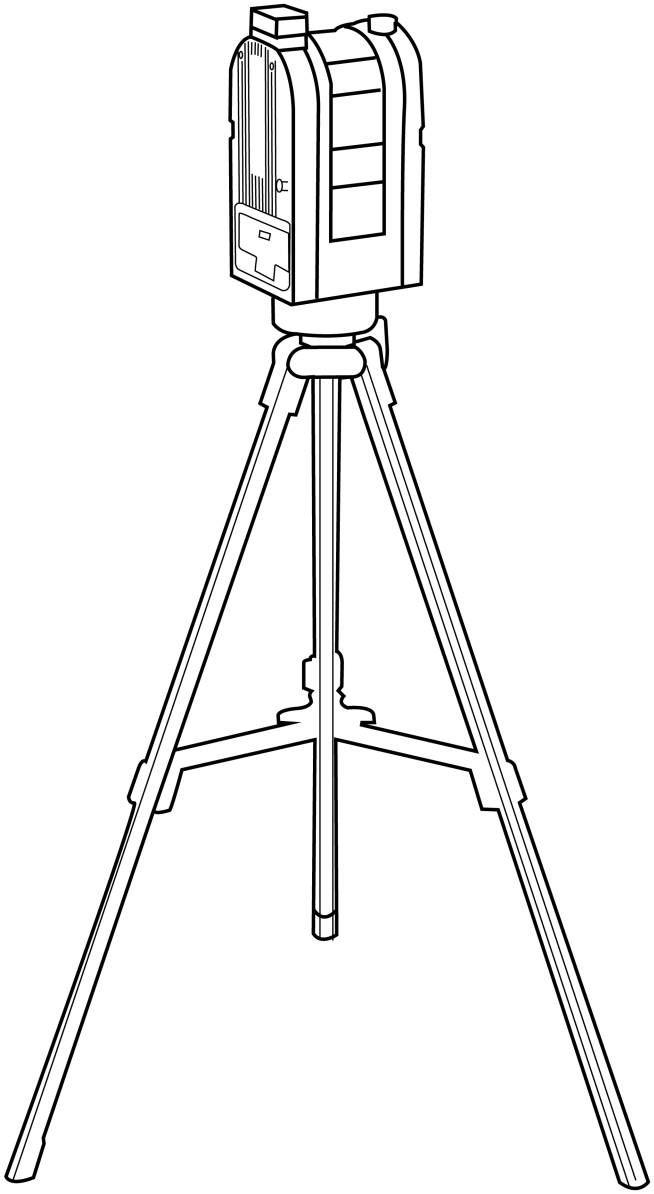
GoSLAM G1 Plus

Product User Manual



GOSLAM®

The pictures in this manual are for reference only. Please refer to the actual product in the package. Before using the product, please read this manual carefully and keep it properly.

Contents

Reading Tips

01/Symbol Description

		
Important Notice	Operation and Usage Tips	Vocabulary Explanation and Reference Information

02/Install GoSLAM LidarWorks

◆ When using the product, please install the official software GoSLAM LidarWorks.

◆ GoSLAM LidarWorks requires the use of Windows 7, Windows 10, or Windows 11 systems.

03/Install GoSLAM Mapping Master Pro

◆ When using the product, please install the official software GoSLAM Mapping Master Pro.

◆ GoSLAM Mapping Master Pro requires the use of Windows 7, Windows 10, or Windows 11 systems.

Precautions for Use

01/Work Environment

Warning

◆ To avoid the risk of fire and electric shock, and to ensure the long-term stable operation of the product, please store the product in a dry and cool place, avoiding direct sunlight and high temperature or high humidity environments.

◆ Since the laser head and sensors are sensitive devices, please dry the equipment after working in rainy or humid environments before storing it, to prevent mold growth on electronic components and the laser head.

02/Equipment Cleaning and Maintenance

Attention

◆ To ensure the quality of point cloud acquisition, please keep the laser head clean and handle it with extra care.

◆ The internal circuitry is complex; do not disassemble the scanner system without authorization to avoid malfunctions, short circuits, or other issues that may affect its use.

◆ Please avoid rough usage, disassembly, modification, or physical impact on this product, and prevent it from being struck, dropped, or stepped on.

Product Introduction

01/Product Overview

The G1 Plus product operates based on the principle of laser SLAM, relying on its own posture data and laser point clouds to reconstruct spatial three-dimensional data through algorithms. It can present complete and accurate data without the need for external positioning devices such as GPS, and the operation is very simple.

02/Working Principle

- The G1 Plus series products are composed of multi-line LiDAR and an Inertial Measurement Unit (IMU).
- Using the SLAM algorithm, the products integrate data from LiDAR and IMU to generate precise 3D point clouds, without relying on a GNSS receiver.

Technical Specifications

Product name	G1 Plus
Laser level	Class 1
Panoramic camera (optional)	8K level(pixel)
Splicing method	Automatic splicing
Anchor adjustment	Support
Scanning range	300m
Scanning speed	640,000 PTS
FOV	360°X300°
Image point cloud calibration	Automatic alignment without registration
Point accuracy	5mm@10m
Resolution	2mm(Highest)
Angle accuracy	0.005°
Working time	3h
Working temperature	-35°C-50°C
Storage media	TF card
Built-in RTK and PPK	Support
Operating mode	APP and physical buttons
GCP transformation	Support (Laser indication)
Product shell	Aviation grade aluminum
Product size (host)	12.3x9.8x24.4mm
Weight (host)	2kg

Tripod	
Storage dimensions	71.93x64.56x28.72cm
Extended height	1.4m
Material	Aluminium alloy, carbon fibre, plastic
Load-bearing	6kg
Battery specifications	
Rated voltage	14.4V
Capacity	3300mAh
Battery charging dock	
Input voltage	9~24VDC (The input voltage should be greater than the maximum charging voltage of the battery 1V)
Charging voltage	0-16.8V
Battery slot	2 pcs
Charger power adapter	
Power cord length	1.8m
Input	110-240V～2.0A 50/60Hz
Output	19V 7.89A

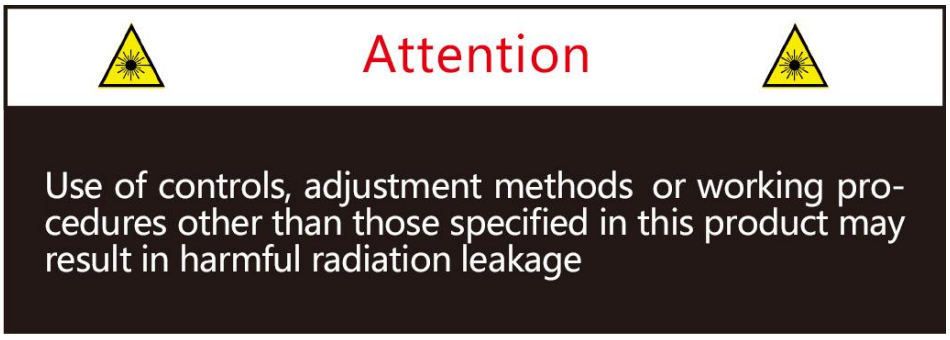
Safety Instructions

Prompt

- Before using the product, please read and follow the instructions in this manual carefully, and also refer to any relevant national and international safety regulations.

Warning

- To reduce the risk of electric shock and avoid violating the warranty terms, do not disassemble or modify the radar on your own. This product does not contain any user-serviceable parts; please consult GoSLAM maintenance personnel regarding warranty and maintenance matters.



01/Equipment Safety Instructions

· Laser Safety Class

The laser safety classification of this product complies with the following standards:
IEC 60825-1:2014
21 CFR 1040.10 and 1040.11 standards. Except for the deviations specified in Laser Notice No. 56 issued on May 8, 2019 (IEC 60825-1 Third Edition), under no circumstances should the transmitted laser be viewed directly through magnifying devices (such as microscopes, head-mounted magnifiers, or other types of magnifiers).

· Safety Alert

In any case, if you suspect that the product is malfunctioning or damaged, please stop using the product immediately to avoid injury to the user or further damage to the product. Please contact GoSLAM or its authorized service provider to handle the damaged product.

· Operation

This product is made of metal, glass, and plastic, and contains sensitive electronic components inside. Improper actions such as dropping, burning, piercing, or crushing may cause product damage. If the product is dropped, please stop using it immediately and contact GoSLAM for technical support.

· Shell

The product contains high-speed rotating components. Do not operate it with the housing unsecured; do not use the product if the housing is damaged to avoid injury. To prevent performance degradation, do not touch the light cover with your hands. If the light cover is stained, please clean it according to the method described in the "Device Storage" section of the manual.

· Eye Safety

Although the product design complies with Class 1 eye safety standards, do not look directly at the transmitted laser through magnifying devices (such as microscopes, head-mounted magnifiers, or other forms of magnifiers). To maximize self-protection, users should still avoid looking directly at the product while it is operating.

· Maintenance

Do not open or repair the product on your own without official guidance. Disassembling the product may cause product damage, loss of waterproof performance, or personal injury.

· Power Supply

Power the product using the battery provided by GoSLAM. Using a charger that does not meet the power supply requirements or a damaged battery, or powering in a humid environment, may cause fire, electric shock, personal injury, product damage, or other property loss.

· Vibration Conditions

Products should be protected from strong vibrations that may cause damage. If you need the mechanical shock and vibration performance parameters of the product, please contact GoSLAM for technical support.

· Radio Frequency Interference

Although the design, testing, and manufacturing of the product all comply with the relevant regulations on radio frequency energy radiation, radiation from the product may still cause other electronic devices to malfunction.

· Medical Equipment Interference

Some components and radio devices contained in the product emit electromagnetic fields, which may interfere with medical devices such as cochlear implants, pacemakers, and defibrillators. Please consult your physician and the manufacturer of your medical device for specific information about your medical device, such as whether a safe distance from the product is required. If you suspect that the product is interfering with your medical device, stop using it immediately.

· Explosiveness and Other Air Conditions

Do not use the product in any area where there is potentially explosive air, such as areas with high concentrations of flammable chemicals, vapors, or particulates (such as dust, particles, or metal powders) in the air. Do not expose the product to environments with high concentrations of industrial chemicals, including near easily vaporized liquefied gases (such as helium), to avoid damaging or weakening the product's functionality. Follow all labels and instructions.

· Light Interference

Some precision optical equipment may be affected by lasers emitted from the product, please pay attention when using it.

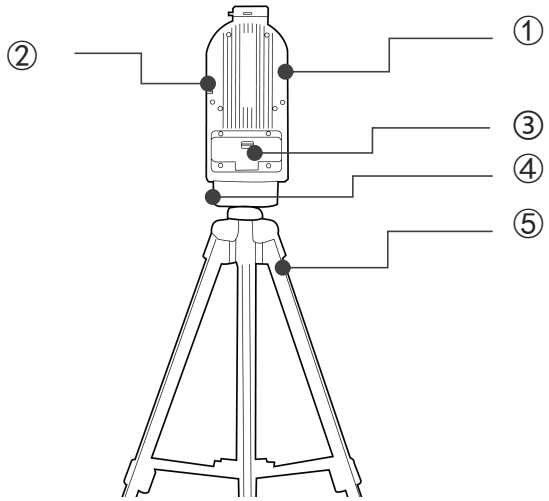
02/Battery Power Safety Instructions

	· When using or storing the battery, keep it away from heat sources.
	· Do not immerse the battery in water. When the battery is not in use, store it in a cool and dry environment. · Do not connect the positive and negative terminals of the battery with metal objects to avoid a short circuit. · Do not hit, drop, or step on the battery. · Do not weld the battery or pierce it with sharp objects.

03/Safety Instructions for Tripod End

	· There is a white mark on the side of the quick-release mount at the bottom of the main unit, and a white mark is also set on the side of the tripod's top mount. During assembly, the two must remain misaligned. · Align the main unit with the tripod's top mount and gently press down. A 'click' sound indicates that the assembly is locked. · After the assembly is locked, do not forcibly pull out the main unit to prevent the quick-release connection from loosening.

Component Name



① Scanner main unit

② Status indicator light

③ Battery compartment door latch

④ Laser pointer

⑤ Tripod

⑥ Color module

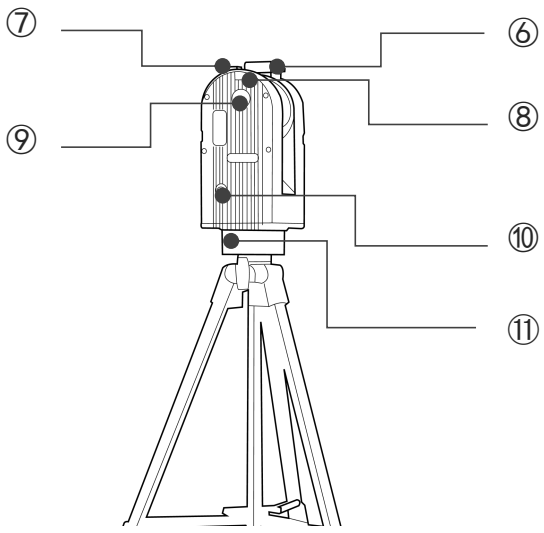
⑦ RTK

⑧ TF card SD card

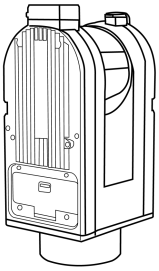
⑨ Cooling fan air inlet

⑩ Power button

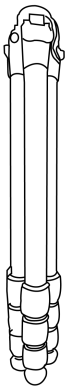
⑪ Physical emergency button



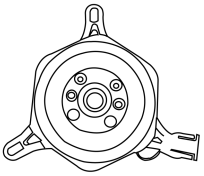
Product List



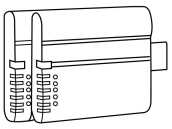
Scanner main unit



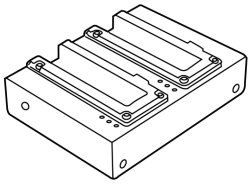
Tripod



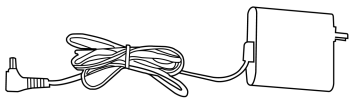
Quick-release tripod base



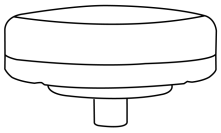
Batteryx2



Battery charging dock



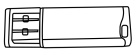
Charger power adapter



RTK

Card reader

TF card



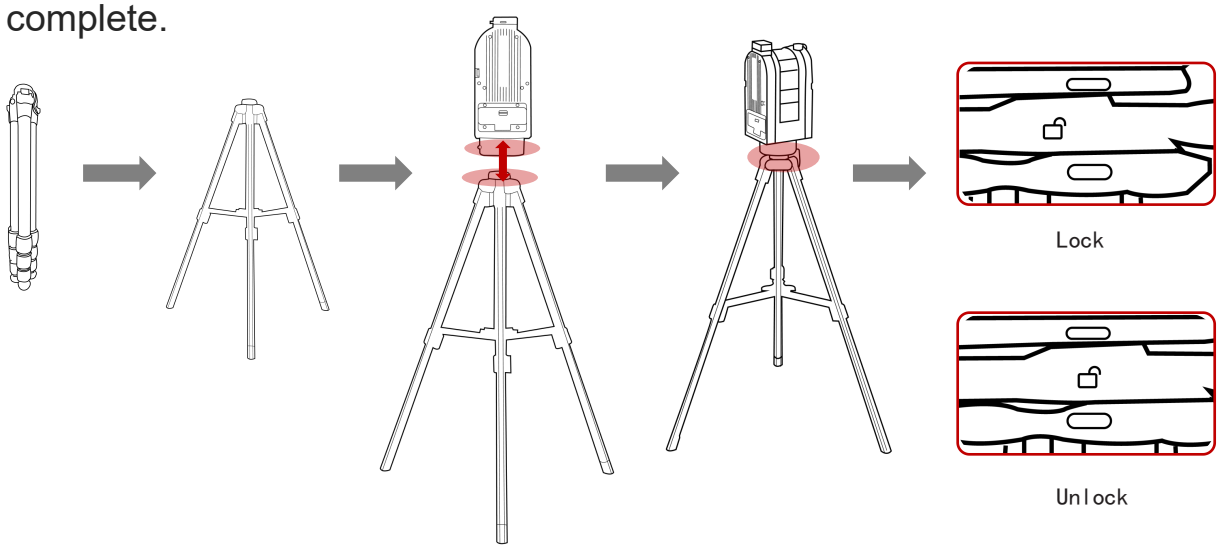
Software dongle

Before starting, please check whether all of the following items are included in the package. If anything is missing, please contact the dealer.

Assembly Process

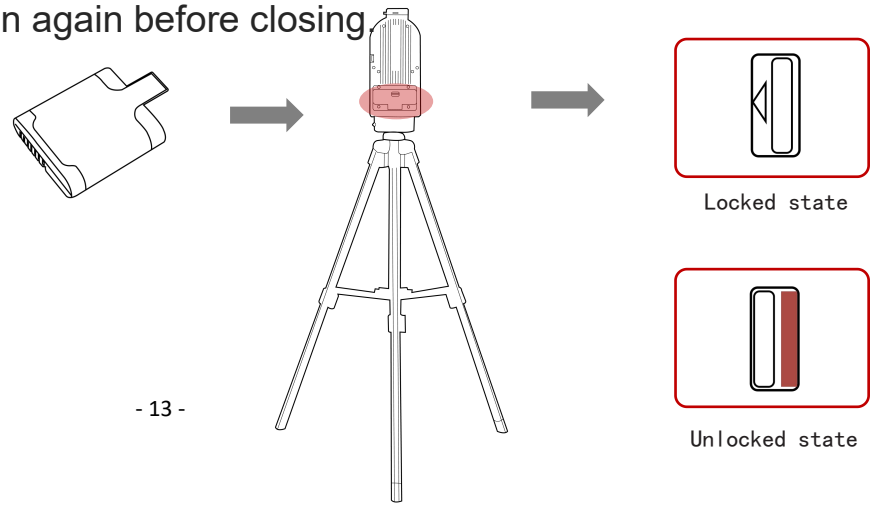
01/Host and Tripod Assembly

During installation, first unfold the tripod and place it stably on the ground. Adjust it to the appropriate height according to the collection requirements. Next, misalign the white mark on the side of the quick-release mount at the bottom of the main unit with the white mark on the side of the tripod's top mount, then gently press down on the main unit. When you hear a 'click,' it indicates that the assembly lock is complete.



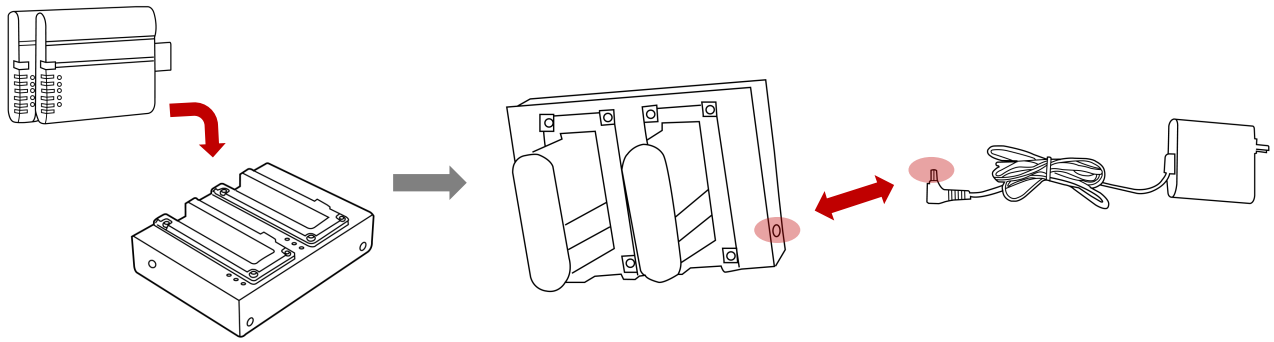
02/Battery Installation

When installing the battery, press the unlock button to open the compartment door, push the battery smoothly to the bottom of the compartment with the contacts facing up, and then close the compartment door until the latch is fully secured. If a red indicator is seen, it means it is not in place, and the battery needs to be pushed in again before closing.



03/Battery Charger Connection Method

Insert the battery with the contacts facing down smoothly into the charging dock and ensure the contacts are aligned. After connecting the charger, turn on the power to start charging. During charging, the indicator light flashes green, and when fully charged, it turns solid green.



G1 Plus Bottom Button Scanning Operation Instructions

Button operation method	Corresponding function
Double press the button	Start scanning / End scanning
Single press the button	Start high-precision scanning
Press and hold the button for 3 seconds	Record control points
Press and hold the button for 10 seconds	Force shutdown

Watch out

· All scanning operations are done using the same bottom button, with different press durations or counts corresponding to different functions, making it simple and easy to remember.

· High-precision scanning mode is triggered by a single click, allowing direct entry into the detailed scanning process without extra settings.

Usage Process

01/Device Installation and Startup Process

·Host Installation and Booting

① Unfold the tripod and place it on the ground, adjusting it to the desired collection height; then align the main unit with the white mark on the side of the tripod head, gently press the main unit downward, and hearing a "click" sound indicates that it is locked in place.
② The main unit has a power button; long press until the device vibrates and the indicator light turns on to power on; long press until it vibrates and the indicator light turns off to power off.

·App Download and Connection

① Open the browser on your mobile device and visit the official download page: https://en.goslam.com/
② Select the corresponding version according to your mobile system (iOS/Android), download and install the GoSLAM Manager App.
③ After the device is powered on, connect the device to your phone via WiFi, then open the App to start using it.

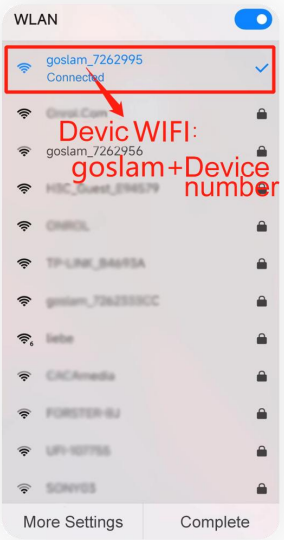
Connection method

WIFI Name

goslam+S/N number of the device
（For example, goslam_7262995）

WIFI Password

goslam123

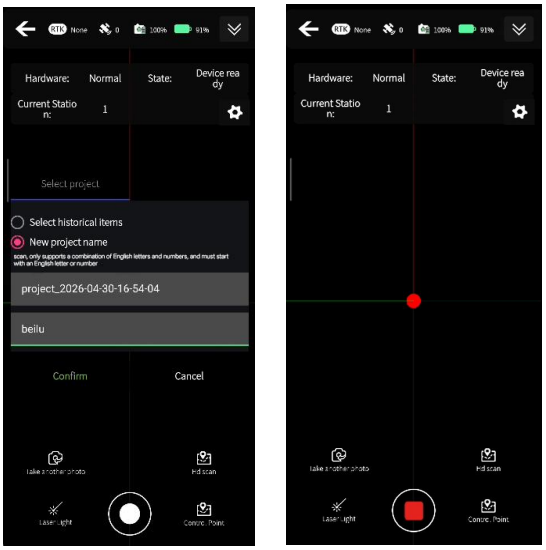


02/Project Settings and Device Scan

·Startup and Project Settings

① Launch the GoSLAM Manager App, and click the 'Start' icon on the main interface to enter the scanning page.

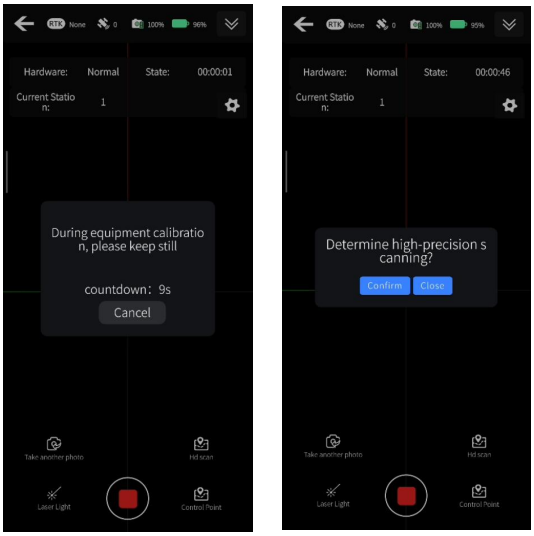
② On the App's scanning page, you can choose 'Historical Project' to continue an existing task according to your work needs, or click 'New Project' to create a new task. After selecting, you can set the task name, number, and other header information.



·Device Scan

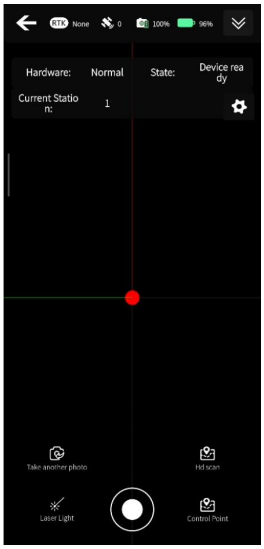
① Please securely set up the equipment at the survey station position (no need to manually level it), and keep the equipment completely still before starting the scan.

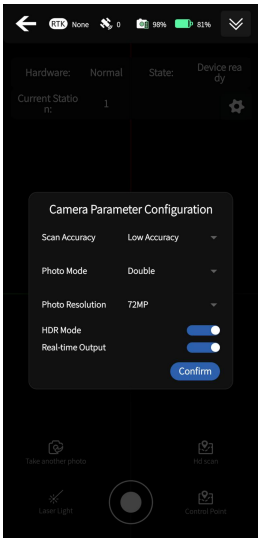
② Please click the [Start] button at the bottom of the screen, confirm the scan settings, and then click [Confirm] to start the task. Please wait in place for the device to complete automatic calibration before proceeding with high-precision scanning. One high-precision scan counts as one station's data.



03/Data Setup Management and Control Point Collection

·Data Settings Management

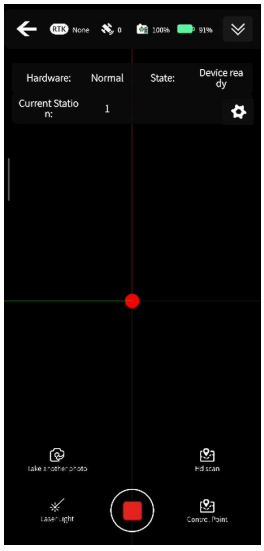


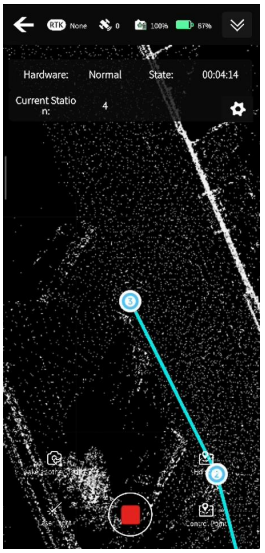


① All single-station scan data in this task will be automatically saved into a unified task package, and you can preview the point cloud in real-time on your mobile interface.

② Scanning parameters can be adjusted before each high-precision scan at a station through the 【Settings】 in the upper right corner of the real-time page, and the modified configuration will take effect for all subsequent scans.

·Control Point Collection





① Precisely align the device's laser targeting point with the ground control point marker, then click 'Record Control Point' in the scanning interface. Note that when recording a control point, the device must remain at the control point location for no less than 3 seconds.

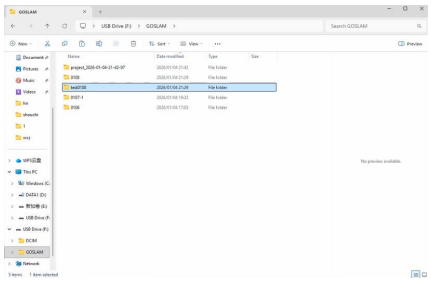
② After recording the control point,(The device is not in the process of high-precision scanning), slowly pick up the device and move to the next ground control point, adding the control point in the same manner. Once all operations are completed, confirm the end of the scan and wait for the video and data files to finish downloading and saving.

04/File Saving and Data Calculation

·File Save

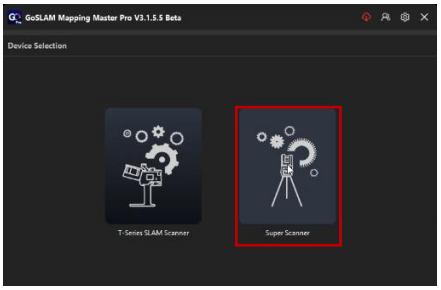
① First, remove the TF card from the device slot.

② Use the card reader that comes with the device to copy the data from the TF card to the computer. In the GoSLAM folder of the ejected USB drive, find the corresponding files and copy them to the local computer. Be careful that the copy location of the data files does not contain Chinese characters.

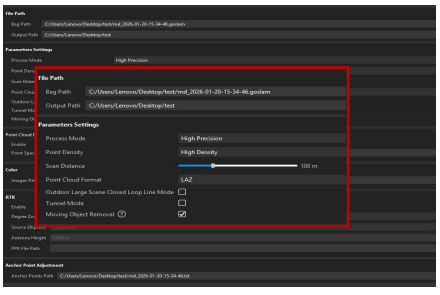


·Data Processing

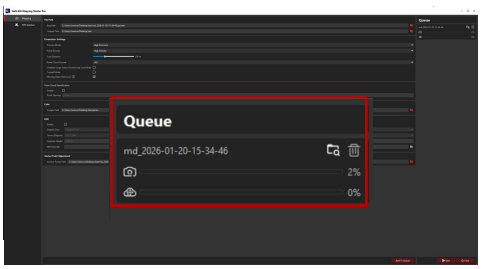
① Open the GoSLAM Mapping Master software, select "Super Scanner" to enter the data processing interface, click the import button in the file path bar, open the .goslam project file from the data package, and the output path will be automatically matched (please make sure not to use Chinese characters in the path).



② Please select the processing mode according to the scene characteristics: use "Standard" for rich structures, and "High Accuracy" for simple structures (such as indoors or pipelines). The point density can be set to Medium or High, the scanning distance defaults to 100 meters (can be adjusted as needed), and the output format can be either LAZ or LAS.



③ Select the photo folder in the data package, click "Add to Queue", and wait for the processing progress to complete.



Supporting Post-Processing Software

GoSLAM Manager APP

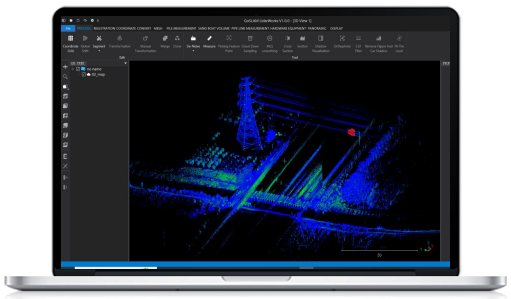
The GoSLAM Manager APP allows us to browse point cloud data in real time during scanning,support multiple browsing interaction methods and more human-machine interaction content.

Android version

ios version

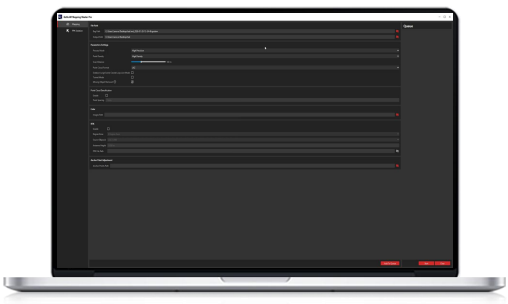
GoSLAM LidarWorks

GoSLAM LidarWorks is a corresponding software designed for GoSLAM series scanners.It can process point cloud data from third-party devices with high compatibility and flexibility.



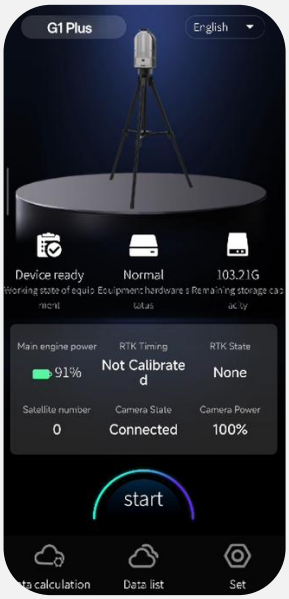
GoSLAM Mapping Master Pro

It is a desktop processing software.Users can choose to process data either in the device end or desktop software.It can significantly improve the overall work efficiency and meet various demands.

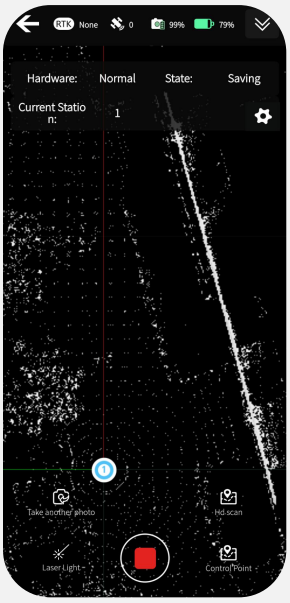


App Function Introduction

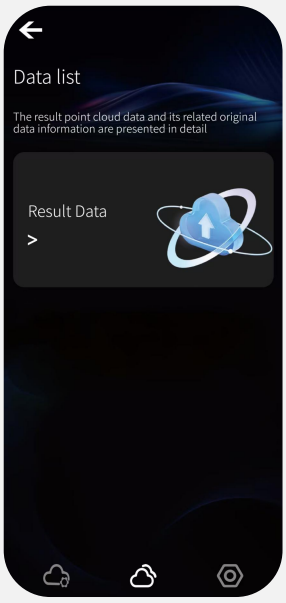
01/Operation Display Section



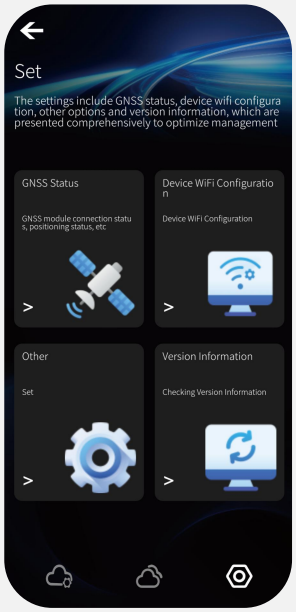
Home page



Data scanning page



Data list page



Settings page

Operation Button Instructions

Device connection status

Switch between Chinese and English

Data list

Data processing

Settings

Raw data, view, export, and import unresolved data packets.

GNSS status, RTK account configuration can be performed.

Device Wi-Fi configuration, modify and set the device's Wi-Fi related configuration settings.

Additionally, the color scanning mode can be modified.

Version information, view the firmware version and application version.

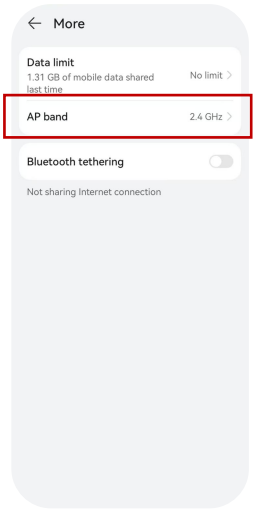
02/Description of the Original Data File

RTK_TEST_2026-01-29-10-30-50.insp	Original photos (inside the photo folder)
RTK_TEST_2026-01-29-10-30-50.goslam	Original data packet
RTK_TEST_2026-01-29-10-30-50_insta360.txt	Panoramic video original file download path
RTK_TEST_2025-06-30-16-49-25.txt	Original anchor file
RTK_TEST_2026-01-29-10-30-50_HD.log	Camera path

03/GNSS Settings

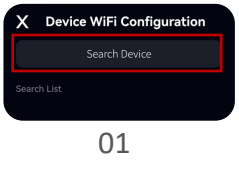
① Configure the WiFi of the Scanner

Turn on the hotspot on your mobile phone, and the hotspot name is GOSLAMAP SN,password goslam123.Note that the phone must be connected to the Internet.

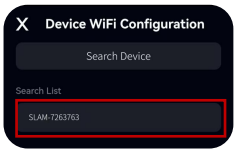


② Configure The Scanner Device WIFI

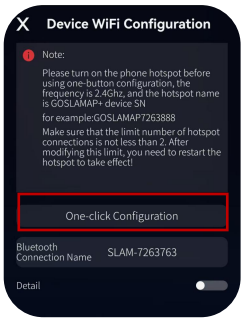
Enter the settings interface, click on the device WiFi configuration interface, click on Bluetooth and search for the device number that needs to be connected. After the Bluetooth connection is successful, click on one click configuration and return to check the GNSS status.



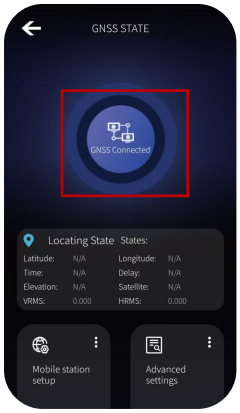
01



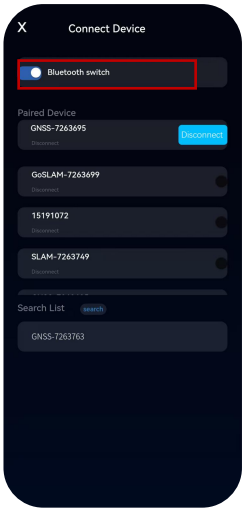
02



03



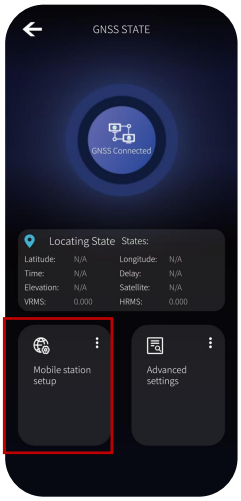
04



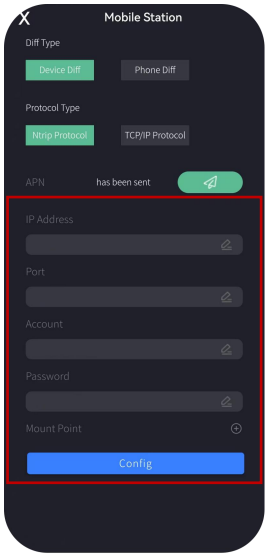
05

③ Mobile Station Configuration

· Enter the mobile station settings interface to configure the account. During the process, it is necessary to keep the mobile device connected to Ethernet normally to ensure that the mount point is obtained normally. After the configuration is completed, the device can be connected. Afterwards, open the scanning interface to check the RTK status and wait for it to fix before starting scanning.

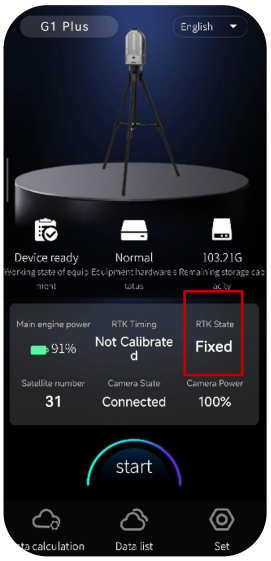


·Fill in the corresponding IP address and data port according to the CORS system service provider used;
·Log in to the account with the account password;Select the appropriate mount point, and click Configure after selecting.



④ Connection Status

Return to the GNSS status interface and check if it has been displayed as fixed. If the RTK status on the homepage shows as fixed solution, it indicates that the RTK setting has been successful.



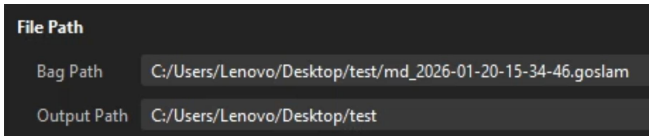
Introduction to Mapping Master Pro

01/Operation Display Section

02/Button Instructions

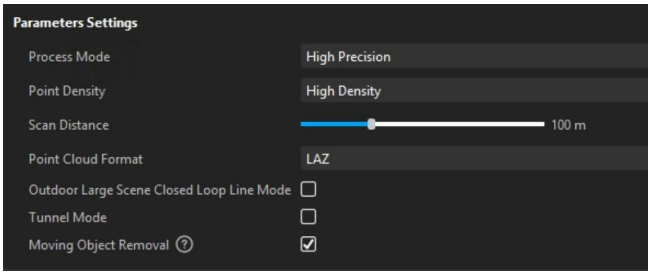
Data Packet

Open Mapping Master Pro, click on the data package, and choose the data file to process. The image on the right is for reference only.



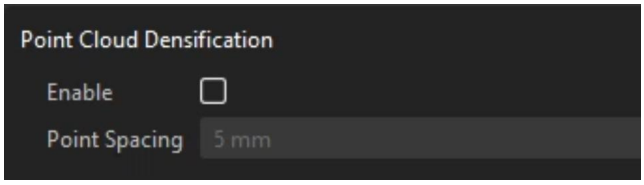
Parameter Settings

*Calculation mode: Set according to the scanning scene and accuracy requirements.
*Standard: Suitable for most scenarios (faster calculation speed).
*High precision: Suitable for all closed scenes and outdoor scenes that require extremely high accuracy.
*Scanning distance: Allows adjustment of the output distance for point cloud results, ranging from 20-300 metres, default is 100 metres. Adjust according to device model requirements.
*Point cloud output format: You can adjust the output format of the point cloud results. LAZ is a general compressed format that takes up less space. If the application software does not support LAZ, it can be changed to LAS format for better compatibility.
*Outdoor large scene closed-loop route mode: Designed for scenes with wide scanning ranges where small loops are difficult to form naturally. It can effectively improve data accuracy and ensure scanning results are both accurate and complete, especially suitable for large areas lacking internal loop data.
*Tunnel scene: Suitable for narrow and extremely low-feature closed scenes.
*Mobile object removal: Filters out moving objects encountered during scanning.



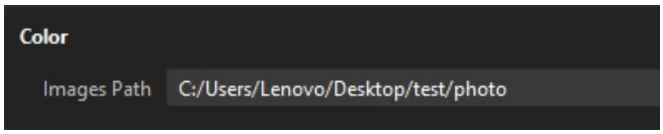
Point Cloud Densification

Select and enable point cloud densification as needed.



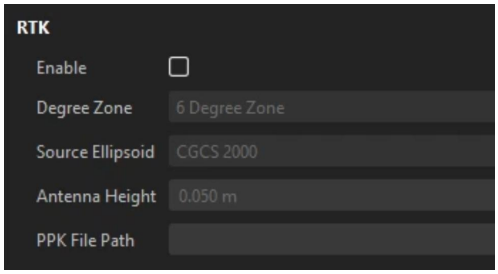
Color

To install the colour module, you need to import photo files, and the data package should select the photo folder. If it is not installed, importing is unnecessary.



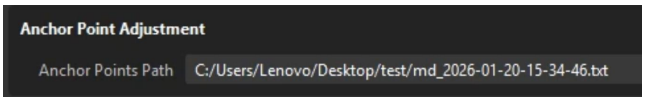
RTK

Enter the antenna height according to the RTK model.
*The degree zone can be selected as 3-degree or 6-degree according to requirements.
*The reference ellipsoid is chosen based on the RTK settings. Source ellipsoid CGCS2000 requires selecting the correct degree zone when using Gauss projection; source ellipsoid WGS84 does not require selecting a degree zone when using UTM projection.
*The professional mode is used to resolve various special coordinate systems, providing professional coordinate transformation and calculation support for high-precision spatial data processing.



Anchor Point Adjustment

The pre-arranged geographic coordinate points are corresponded one-to-one with the control points recorded by the scanner to improve the accuracy of the final point cloud. The main applications are tunnels, underground spaces, and scenarios requiring high precision.



Precautions

01/Device Storage

1. Wipe the equipment with a clean cotton cloth and then place it into the packaging box.
2. Avoid subjecting the equipment to shocks, bumps, or disassembly.
3. Do not disassemble the equipment yourself. If a malfunction occurs, please contact your local dealer.
4. After a period of use, gently shake the LiDAR component and check for any unusual sounds. If you hear any unusual noises, please check the screws of the LiDAR component. All equipment screws are equipped with anti-loosening measures to prevent them from coming loose. For safety, if any screws are loose, please contact your local dealer.

02/Common Problems and Solutions

Malfunction	Solution
Unable to turn on the host power.	Check if the battery is installed correctly. Make sure the battery has sufficient charge.
The phone cannot detect the device's Wi-Fi signal.	Check whether the power indicator light on the main device is on.
The mobile app cannot display real-time point clouds.	Check whether the mobile phone is connected to the device Wi-Fi. Please exit the scanning control page and re-enter, or close and reopen the app. Users controlling through the web can use the browser's refresh function to force a refresh. If the issue is not resolved, please check whether the location where the device starts scanning is too narrow, causing the laser to be severely obstructed and unable to acquire structural data properly.
The device shuts down during operation.	Check the battery level. Check whether the battery is fully inserted into the battery compartment.

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