GHJS12

Product User Manual

Explosion-proof mobile 3D laser scanner

CONTENT

TIPS

Install GoSLAM LidarWorks

◆ To use the product, you need to install GoSLAM LidarWorks.

◆GoSLAM LidarWorks requires Windows 7 or Windows 10 or Windows 11.

Install Mapping Master

◆ To use the product, you need to install Mapping Master.

◆ Mapping Master requires Windows 7 or Windows 10 or Windows 11.

Warning

◆ To avoid the risk of fire and electric shock and ensure long-term stable operation of the product, please store the product in dry and cool place, avoid exposure to sunlight and high temperature and humidity environment.
◆ As the laser head and sensor are sensitive devices, dry the device after operation in a rainy or humid environment. This avoids electronic components and laser head get mildewed.

Overall Unit

◆ To ensure the quality of acquiring point cloud data, keep the laser head clean and use the laser head with special care.
◆ Since internal wiring is complicated, do not disassemble scanner system without authorization to avoid failure, short circuit and other problems.
◆ Please avoid rough using which including decomposition, transformation, physical impact, hammering, falling or trampling.

INTRODUCTION

Product Overview

The operation of GHJS12 is very simple and is using laser SLAM.It relies on its own attitude data and laser point cloud to restore three-dimensional data through algorithm. It does not need GPS and other external auxiliary positioning equipment to present complete and accurate data.

Features

1. High precision
2. Indoor and outdoor scanning
3. Performance guarantee for large-scale scenarios
4. Handheld integrated design, no external equipment design concept
5. Comply with the standards for electrical equipment in explosive atmospheres
6. PC solution

TECHNICAL SPECIFICATIONS

Specifications	
Laser Class	Class I eye safety
Relative Accuracy	1cm（highest）
Running Status	LED status screen
Scanning Range	120M
FOV	360°X280°
Scanning Speed	320,000 points per second
Storage	512GB(Capacity expandable)
LiDAR	16-Lines
Explosion-proof of type	Intrinsically safe type
Working Temperature	-20℃~50℃
Running Time	4 hours
Weight	1.95KG

Internal Battery	
type	Polymer lithium batteries
Voltage	12V
Charging Ambient Temperature	0℃～40℃

WORKING PRINCIPLE

- The GHJS12 consists of a multi-lines LiDAR and an inertial Measurement unit (IMU). It expands the field of view (FOV) by rotating the LiDAR.
- The GHJS12 integrates data from LiDAR and IMU to generate accurate 3D point clouds by SLAM algorithm without a GNSS receiver.

COMPONENT LIST

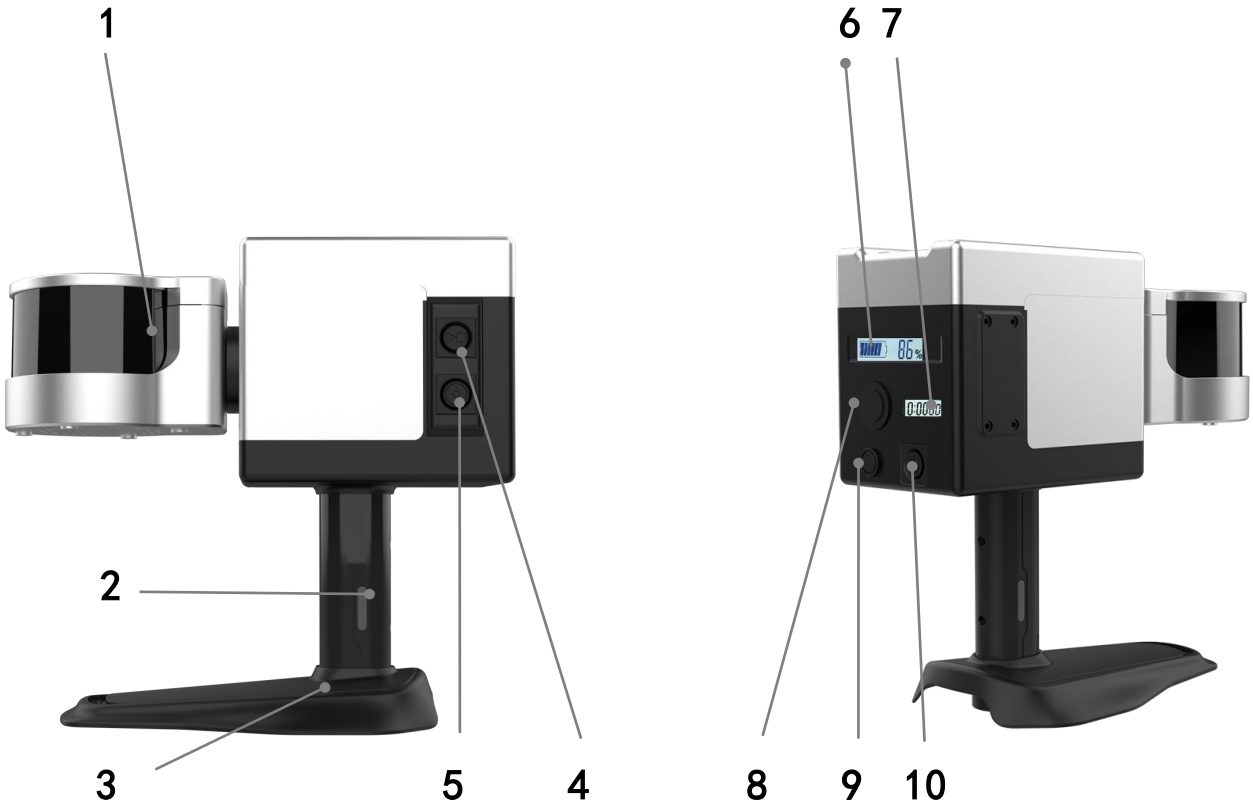
1

2

3

1	Scanner Host	2	Charging Cable	3	Target Base

STRUCTURE DESCRIPTION



1	Laser Sensor	2	Handle	3	Target Base	4	Scan control button
5	Control Point Button	6	Battery level display	7	Working Status	8	USB interface
9	Power connector	10	Power button				

INSTALLATION AND CONNECTION

Installation and Connection(Target base part)		
		
Scanner host	Target base	Handheld
▸ The target stand is installed and connected to the slot at the bottom of the handle, please install screws to fix it.		

Installation and Connection（Charging part）	
	
Power connector	Charging cable

WORKING STATUS SCREEN

- **Status display**

GHJS12 is equipped with a status display screen,which supports more status information display and operation guidance, making it easier to use.

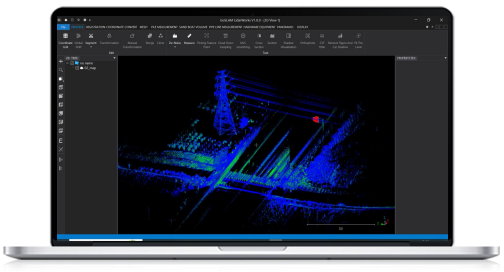
- **Battery level display**

The GoSLAM GHJS12 ultra-clear panel can quickly and intuitively help to judge whether to be charged or not, and display the power of the battery status.

POST PROCESSING SOFTWARE

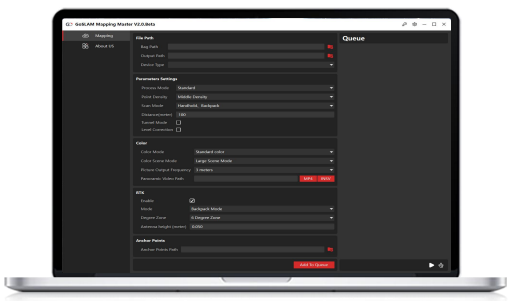
LidarWorks

GoSLAM LidarWorks point cloud processing software is a professional general point cloud editing and application software, the software is compatible with the point cloud data produced by most devices on the market, supports massive point cloud browsing, cropping, noise reduction, smoothing, coordinate conversion and splicing and other basic functions, but also supports model packaging and optimization, panoramic point cloud linkage and a variety of industry application modules, and can also enjoy convenient operations such as automatic identification of supporting files when processing GoSLAM scanner data.



Mapping Master

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



SAFETY INSTRUCTIONS

Safety Instructions

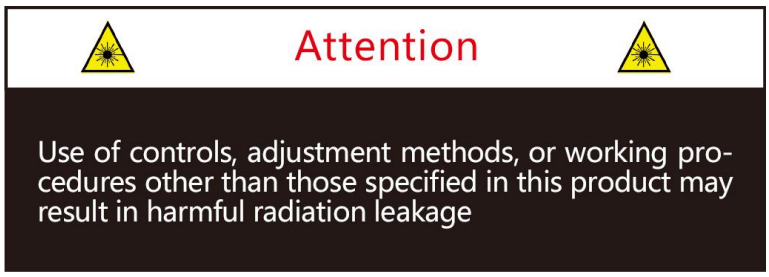
1. In order to avoid the danger of fire and electric shock, and to ensure the long-term stable operation of the product, please store the product in a dry and cool place. Avoid exposure to sunlight, high temperature, and humidity.
2. Since the laser head and sensors are sensitive, dry the devices after being used in a wet environment. It prevents the occurrence of electronic components and laser head getting mildewed.

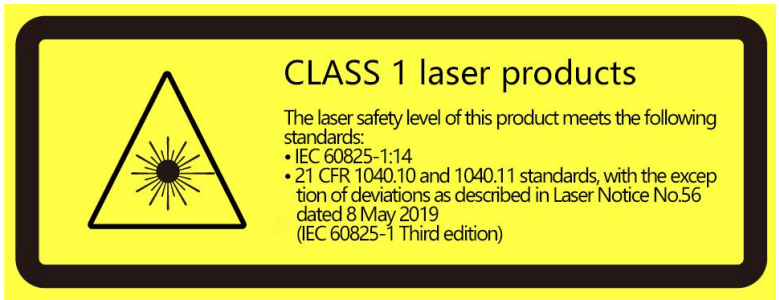
Safety tips

Please read and follow the instructions carefully before using the product and refer to any relevant national and international safety regulations in the meantime.

Attention

To reduce the risk of electric shock and avoid violating warranty regulations, do not disassemble or modify the radar without permission. This product does not include user-repairable parts, please consult the maintenance personnel of GoSLAM about the warranty and maintenance matters.





Laser Safety class

The laser Protection class of this product meets the following standards:
IEC 60825-1:2014
21 CFR 1040.10 and 1040.11 standards, in any case, other than the deviation matters (IEC 60825-1 third edition) as described in Laser Notice No.56 issued on 8th May 2019, do not look directly at the laser in transit via amplifying device, such as a microscope or any kind of magnifiers.

Safety warning

In any case, if you suspect that the Product is faulty or damaged, please stop using the product immediately to prevent injuries to the user or further damage to the product. Please contact GoSLAM or its authorized agencies to deal with the damaged product.

Operation

This product is made of metal, glass and plastic, and contains sensitive electronic components. Improper operations such as falling, burning, puncturing, or squeezing may cause product damaged. Once the product drops, please stop using it immediately and contact GoSLAM for technical support.

The appearance

The product contains high-speed rotating components. Do not operate the scanner without fastening it. Do not use products with damaged appearance to avoid injury.
To avoid performance degradation, do not touch the light cover with your hands. If the hood is stained, clean it as described in the "Equipment Storage" section of the manual.

Eye Safety

Although the product is designed to meet Class 1 eye safety standards, do not look directly at the laser in transit via amplifying devices, such as a microscope or any kind of magnifiers. Besides, to maximize self-protection, users should still avoid looking directly at the product in running.

Maintenance

Do not open or repair the product yourself without official guidance. Dismantling the product may result in product damage, waterproof failure, or personal injury.

The power supply

Please use the connecting cable and power adapter provided by GoSLAM. Otherwise,if cables or adapters that do not meet the power supply requirements or have been damaged,or if power is supplied in a humid environment,fire,electric shock,personal injury,product damage or other property losses may occur.

Vibration

The product shall avoid strong vibration to cause any 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 product is designed,tested and manufactured under the relevant regulations on RF energy radiation,radiation from the product may still cause other electronic equipment to malfunction.

Interference of medical equipment

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 medical device manufacturer for specific information about your medical device, such as keeping a safe distance from the product. If you suspect the product is interfering with your medical device, stop using it immediately.

Deflagrability and other air environments

Do not use the product in any area where there is a potentially explosive atmosphere, such as the air containing high concentrations of flammable chemicals, vapors, or particulates (such as particles, dust, or metal powder). Do not expose the product to high concentrations of industrial chemicals, including liquefied gases such as helium to avoid damaging or weakening the product’s functionality. Please follow all tips and instructions.

Light interference

Certain precision optics may be interfered with by laser light emitted by the product. Please be careful when using it.

Safety instructions for Device Operation

1. For the high quality of the point cloud, please keep the laser lens clean and use it with special care.

2. Avoid blocking or interrupting the lidar as it rotates.

3. Keep the connection cable stable and do not repeatedly plug or remove the connector.

4. Use the device at normal ambient temperatures and avoid exposing it to extreme temperatures. Otherwise, it may shorten battery life or cause unpredictable risks.

5. Please avoid rough use which includes decomposition, transformation, physical impact， hammering, falling, or trampling.

6. Keep a safe distance from the children.

BUTTONS DESCRIPTION

Scan the handheld button instructions		
	Scan control button	
	Control Point Button	

Power button description		
	Power button	

OPERATION PROCESS

1、The device is powered on

○ The handheld end is equipped with a power button  , Short press the power button to power on.

○ Check the battery level display to check how much power is left on the device. 

2、The device automatically turns on and waits for connection

○ Scan control button 

○ Control Point Buttor 

○ The device shows： 

The device is ready for connection.

The power on-off light is located on the flank of the handheld device.

3、The device is being automatically initialized

○ When the device starts, the main screen shows the system page and automatically initializes.

○ The device shows： 

The device is initialized.

4、The equipment is automatically ready

○The equipment will be ready immediately after automatic initialization.

○ The device shows： 

and the device is ready.

5、Start manually

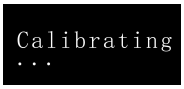
○ The device completes the above procedure automatically and it’s ready to use. Hold the device horizontally before scan. Long press the start button to start scanning.

○ Long press the start button when the device shows: 

then it’s ready to scan by releasing the button.

6、The device starts calibration then ready to scan

○ After the equipment is started, it's automatically ready for calibration.

○ The device shows 

and the device starts to calibrate. Please hold the device stable to begin collection which the point cloud data will be shown on the mobile APP.

○ During the calibration process, the device shows: 

it's start to computing time the entire workflow.

After calibration, the device automatically compute the entire workflow time.

○ The device shows: 

The scans automatically and starts scanning.

Start scanning after waiting the device to rotate for 5 seconds.

○ During the scanning process, the device shows that 

it's stilld computing the workflow time.

7、Control point

○ During the scanning process,the front cross of the control point marking plate at the bottom of the device is aligned with the pre-marked control point. 

○ After the laser head is reset, the device status display prompts: 

, the control point is successfully recorded. When the laser head starts to rotate again, remove the device and continue scanning. Keep a slow speed when you remove.

8、End scanning

○ After finishing scanning, long press the start button. 

○ The device shows: 

means the scanning is completed.

9、Save

After the scan is completed,data will be storaged automatically.

○ The device shows: 

The device is in storage procedure.

The device will be ready for the next operation after the storage procedure is completed.

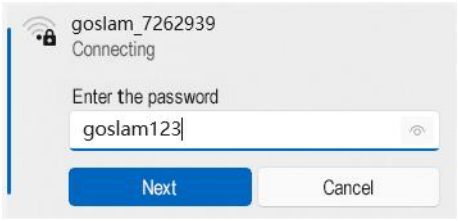
10、Turn off

○ After the job is saved, press the power button to complete the shutdown. 

DATA PROCESSING

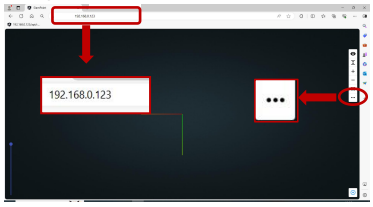
WIFI Download

1 Connect through WIFI, search WIFI: goslam Connection password: goslam123 on the data logger side.

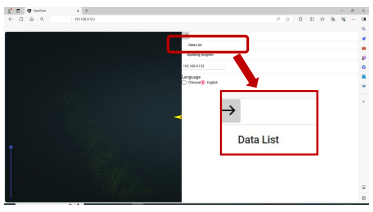


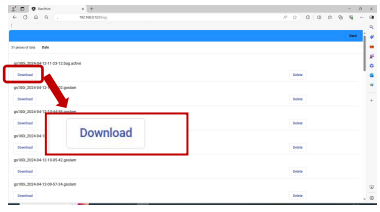
2 After the connection is successful, open the browser address bar and type: 192.168.0.123 to download the data.

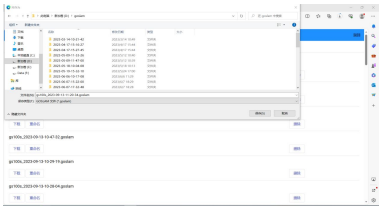
For the example on the page below, look at the function flags on the right and select More Flags. •••

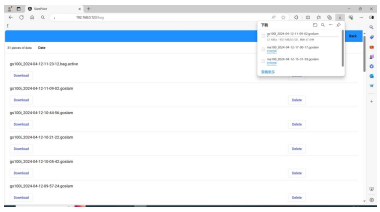


3 Click on the bag list on the page, and the download page will appear, and select to download the data you need;Select the download path to select the folder by yourself, and the following diagram is for reference only.



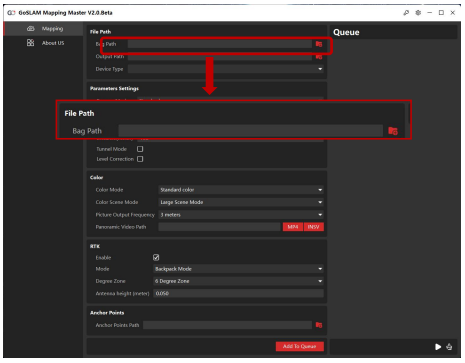


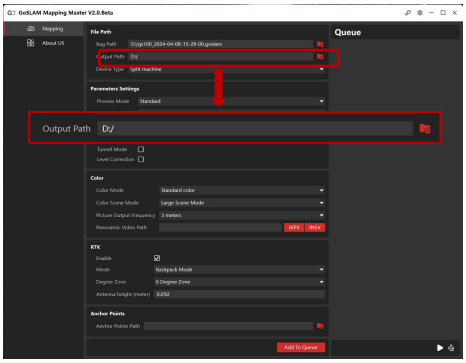




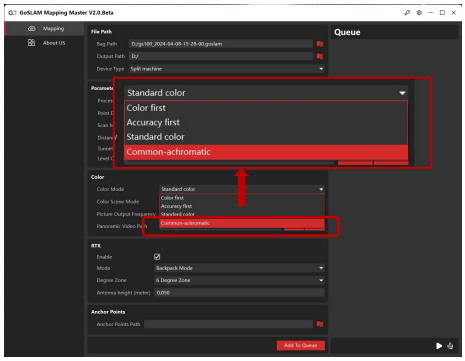
PC end processing

1 Open GoSLAM Mapping Master, click Data Packets , and select the data file you want to process. (The file path cannot contain Chinese)

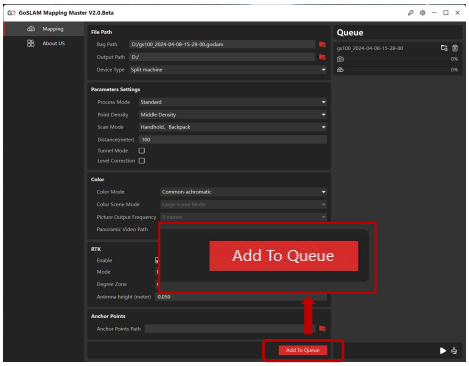


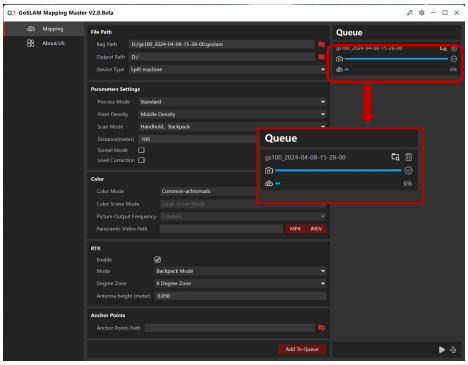


2 Modify the color mode to unable color.



3 Click the Add to Queue button to view the queue on the right, display the solution data file, click the Start button to start the data calculation, and the progress is complete to show that the solution is successful.





Storage

1. Wipe the device clean and put it into packing case.

2. keep the device away from impact, collision, or disassembly.

3. Do not disassemble the device by yourself. If a fault occurs, contact your local distributor.

4. Gently shake the LiDAR components to check whether there is abnormal noise within a period time. If you hear any noises, check the screws on the LiDAR assembly. All equipment screws are setting anti loose.Please contact your local dealer if any screws are loose.

COMMON FAULTS AND SOLUTIONS

Problems	Solutions
The phone don't detect the Wi-Fi signal of the device.	Check whether the device is power on.
The laser head cannot rotate normally or the rotation speed is abnormal.	Check whether the hand-held rotation area is blocked.
Initialization failed.	Power off the device and remove the battery, reconnect the battery, and reboot the device to check the device status.

Explosion-proof mobile
3D laser scanner