

FJD Trion S2 LiDAR Scanner

Quick Start Guide

■ January 2025 | Rev. 2.0

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Revisions:

Version	Date	Description
1.0	2025.01	First release
2.0	2025.07	Additional notes

Read Before Use:



Operate in strict accordance with this guide and associated manuals.

Improper use may cause device damage and poor performance.

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

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Preface

Thank you for purchasing this FJD Trion S2 LiDAR Scanner ("S2"). Before use, ensure that you have read this guide 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 and upgrade services 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>

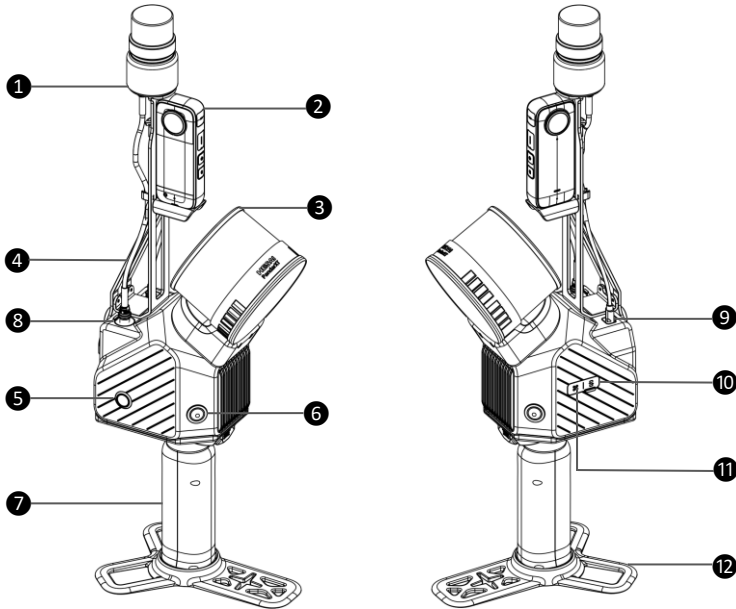
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1 Safety Instructions

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 interrupt the LiDAR when it is rotating.
5. Do not plug and unplug the connecting cables repeatedly.
6. Use the device at normal ambient temperatures and avoid exposing it to extreme temperatures. Otherwise, the battery life will be shortened or unpredictable risks may occur.
7. The device contains sensitive electrical and mechanical components. Do not forcibly bend or pull the connecting cables, and do not insert unrelated objects into the connectors.
8. Do not immerse the batteries in water. Store the batteries in a cool and dry place when they are not in use.
9. Do not use or place the batteries near heat sources, such as fire and heaters.
10. Use only the original charger during charging. Third-party chargers are strictly prohibited.
11. Do not reverse the battery's positive and negative terminals.
12. Never insert the battery directly into a power outlet.
13. Prohibit metal objects from touching both battery terminals.
14. Recharge the battery every 3 months if unused to prevent deep discharge.
15. Do not disassemble the battery casing, weld it, or puncture it with sharp objects.
16. Charging temperature: 0–45°C; Discharge temperature: -20–45°C (45°C applicable only when integrated with devices).
17. Avoid unplugging or reconnecting the battery's Type-C port while the device is in use.

2 Overview

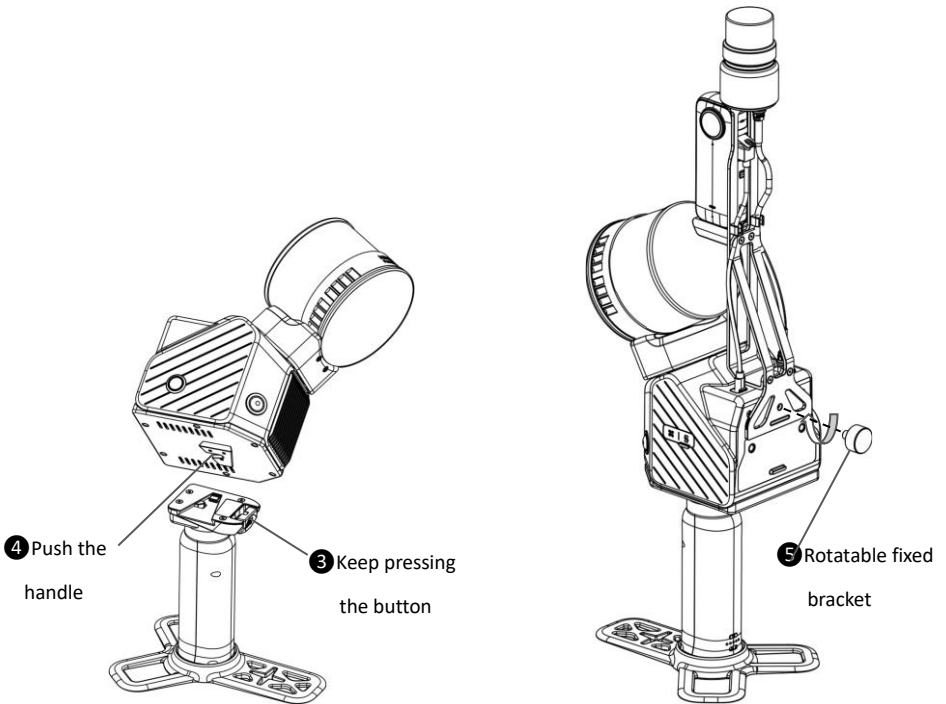
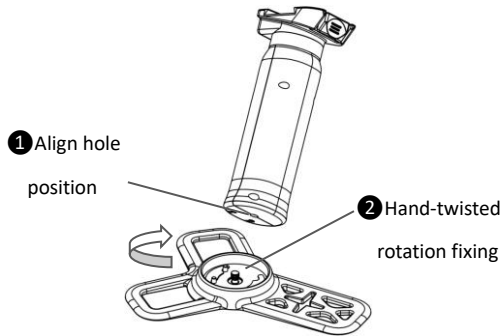


<i>NO.</i>	<i>Name</i>	<i>Illustration</i>
1	RTK	Output latitude and longitude and PPS to assist in positioning and mapping
2	Panoramic Camera	Point cloud coloring
3	LiDAR	Point cloud collection and output
4	Bracket	Fixed panoramic camera and RTK
5	Power button	Power on/off and LED display
6	Built-in Camera	Quantity * 2, point cloud coloring and VIO
7	Handle (with battery)	Whole machine power supply
8	7pin Cable	RTK Communication and Power Supply
9	Type-C-1	Panoramic camera communication and power supply
10	Type-C-2	Data download (device) and overall power supply
11	Type-C-3	Power supply interface of the unmanned aerial vehicle (UAV)
12	Base plate	Support and fixation, control point marking









<i>Specifications</i>			
Weight	1.85 kg (excluding the battery and base plate and bracket)	Dimensions	109×185×590mm
Accuracy	2 mm to 20 mm	Laser wavelength	905 nm
Scanning range	120 m	Laser class	Class 1 eye safe
LiDAR FOV	360°×270°	LiDAR	1
Point cloud processing	Real-time	Points per second	320,000
Point cloud display	Real-time preview on a mobile terminal	Power supply	Battery
Supply voltage and current	10.8 V, 3 A	Charging port	Type-C
Data transfer	Type-c	Power consumption	25 W
Battery life	1.5 h	Wi-Fi	2.4 GHz
Operating temperature	-10°C to 45°C	Storage	512 GB
Built-in Camera pixels	12.33MP	/	/

3 First Use

3.1 Assembly and Connection



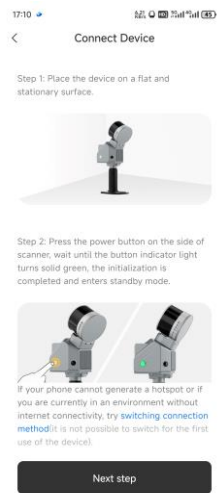
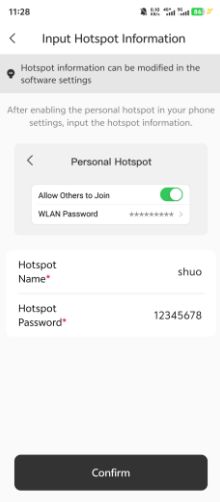
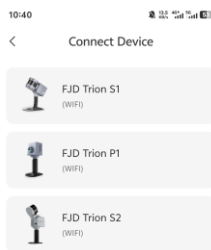
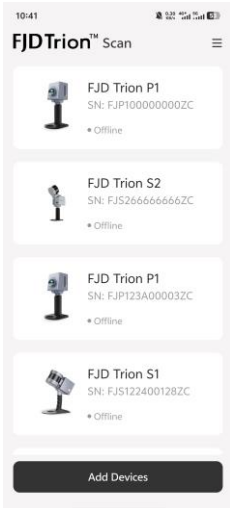
3.2 Instructions for Indicator Lights and Button Functions

<i>Illustration</i>	<i>LED Description</i>	<i>Main Functions</i>
	Green light slow blink	Device boot-up process
	Green light double flash	Device shutdown process
	Green light steady on	Wi-Fi STA mode standby
	Blue light steady on	Wi-Fi AP mode standby
	Red light slow blink	Data collection in progress
	Yellow light rapid flash	Device malfunction alert
	Red light double flash	High-temperature warning
	Blue light blinking	Scanning initialization, saving process, or switching between WLAN and hotspot

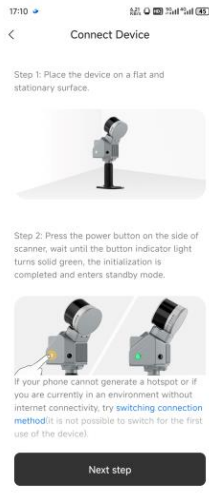
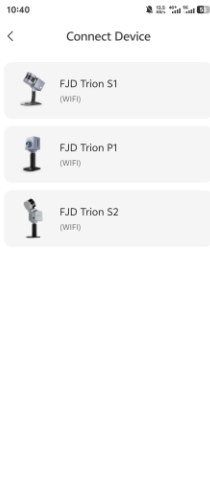
<i>Operation</i>	<i>Button Action</i>	<i>Duration(s)</i>	<i>LED State Transition</i>
Power On	SINGLE LONG PRESS	$0.2 < t < 1$	Green light slow blink → Green light steady on
STA → AP	SINGLE SHORT PRESS+ SINGLE LONG PRESS	$0.2 < t < 0.5$ $t > 1$	Green light steady on → Blue light blinking → Blue light steady on
AP → STA	SINGLE SHORT PRESS+ SINGLE LONG PRESS	$0.2 < t < 0.5$ $t > 1$	Blue light steady on → Green light steady on
Start Scanning	SINGLE LONG PRESS	$t = 1$	Green/Blue light steady on → Blue light blinking → Red light slow blink
Stop Scanning	SINGLE LONG PRESS	$t = 1$	Red light slow blink → Blue light blinking → Green/Blue light steady on
Normal Shutdown	SINGLE LONG PRESS	$3 < t < 5$	Green/Blue light steady on → Green light double flash → Off
Force Shutdown	SINGLE LONG PRESS	$t > 8$	Any state → Off

3.3 Powering On the Device and Establishing Communication

- **Power On:** Place the device flat and press the power button single quick press (0.2–1 seconds). After approximately 15 seconds, the device's indicator light will turn green steady on.
- **Connect to APP:**
 - **STA Mode Connection:** Add Device → FJD TrionS2 → Next → Select Device via SN → Enter Hotspot Credentials → Automatic Interface Transition

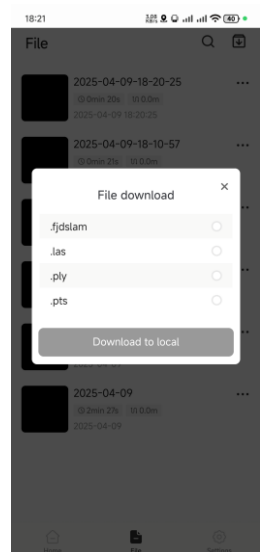
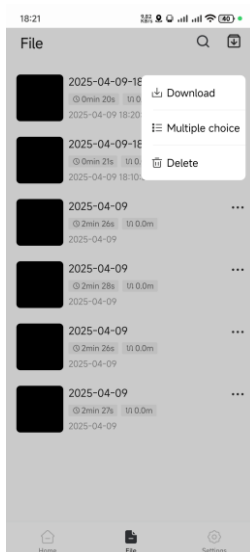
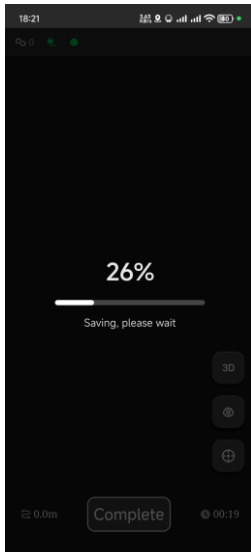
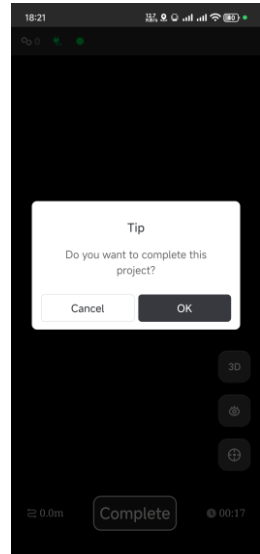
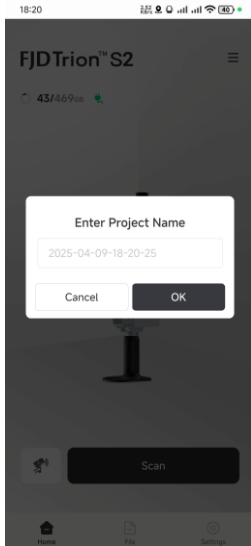


- AP Mode Connection:** Short Press & Long Press to Toggle AP Mode→ Turn off the SIM card network→ Add Device→ FJD TrionS2→ Next → Select Device via SN → Connect to Device Wi-Fi→Redirect to Phone Wi-Fi Settings→ Enter Password 'fjdtrions2' → Return to APP → Automatic Interface Transition
- AP Mode Web Browser:** Open a web browser→Enter the IP address 10.33.68.254

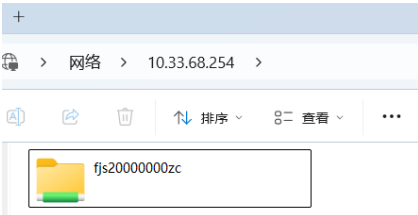


3.4 Collecting and Downloading Data

- **APP Data Collection & Download Workflow:** Start Scanning-> Enter Project Name and Confirm-> Complete Scanning-> Download Data



- **LAN Download Method:** PC connection to device hotspot, or connect the device Type-C (🔌) to your PC using a USB cable. Open File Explorer , in the address bar, type \\10.33.68.254 and press Enter.

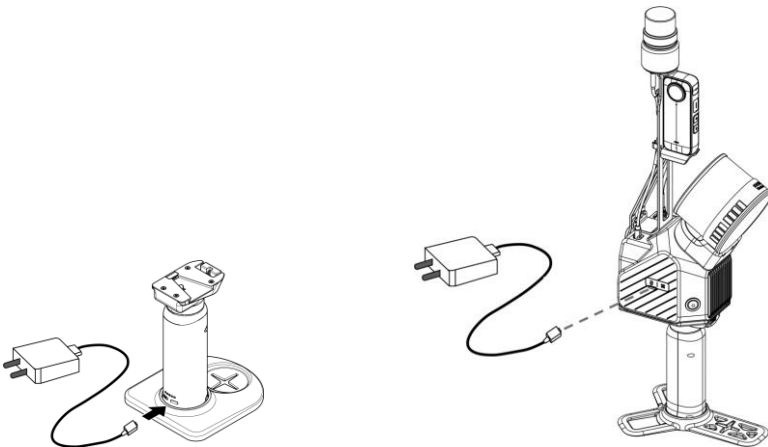


3.5 Turn Off

- Press and hold the power button for 3–5 seconds. The power button' s status LED will change from green steady on to green double flash during the hold period. After 5 seconds, the device powers off completely.

3.6 Charging the Battery

- **Charging the Battery Independently:** Plug one end of the charger provided into the Type-C port of the handle and the other end to a power outlet to charge the battery. It takes about 1.5 h to fully charge the battery. Press the button beside the Type-C port to check the battery level.
- **Charging the Battery While in Operational Mode:** Charging via Original Charger and USB-C Port (🔌)





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