

# FJD Trion S2 LiDAR Scanner

## Quick Start Guide

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**Revisions:**

Version	Date	Description
1.0	2025.01	First release

**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: -20–50°C (50°C applicable only when integrated with devices).
17. Avoid unplugging or reconnecting the battery's Type-C port while the device is in use.

18.CE:

RF exposure information: The Maximum Permissible Exposure (MPE) level has been calculated based on a distance of d=20 cm between the device and the human body. To maintain compliance with RF exposure requirement, use product that maintain a 20cm distance between the device and human body.

Operation Frequency	Max. EIRP
Bluetooth: 2402 MHz ~ 2480 MHz	9.94 dBm
WLAN 2.4G: 2412 MHz ~ 2472 MHz	19.93 dBm

**This product can be used across EU member states.**

**EU Regulatory Conformance**

Hereby, FJ Dynamics Co.,Ltd. declares that this device is in compliance with the essential requirements and other relevant provisions of Directive 2014/53/EU.



19.FCC statements:

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.

NOTE: The manufacturer is not responsible for any radio or TV interference caused by unauthorized modifications or changes to this equipment. Such modifications or changes could void the user’ s authority to operate the equipment.

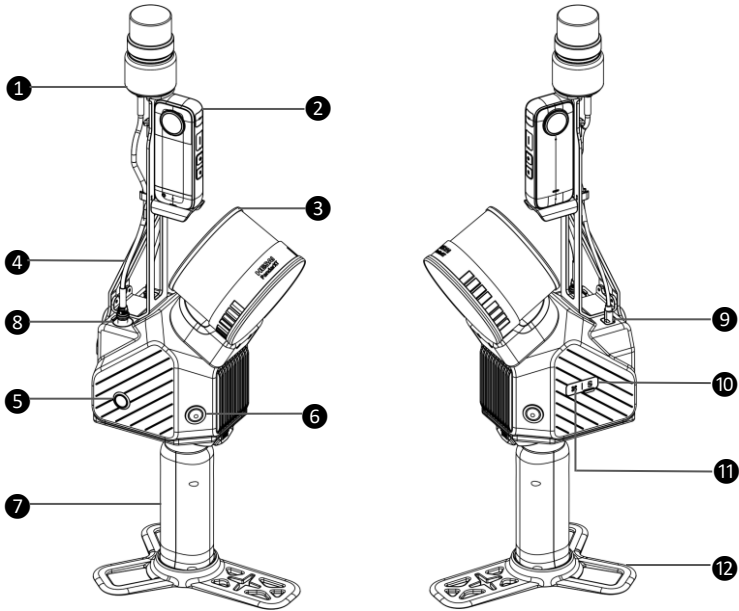
Note: This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this

equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense

#### Federal Communication Commission (FCC) Radiation Exposure Statement

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

## 2 Overview

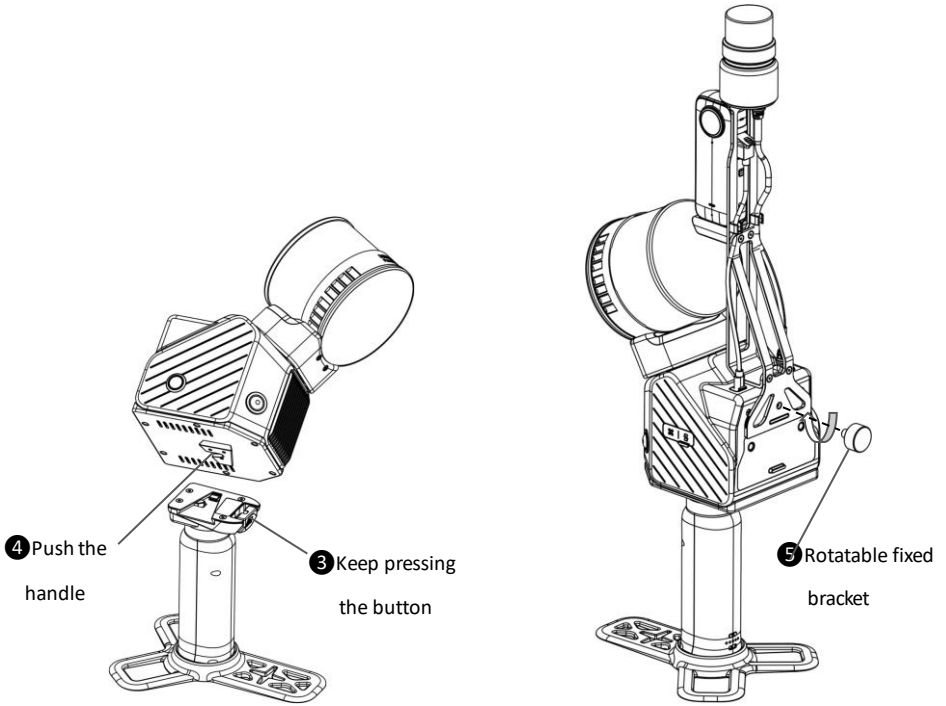
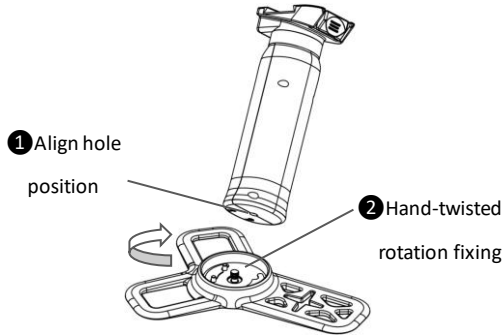


<i>NO.</i>	<i>Name</i>	<i>Illustration</i>
1	<b>RTK</b>	Output latitude and longitude and PPS to assist in positioning and mapping
2	<b>Panoramic Camera</b>	Point cloud coloring
3	<b>LiDAR</b>	Point cloud collection and output
4	<b>Bracket</b>	Fixed panoramic camera and RTK
5	<b>Power button</b>	Power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









<i>Specifications</i>			
<b>Weight</b>	1.85 kg (excluding the battery and base plate and bracket )	<b>Dimensions</b>	109×185×590mm
<b>Accuracy</b>	2 mm to 20 mm	<b>Laser wavelength</b>	905 nm
<b>Scanning range</b>	120 m	<b>Laser class</b>	Class 1 eye safe
<b>LiDAR FOV</b>	360°×270°	<b>LiDAR</b>	1
<b>Point cloud processing</b>	Real-time	<b>Points per second</b>	320,000
<b>Point cloud display</b>	Real-time preview on a mobile terminal	<b>Power supply</b>	Battery
<b>Supply voltage and current</b>	10.8 V, 3 A	<b>Charging port</b>	Type-C
<b>Data transfer</b>	Type-c	<b>Power consumption</b>	25 W
<b>Battery life</b>	1.5 h	<b>Wi-Fi</b>	802.11 b/g/n/ax 2.4 GHz: 2412- 2472MHz
<b>Operating temperature</b>	-20°C to 50°C	<b>Storage</b>	512 GB
<b>Built-in Camera pixels</b>	12.33MP	/	/

## 3 First Use

### 3.1 Assembly and Connection



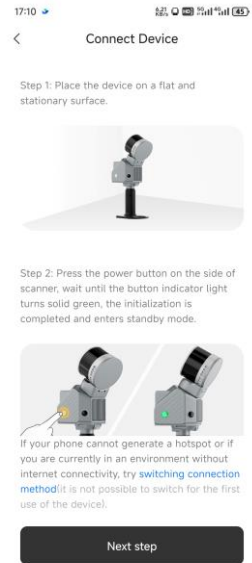
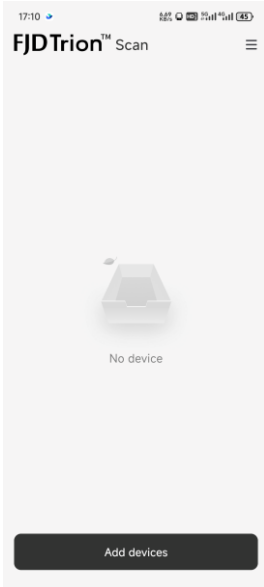
### 3.2 Instructions for Indicator Lights and Button Functions

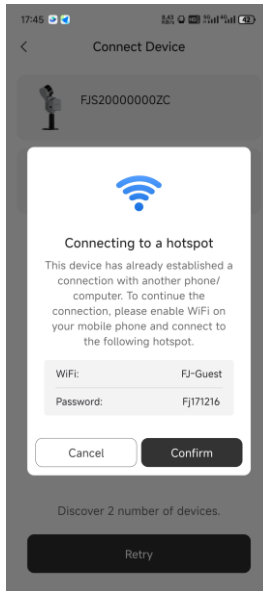
<i>Illustration</i>	<i>LED Description</i>	<i>Main Functions</i>
	Green light slow blink	Device boot-up process
	Green light double flash	Device shutdown process
	Green light steady on	WLAN standby mode
	Blue light steady on	Hotspot mode standby
	Red light slow blink	Data collection in progress
	Yellow 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>
<b>Power On</b>	SINGLE LONG PRESS	$0.2 < t < 1$	Green light slow blink → Green light steady on
<b>WLAN → Hotspot</b>	SINGLE SHORT PRESS+	$0.2 < t < 0.5$	Green light steady on → Blue light blinking →
	SINGLE LONG PRESS	$t > 1$	Blue light steady on
<b>Hotspot → WLAN</b>	SINGLE SHORT PRESS+	$0.2 < t < 0.5$	Blue light steady on →
	SINGLE LONG PRESS	$t > 1$	Green light steady on
<b>Start Scanning</b>	SINGLE LONG PRESS	$t = 1$	Green/Blue light steady on →
			Blue light blinking → Red light slow blink
<b>Stop Scanning</b>	SINGLE LONG PRESS	$t = 1$	Red light slow blink →
			Blue light blinking → Green/Blue light steady on
<b>Normal Shutdown</b>	SINGLE LONG PRESS	$3 < t < 5$	Green/Blue light steady on →
			Green light double flash → Off
<b>Force Shutdown</b>	SINGLE LONG PRESS	$t > 8$	Any state → Off

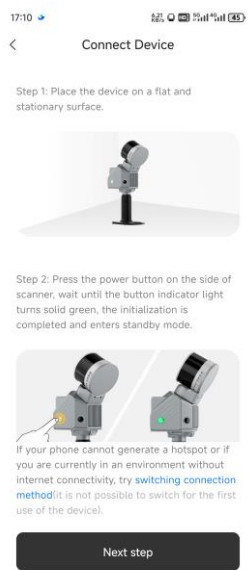
### 3.3 Powering On the Device and Establishing Communication

- **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:**
  - **WLAN Mode Connection:** Add Device→ FJD TrionS2→ Next → Select Device via SN → Enter Wi-Fi Credentials → Automatic Interface Transition



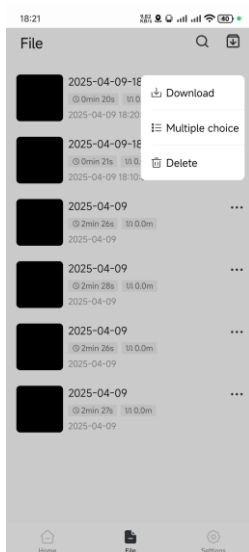
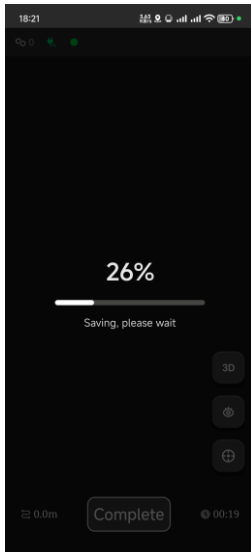
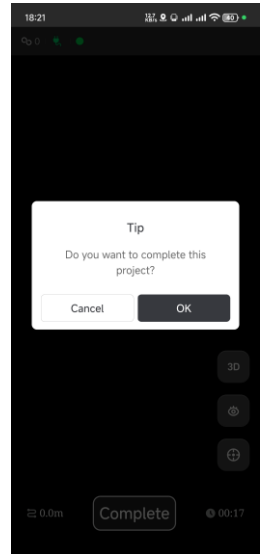
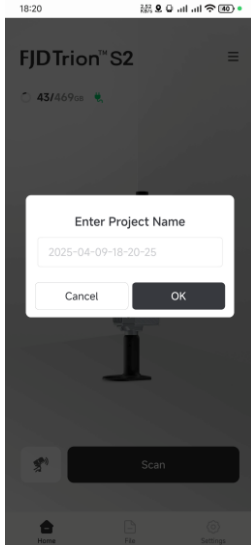


- **Hotspot Mode Connection:** Short Press & Long Press to Toggle Hotspot Mode→Add Device→ FJD TrionS2→ Next → Select Device via SN → Connect to Device Wi-Fi→Redirect to Phone Wi-Fi Settings→Enter Password 'fjdrions2' →Return to APP → Automatic Interface Transition
- **Hotspot Mode Web Interface Connection:** Open a web browser→Enter the IP address 10.33.68.254

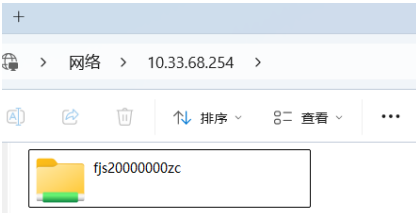


### 3.4 Collecting and Downloading Data

- **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.

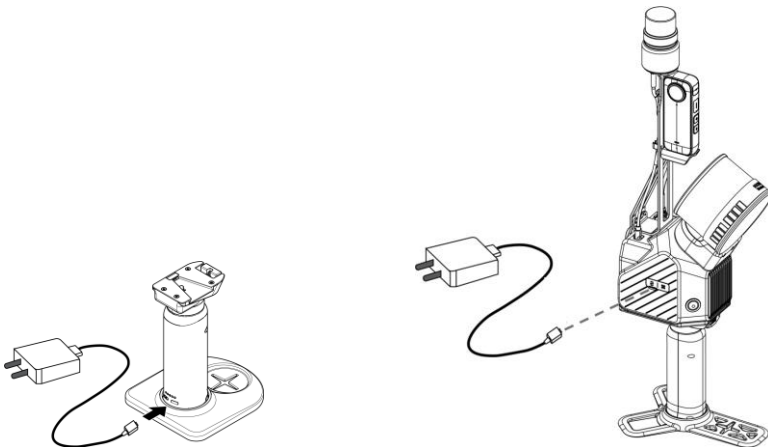


### 3.5 Turn Off

- 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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