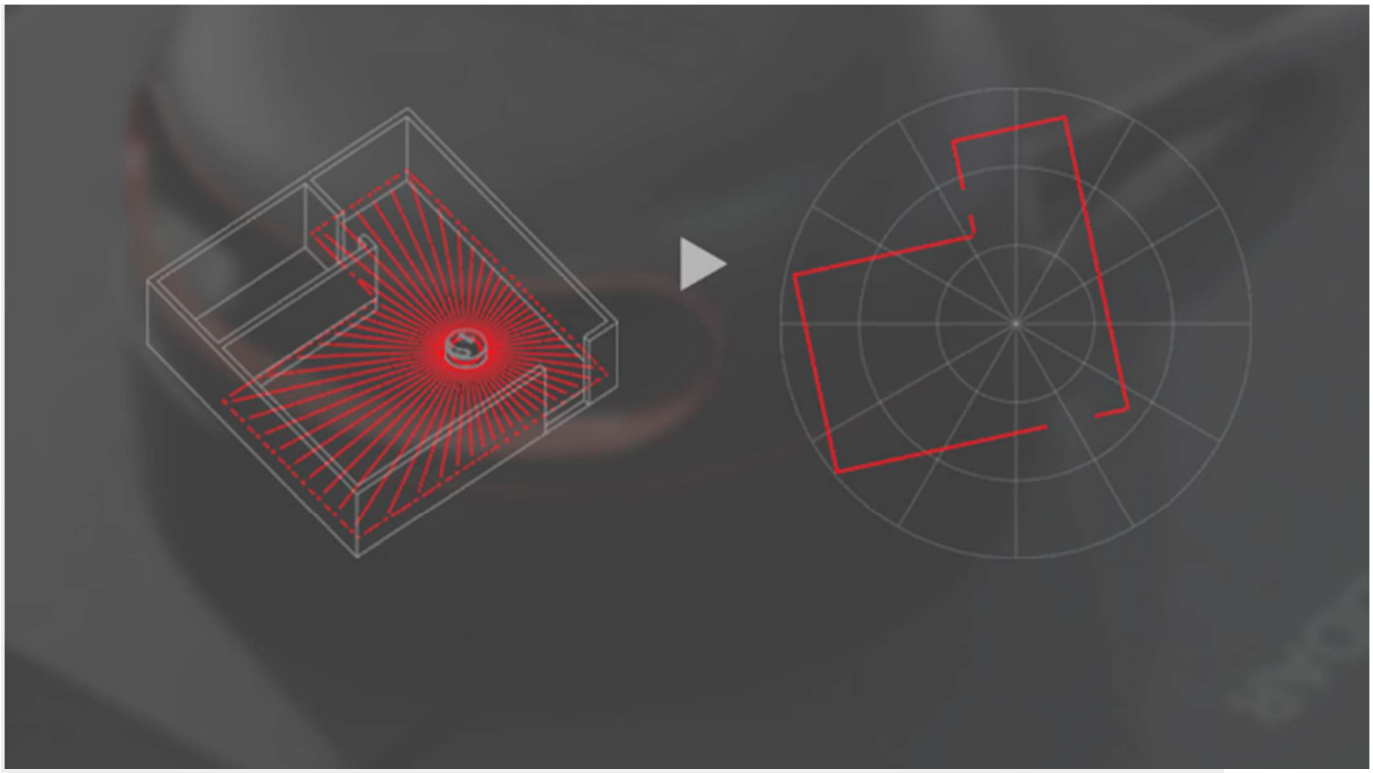
RPLIDAR A2M8 - 360 Degree Laser Scanner Development Kit

SKU:DFR0445

INTRODUCTION

The RPLIDAR A2M8 adopts the low cost laser triangulation measurement system developed by SLAMTEC, which makes the RPLIDAR A2 has excellent performance in all kinds of indoor environment and outdoor environment without direct sunlight exposure. Meanwhile, before leaving the factory, every RPLIDAR A2 has passed the strict testing to ensure the laser output power meet the standards of FDA Class I.

The core of RPLIDAR A2 runs clockwise to perform a 360 degree omnidirectional laser range scanning for its surrounding environment and then generate an outline map for the environment.



4cm Ultra-thin

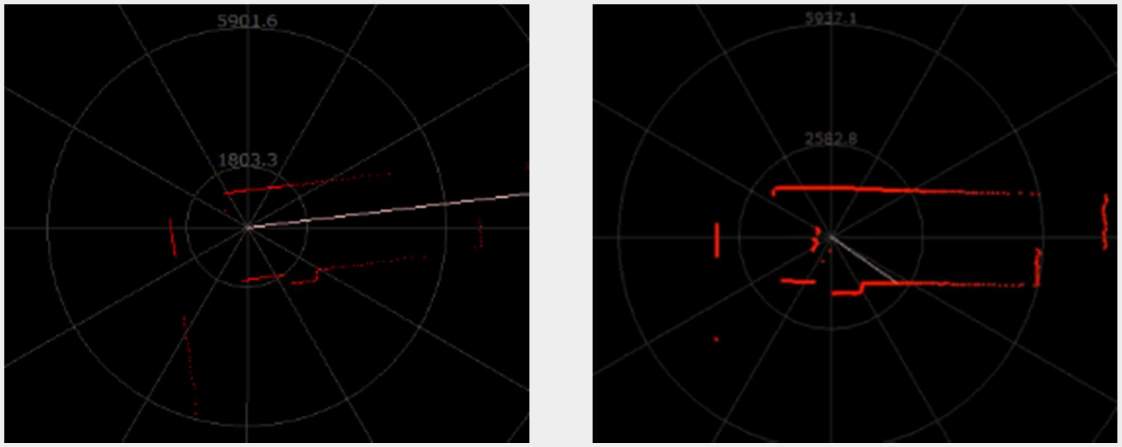
With the custom special parts and the carefully designed internal mechanical system, the RPLIDAR A2 keeps its excellent performance while cut the thickness to only 4cm. It is ideal for all kinds of service robot.

The sample rate of LIDAR directly decides whether the robot can map quickly and accurately.

RPLIDAR 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.

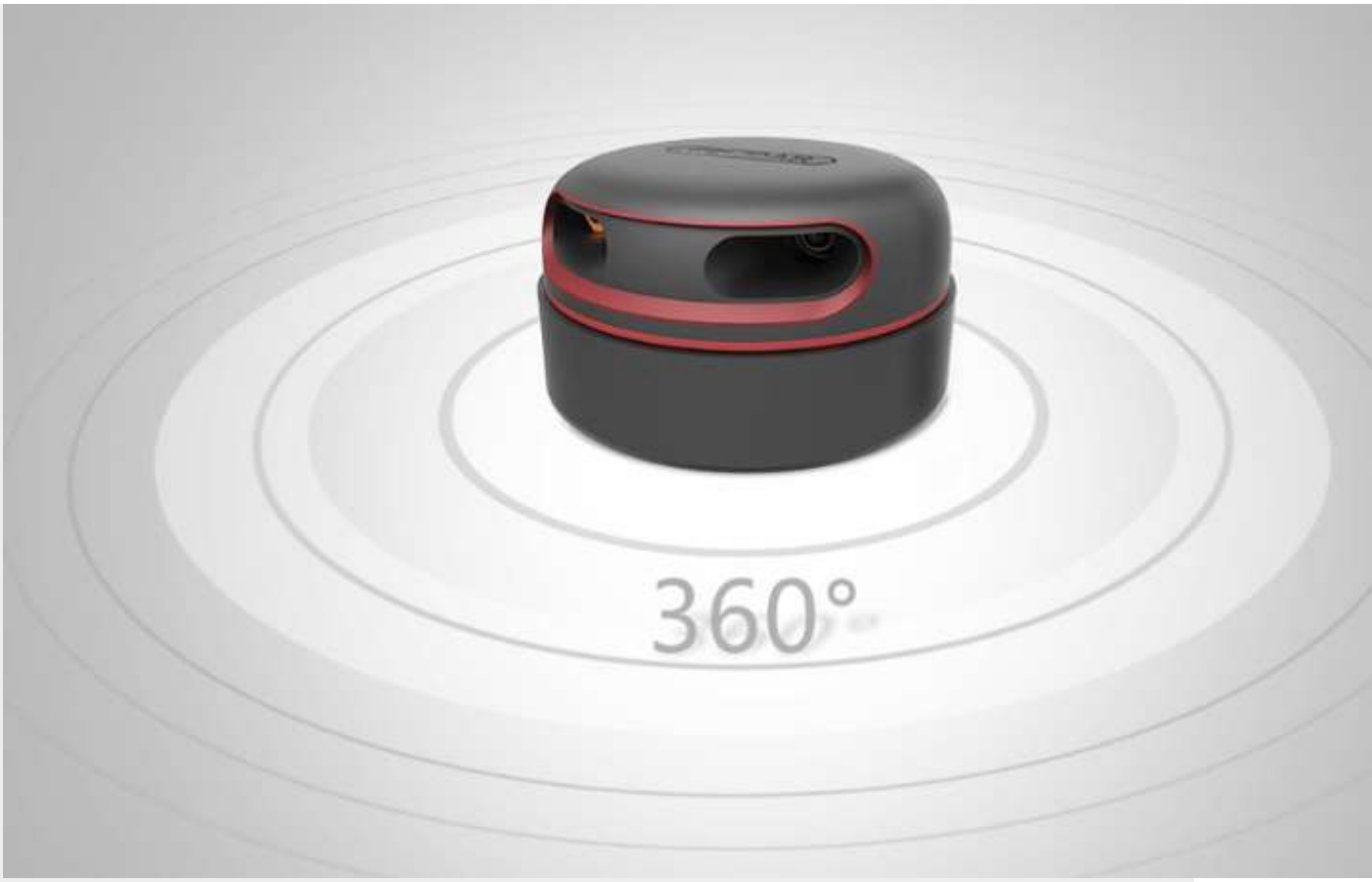
Comparison under different conditions

10Hz 8000 Points **vs** **10Hz 4000 Points**



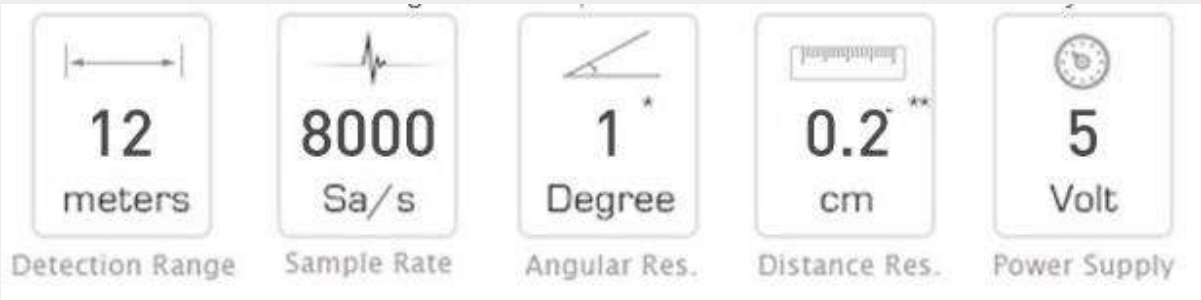
360-degree laser range scanning

The core of RPLIDAR A2 runs clockwise to perform a 360-degree omnidirectional laser range scanning for its surrounding environment and then generate an outline map for the environment.



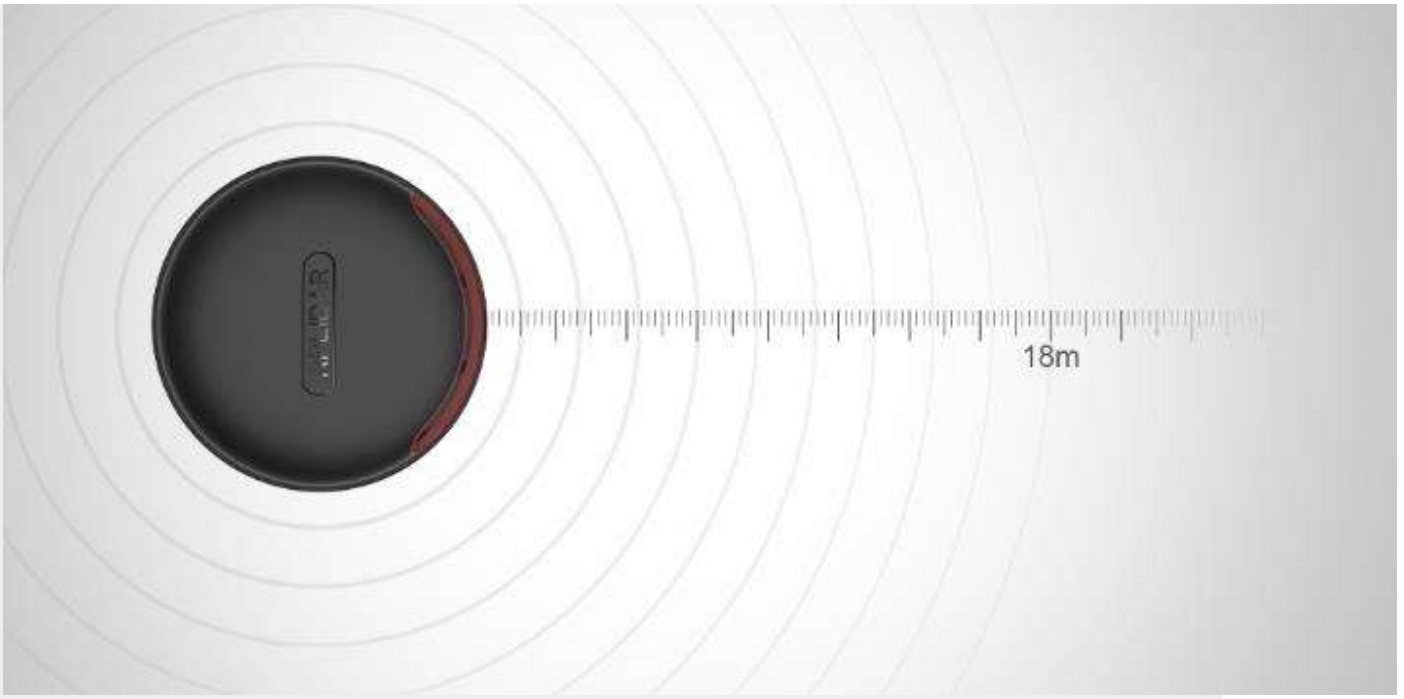
Low Noise, Brushless Motor New Non-contact Drive

Compared with the traditional belt drive mode, RPLIDAR A2 uses the self-designed brushless motor to reduce the mechanical friction in running. Therefore, the RPLIDAR A2 can run smoothly without any noise.



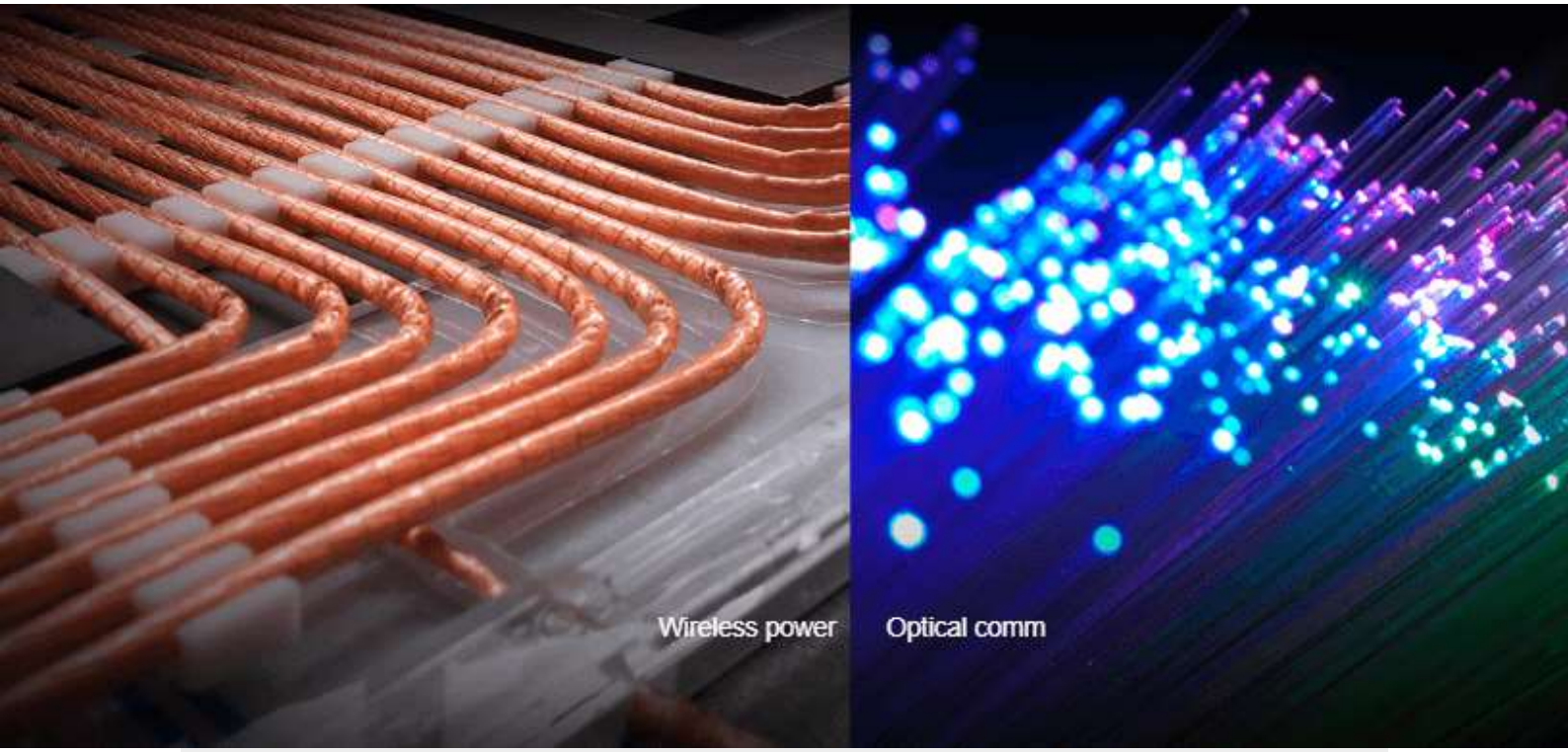
18m/12m Range Radius

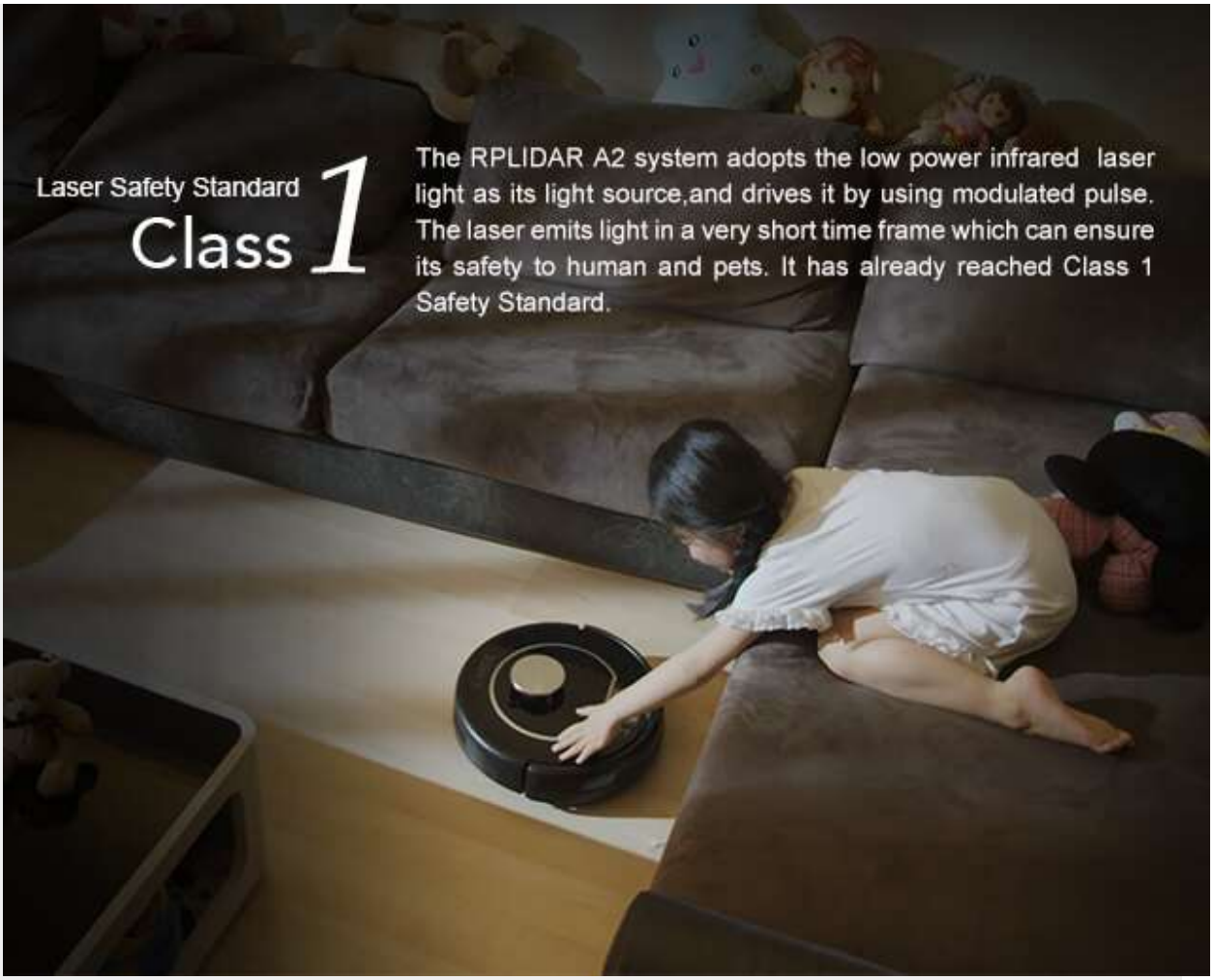
With algorithm optimization, RPLIDAR improves the range radius from 12 meters to 18 meters, which will provide more data due to a larger environmental outline map.



OPTMAG Original

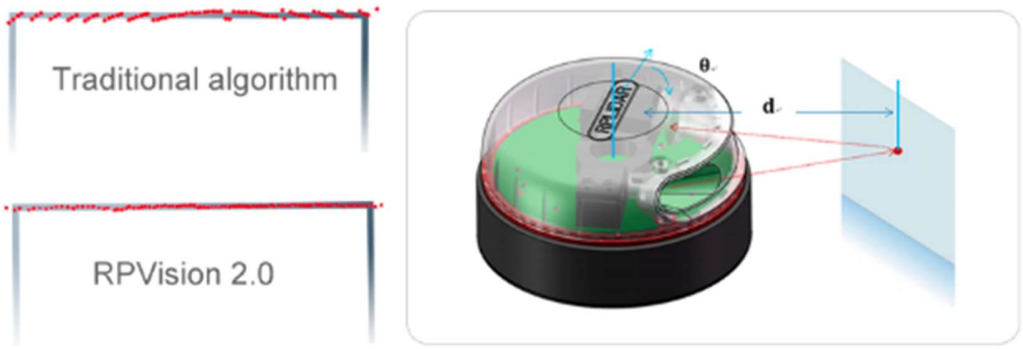
Design Most traditional non-solid LIDARs use slip ring to transfer power and data information, however, they only have thousands of hours of life due to mechanical wearing out. Slamtec has integrated the wireless power and optical communication technology to self-design the OPTMAG technology, which breakouts 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 comm


Laser Safety Standard
Class 1
The RPLIDAR A2 system adopts the low power infrared laser light as its light source,and drives it by using modulated pulse. The laser emits light in a very short time frame which can ensure its safety to human and pets. It has already reached Class 1 Safety Standard.


High-speed RPVision Range Engine
RPVision
2.0

RPLIDAR A2 adopts laser triangulation ranging principle and with high-speed RPVision range engine, it measures distance data 8000 times per second and also has an excellent performance in a long distance.



Five years ultra-long life

With the brushless motor and OPTMAG technology, the RPLIDAR will work for 5 years(24 hours every day).

APPLICATIONS

The Secret for a Freely Walking Robot

Matched solution for robot autonomous localization and navigation

RPLIDAR A2 as the core sensor, can quickly get the outline infomation of the environment.

Integrating the RPLIDAR A2 with SLAMWARE in robot, the robot can build maps,autonomously,find path in real time and avoid obstacles automatically.

Multi-point Touch and Man-machine Interaction

Compared with traditional technology, with infrared laser device, the RPLIDAR A2 can realize the multi-point touch on a super-large screen, which has a higher resolution, reacts quickly and resists ambient light.

SPECIFICATION

- Model: RPLDIAR-A2M8
- Distance Range: 0.15 - 12 m
- Angular Range: 0-360 degree
- Distance Resolution: <0.5mm(0.15mm~1.5 meters)
  <1% of the distance (All distance range)

- Angular Resolution: 0.9degree
- Sample Duration: 0.25 millisecond
- Sample Frequency: ≥ 4000Hz
- Scan Rate: 10Hz
- Weight: 190g