



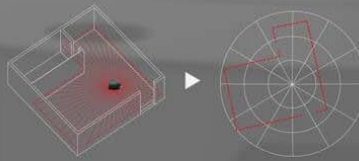
RPLIDAR A1M8 - 360 Degree Laser Scanner Development Kit

SKU:DFR0315

INTRODUCTION

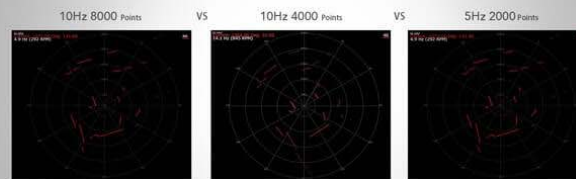


RPLIDAR A1 is based on laser triangulation ranging principle and uses high-speed vision acquisition and processing hardware developed by Slamtec. The system measures distance data in more than 8000 times per second.



The sample rate of LIDAR directly decides whether the robot can map quickly and accurately. RPLIDAR A1 improves the internal optical design and algorithm system to make the sample rate up to 8000 times, which is the highest in the current economical LIDAR industry.

Comparison under different condition



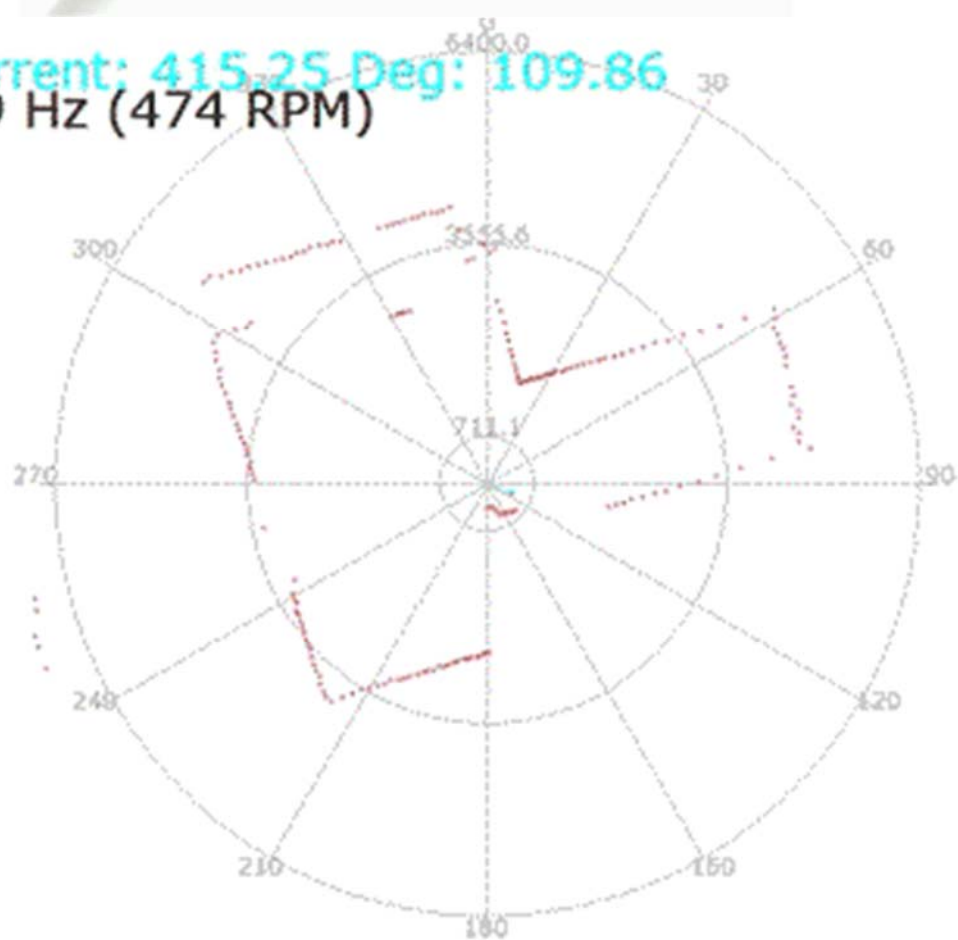
360 Degree Omnidirectional Laser Range Scanning

The core of RPLIDAR A1 runs clockwise to perform a 360 degree omnidirectional laser range scanning for its surrounding environment and then generate an outline map for the environment.





Current: 415.25 Deg: 109.86
7.9 Hz (474 RPM)



FEATURES

OPTMAG Original Design

Most traditional non-solid LIDARs use slip ring to transfer power and data information, however, they only have thousands of hours of life due to mechanical wearing out. Slamtec has integrated the wireless power and optical communication technology to self-design the OPTMAG technology, which breakthroughs the life limitation of traditional LIDAR system. It fixes the electrical connection failure caused by the physical wearing out so as to prolong the life-span.

Wireless power Optical communication

Configurable Scan Rate from 2-10Hz

Users can adjust the scan rate by clicking the PWM signal button

2 hz 5.5 hz 10 hz

Ideal for Robot Navigation and Localization

RPLIDAR is the designed sensor for applying SLAM algorithm

 12 meters	 8000 Sa/s	 1 Degree	 0.2 cm	 5 Volt
Detection Range	Sample Rate	Angular Res.	Distance Res.	Power Supply

With the scan rate set as 5.5Hz and the resolution is 0.2% percent of the actual distance

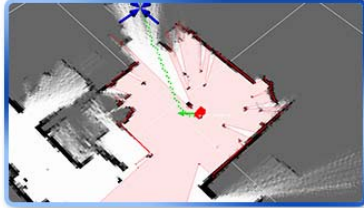
Plug and Play

Just connecting the RPLIDAR and a computer via a micro USB cable, users can use the RPLIDAR without any coding job

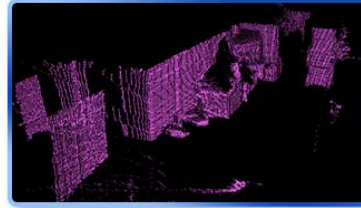
 IOI Build in serial port and IOI interface	 GPL Open source SDK and tools	 ROS Integration with ROS
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APPLICATIONS

Applications



Robot Localization & Mapping (SLAM)



3D Modeling



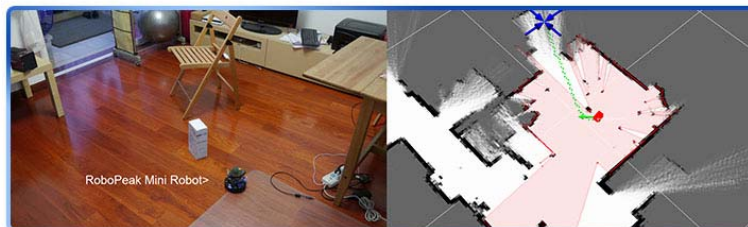
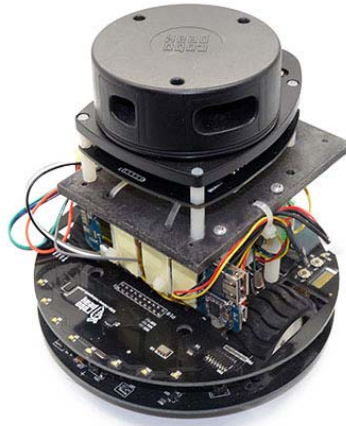
Obstacle Avoidance
Safety & Security



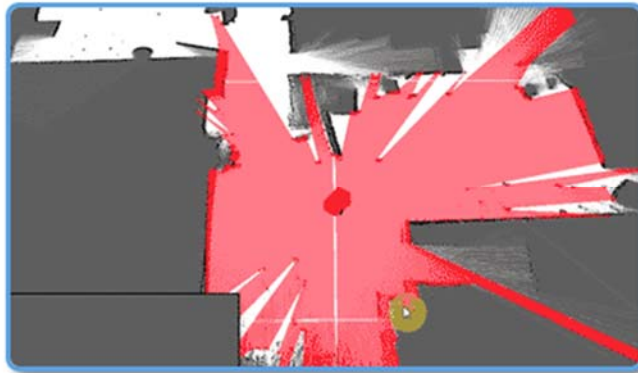
Multitouch & Human Interaction

Best Sensor for Robots

Obstacle Avoidance, Mapping, Localization, Navigation



RoboPeak Mini Robot generates the environment map and find its way to the destination using an RPLIDAR



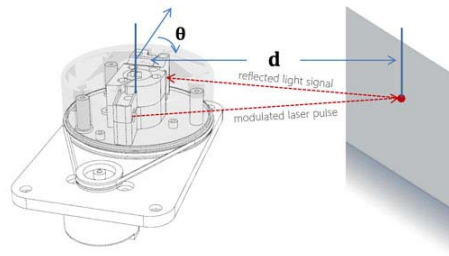
Realtime ICP-SLAM based on RPLIDAR

Mechanism

2000 fps

High Speed Laser Triangulation Vision System
Designed by RoboPeak

RPLIDAR emits modulated infrared laser signal and the laser signal is then reflected by the object to be detected. The returning signal is sensed by vision acquisition system in RPLIDAR and the DSP embedded in RPLIDAR after processing the sample data and output distance value and angle value between object and RPLIDAR through communication interface.



Size & Weight

200 g




SPECIFICATION


Note: It has been newest Model: A1M8 ——2018/5/15

Development


Development Kit
RPLIDAR, Tools, SDK and more.



Documents
Datasheet, User manual, API doc, Application notes ...



SDK & Demo
C++ based SDK, fully open source, supports Linux & Win32



RPLIDAR A1M8 - 360 Degree Laser Scanner Development Kit Review

SHIPPING LIST

360 Degree Laser Scanner Development Kit x1

<https://www.dfrobot.com/product-1125.html> 8-22-18