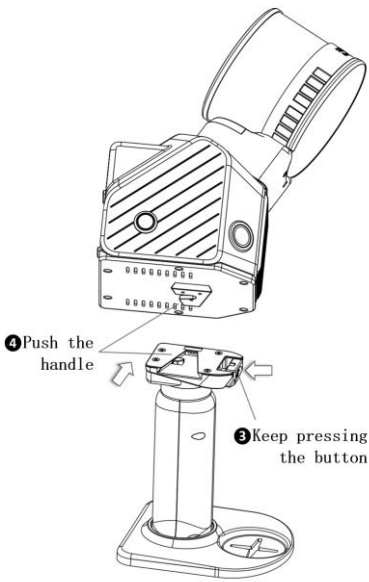
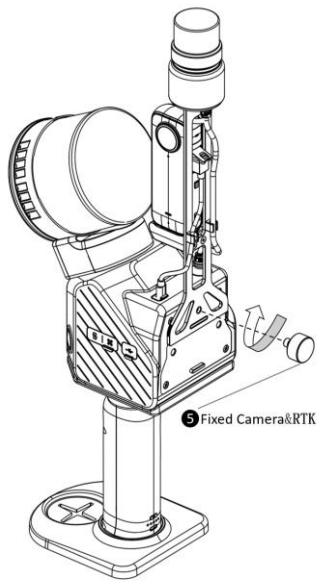
3 First Use

3.1 Assembly and Connection







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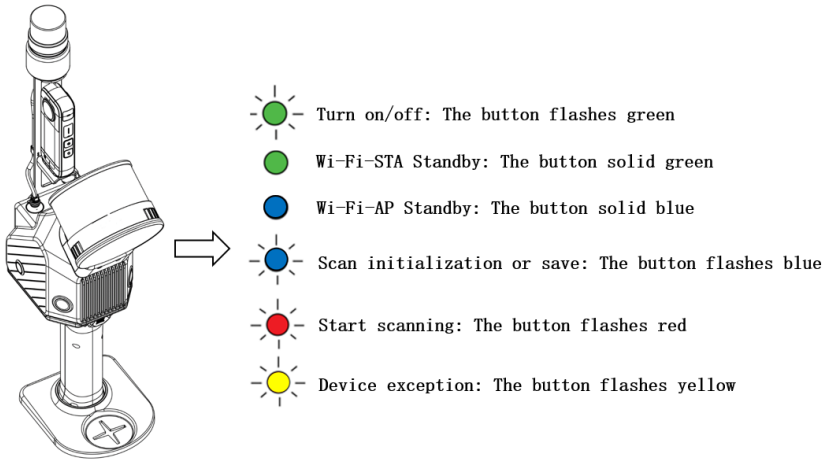
3.2 Indicator Light Description



3.3 Device power on/off and communication

1) Lay the device flat: Place the S2 on a level surface;
2) Device power on and initialization: Press and hold the power button on the side of the device for 1 to 2 seconds to power it on. The button status indicator light will flash green slowly for about 15 seconds. When the green light turns solid green, initialization is complete and the device enters standby mode.
3) APP connection or browser connection (default is Wi-Fi-STA mode):
   - Open the FJD Trion Scan app, click Add Device, select S2, and follow the on-screen instructions to connect;
   - Use a browser to connect: Use Chrome browser to open the trionscan.fjdac.cn webpage, click Search Device, and connect according to the page instructions (iOS devices do not support using a browser)

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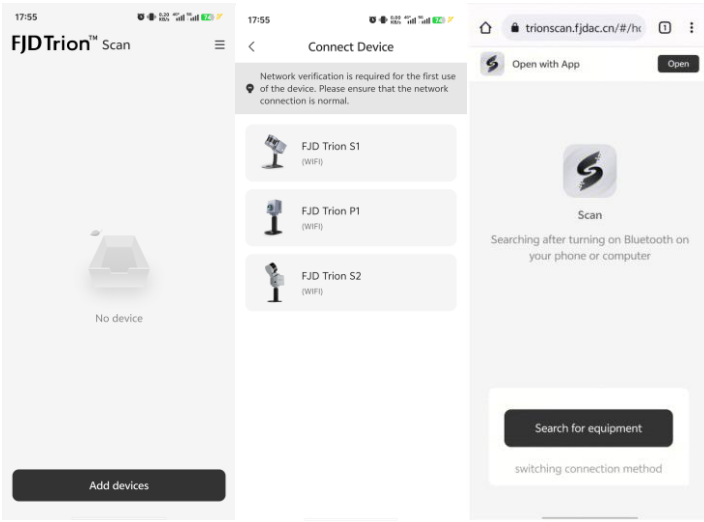

4) Switch to Wi-Fi-AP mode connection:
   - Switch to Wi-Fi-AP mode: Short press + long press the scanner button for about 1 second, and wait for the indicator light to change from flashing blue to solid blue;
   - Search for the scanner device Wi-Fi: Turn off the SIM card network on your phone, turn on Wi-Fi, and find the Wi-Fi with the same name as the device S/N number (the S/N number can be found on the label on the back of the device);
   - Enter password: Enter the password fjdtrionS2 to connect to Wi-Fi;
   - Use APP: After the connection is successful, open the FJD Trion Scan app, click Add Device, select S2, and connect according to the page instructions;
   - Use the browser: After the connection is successful, enter the mobile browser, enter the IP address 10.33.68.254 in the address bar, and enter the scanner device home page;
5) **Device shutdown:** Press and hold the power button on the side of the device for 3 to 5 seconds. The power button status indicator changes from "solid green light" to "flashing green light". The device shuts down after 5 seconds.

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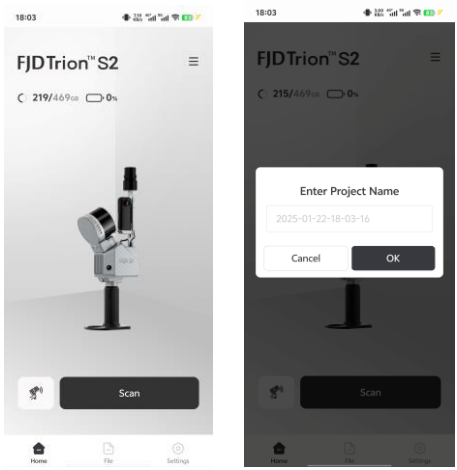
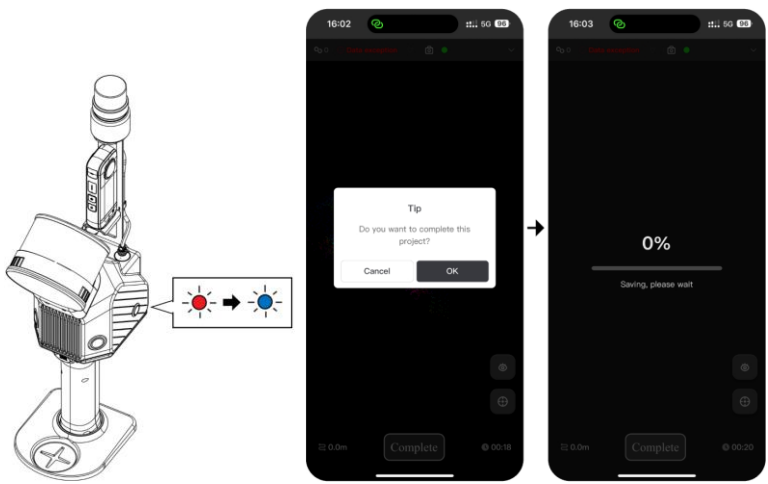
3.4 Data collection and download

1) Click the [Start Scan] button on the Trion Scan homepage, enter the project name and click [OK];



2) Press the [Finish] button and click [OK]. The device will enter the data saving state and the power button status indicator will change from "flashing red" to "double flashing blue".



3) Click [File] at the bottom to enter the data download page, click the [More] button behind the scan data, click the [Download] button, select the corresponding point cloud format in the pop-up dialog box, and then click [Download];

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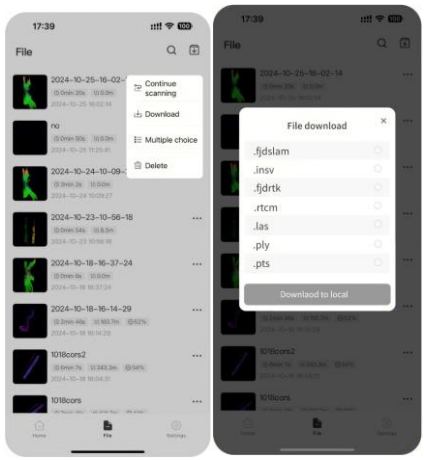
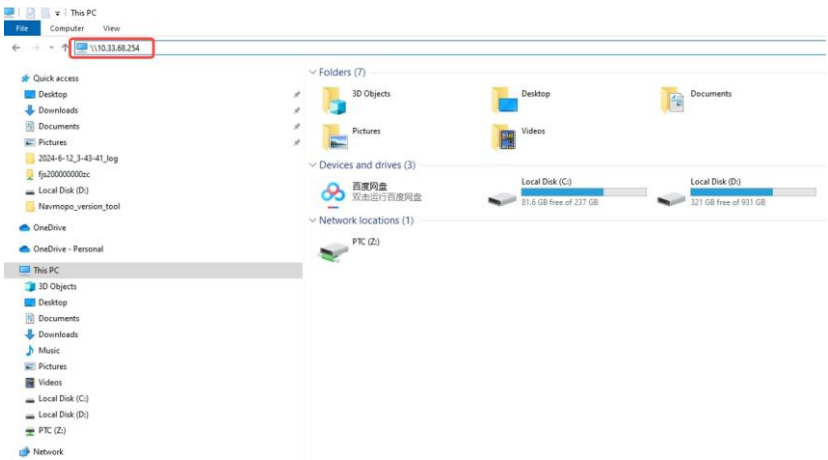


4) You can use a type-c cable to connect the scanner to the computer, enter \\10.33.68.254 in the computer's file explorer, and then you can view the project data and download it to the computer.



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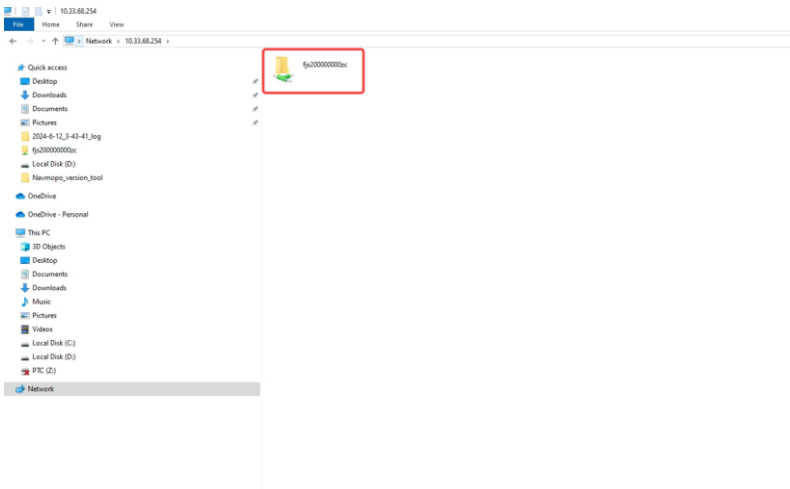
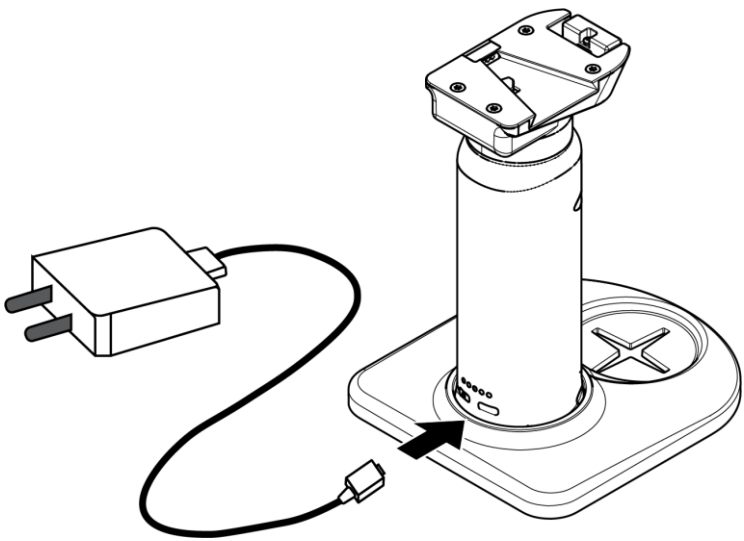


3.5 Battery Charging

As shown in the figure below, plug the charger output plug of the device into the Type-C port at the bottom of the handle for charging. The charging time is about 1.5 hours. You can check the battery power by the number of lit indicator lights by short pressing the button next to the Type-C port.



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