SLAM100

Handheld Laser Scanner

01 产品参数 Product Parameters

SLAM100

The SLAM100 is the first handheld mobile lidar scanner from FEIMA Robotics. The system has 360° travel-rotating pan-tilt, which can form 270°*360°point cloud coverage. Combined with industry-level SLAM method, it can obtain 3 -dimentional point cloud data of surrounding environment with high precision and high precision without lighting and GPS.

SLAM100 selects three 5 million pixel camera, which can form a wide field of Angle of 200° wide and 100° high, and obtain texture information at the same time under lighting conditions to produce color point clouds and local full-max images.

SLAM100 adopts integrated structure design, internal control and memory system, built-in replaceable key battery, one program starts operation, making data acquisition more efficient and convenient.

SLAM100 can use SLAM GO mobile phone APP to view and manage the project, automatically display the project information synchronously with the cloud , carry out real-time SLAM jigsaw and real-time preview, and carry out firmware upgrade and equipment maintenance and other operations. Based on FEIMA UAV butler SLAM GO POST software module, it can realize data post-processing, color point cloud production, data stitching, data optimization, browsing and measurement.

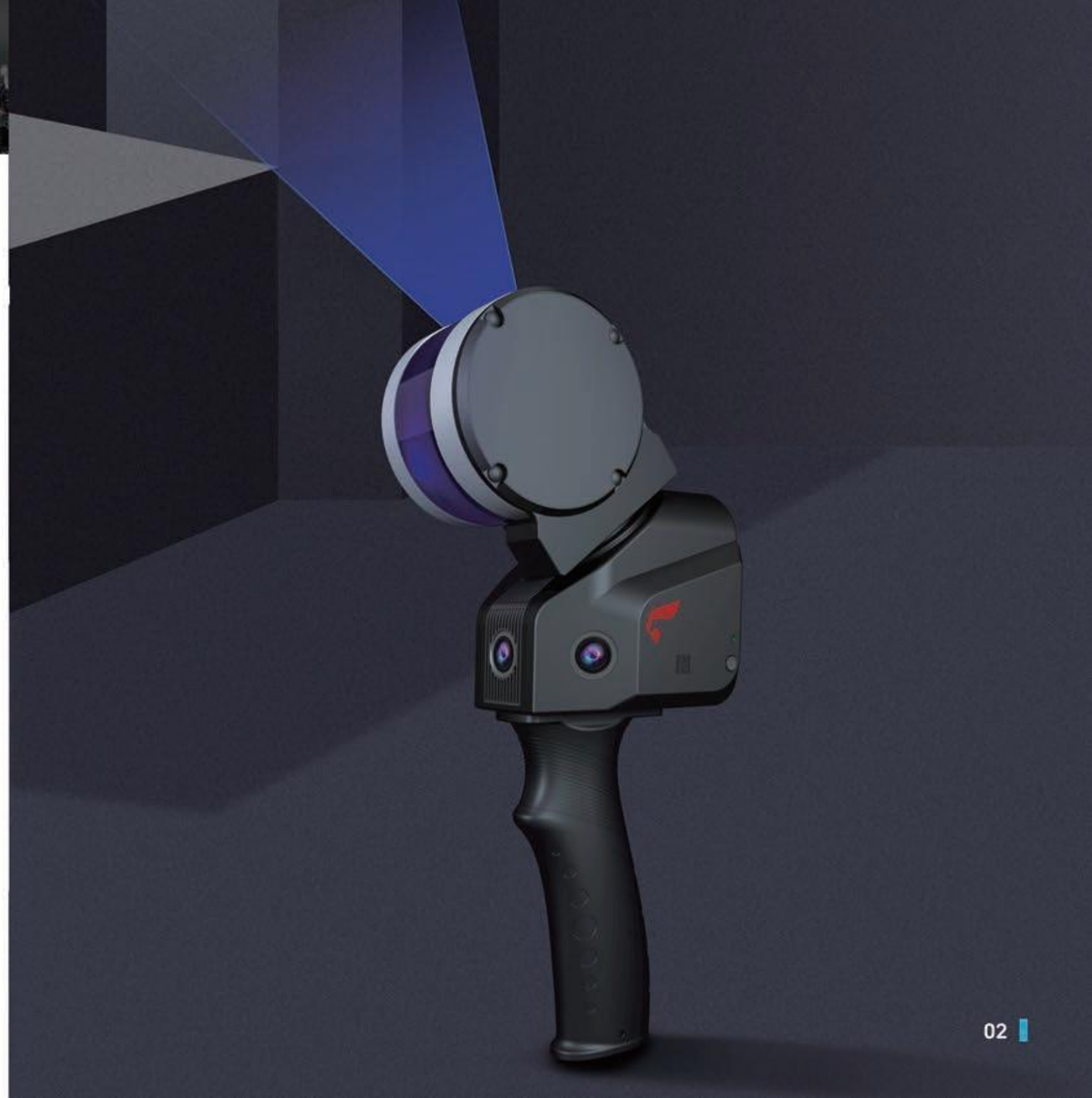
SLAM100 can be widely used in traditional mapping, closed space, digital 3-dimentional, emergency communication and other fields due to its portability, no GPS and multiple platforms that can carry.

The overall parameters:

Laser field angle	270 ° * 360°
Camera field angle	200°(horization) *100° (verticals)
Relative accuracy	2cm
Absolute accuracy	5cm
Storage capacity	32GB(standard)
Power Supply	Lithium battery
External Power Voltage	13-20V
Internal battery	3000mAh
Continued consumption of internal battery	1 hour
Consumption	24W
Protection Grade	IP54
Working temperature	-10 °- +50 °C
Working humidity	< 85%RH
Weight	1373g (without battery)
Size	372*163*106mm (without base)

Sensor parameter

Laser level	Class 1
Laser channel	16
Measuring Distance	100m
Frequency	300kpts/s
Echo Intensity	8 bits
Number of camera	3
Camera resolution	500 Million Pixels
NFC	Support



02 部件介绍
Component Introduction

NFC
Touch Type WIFI Connection

Laser Sensor
Measure Range: 100m
Dot frequency: 100,0000

Status LED Light
Remain Battery & Work Status LED Light

Power Button
One button start

Spindle-rotating Platform
Work View Field: 360 * 270 degree

SD Card Slot
Switch Storage Media

Camera Sensor
3* 5 Million Pixels

Extended Port
Abundant Extended Device

Handheld Bracket
Detachable, replace the battery

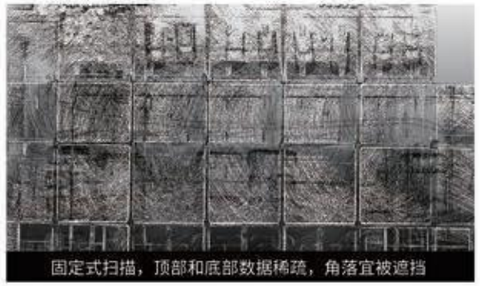
USB Port
Firmware Update & Log download

SLAM100

270°×360° Laser Field of View

Rotary scanning, laser sensor dynamic acquisition can form 270°× 360 ° spherical field angle, accurate to collect different data of each corner, to ensure the integrity of the grip.

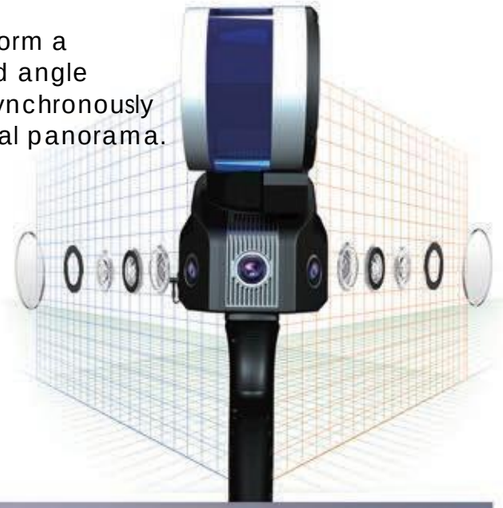

SLAM100旋转式扫描，顶部和底部数据均匀，角落数据完整


固定式扫描，顶部和底部数据稀疏，角落宜被遮挡

With Visible Light Camera

Three 5 million Pixels Cameras are selected to form a horizontal field angle of 200° and a vertical field angle of 100°. Texture information can be obtained synchronously to generate shadow color point cloud and local panorama.

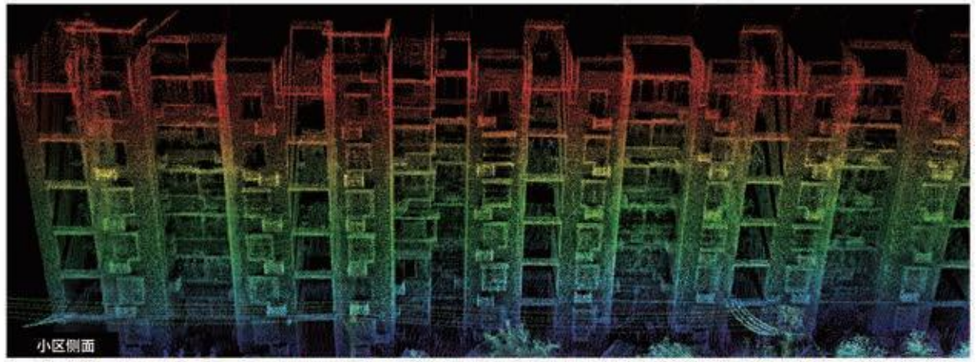

点云与影像融合示意图

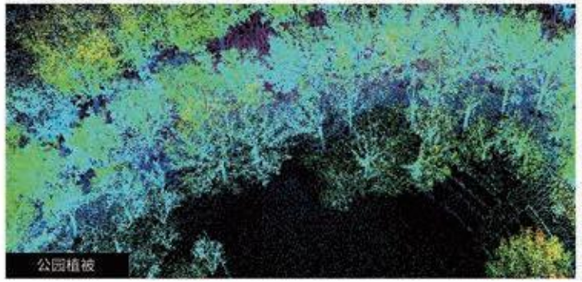


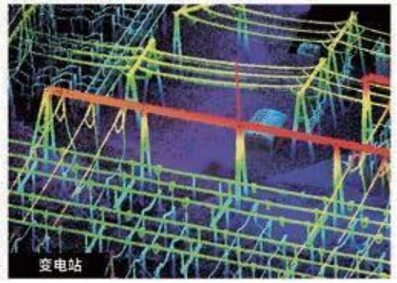

局部全景影像图

High Precision

Industry-level SLAM post-processing algorithm enables SLAM100 to obtain higher precision and finer 3 dimentional point cloud data.







Automatic Acquisition of Control Points

No need to add control points manually, it can conduct active acquisition and automatic extraction. Active and automatic data can also be placed in the global coordinate system.

Flight Platform Mount
飞行平台挂载

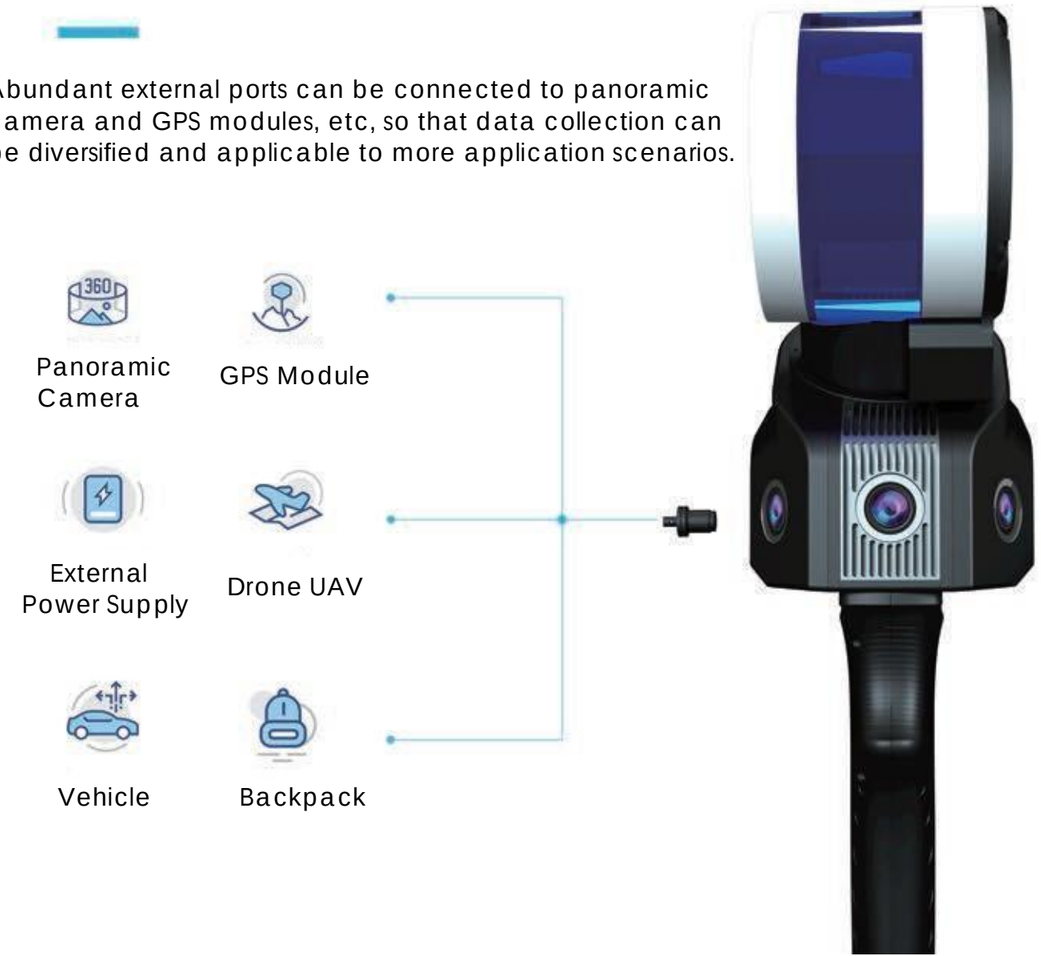
飞行平台挂载，可支持挂载在飞马D500和D20
飞行平台上，进行空地一体化、室内外一体化数据采集。

Flight Platform Mount, support to load on Feima UAV D500 &D2000, carry on data collecting job integrated in the air & on the land, both indoor & outdoor.

03 特点介绍 Feature Introduction

Abundant External Interfaces

Abundant external ports can be connected to panoramic camera and GPS modules, etc, so that data collection can be diversified and applicable to more application scenarios.



SLAM GO

SLAM GO is a mobile phone APP used in conjunction with SLAM100.The APP can be connected to SLAM100 devices through mobile phones, which can carry out project management, purchase pointcloud jigsaw display, image preview, firmware upgrade and other operations. Support Android and IOS platform.

Real-time data display

SLAM100 wireless connection, real-time display of scanning data. It can conduct 2D,3D and slice display, control data access without loss

Cloud information Synchronization

Mobile APP historical engineering information can be synchronized from the cloud to show the operation time, operation location, project overview and data overview.

Image Preview

Preview three cameras to obtain images, and according to the actual operation environment adjust operation parameters.

SLAM GO POST

SLAM GO POST is the PC side software for SLAM100, embedded in the DRONE Butler professional edition. The software can carry out post-processing of SLAM100 collecting data, produce high-precision and high-precision color point cloud, produce local panoramic view, browse and optimize point cloud processing.

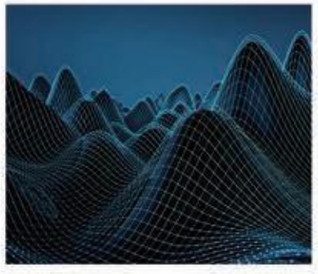
Precise Point Cloud Map Building
Support to produce the point cloud map of indoor and outdoor with relative accuracy 2cm.

Point Cloud Browse
Support point cloud zoom in, zoom out, roam and RGB real point cloud coloring.

Point Cloud Rendering & Coloring
Support including EDL, PCV point cloud and RGB real point cloud coloring.

Key Point Panorama Generation
Support the generation of high-definition local panorama of key positions in the scene.

05 应用场景 Application Scenarios



Topographic Surveying & Mapping

Real Estate Surveying

Calculation of Cutting & Filling

Protect Ancient Buildings

Digital Management

Reverse Engineering

Underground Space

Caves & Alleys Pass

Volume Measurement

Finish Construction Survey

Forestry Survey

Elevation measurement