



BACKORDER

RPLIDAR - 360 degree Laser Scanner Development Kit

SKU 101990051

BACKORDER 22 Available

Ships on 2017-07-14

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Description



Model: A1M8





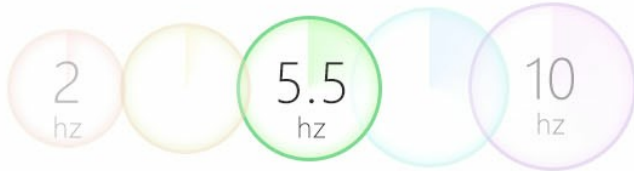
Features

Omnidirectional Laser Scan



User Configurable Scan Rate

The Scan Rate (Rotation Speed) can be configured via the motor PWM signal



Ideal Sensor for Robot Localization & Mapping

 6 meters	 2000 Sa/s	 1 Degree	 0.2 cm	 5 Volt
Detection Range	Sample Rate	Angular Res.	Distance Res.	Power Supply

* 1 degree angular resolution is achieved at 5.5hz scanning rate
 ** The resolution is 0.2% of the current distance



Plug & Play

Simply plug into your PC using included USB cable to work. No coding job required.



UART/USB Dual Interface

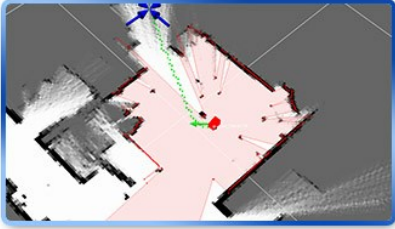


Open-source SDK&Tools



ROS Ready

Applications



Robot Localization & Mapping (SLAM)



3D Modeling



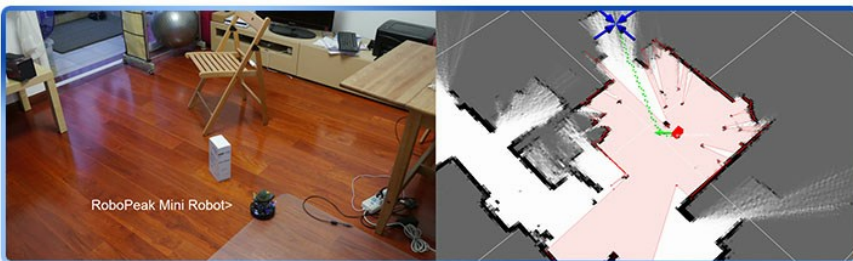
Obstacle Avoidance
Safety & Security



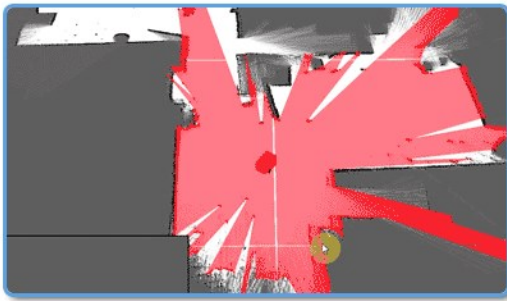
Multitouch & Human Interaction

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



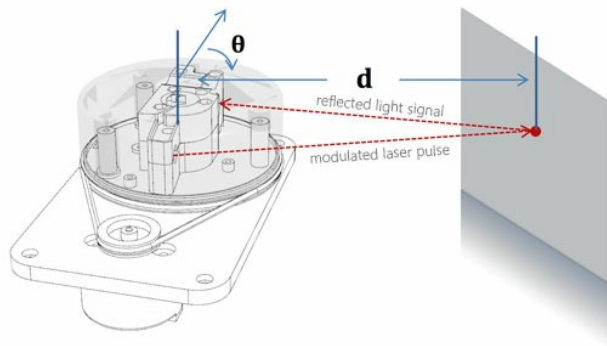
Realtime ICP-SLAM based on RPLIDAR

Mechanism

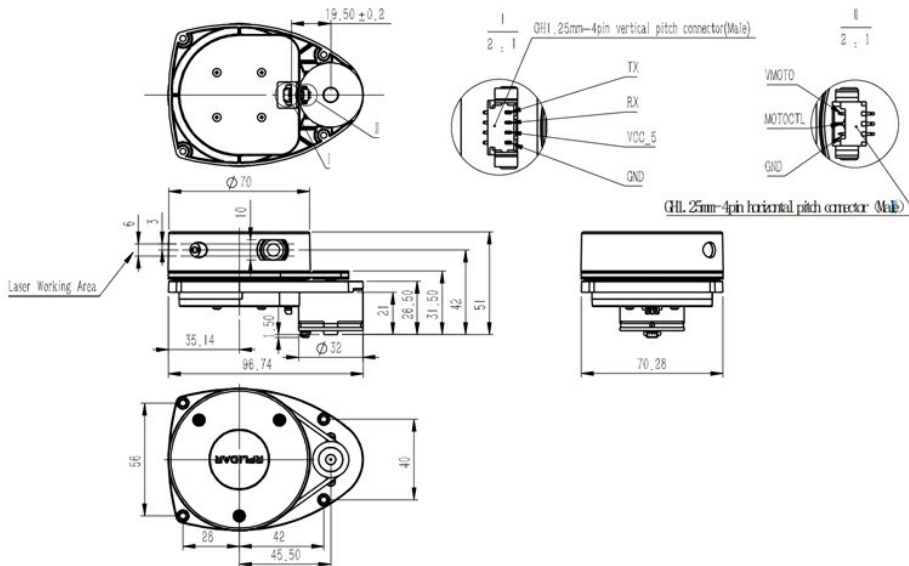
2000 fps

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 sampled by vision acquisition system in RPLIDAR and the DSP embedded in RPLIDAR start processing the sample data and output distance value and angle value between object and RPLIDAR through communication interface.



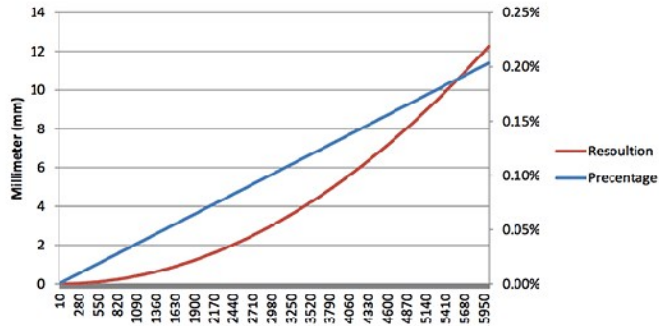
Size



Measurement Performance

Item	Unit	Min	Typical	Max	Comments
Distance Range	Meter(m)	TBD	0.2 - 6	TBD	White objects
Angular Range	Degree	n/a	0-360	n/a	
Distance Resolution	mm	n/a	<0.5	n/a	<1.5 meters
			<1% of the distance		All distance range*
Angular Resolution	Degree	n/a	≤1	n/a	5.5Hz scan rate
Sample Duration	Millisecond(ms)	n/a	0.5	n/a	
Sample Frequency	Hz	n/a	≥2000	2010	
Scan Rate	Hz	1	5.5	10	Typical value is measured when RPLIDAR takes 350 samples per scan

*Note: triangulation range system resolution changes along with distance change, the below chart showed the theoretical resolution change of RPLIDAR:



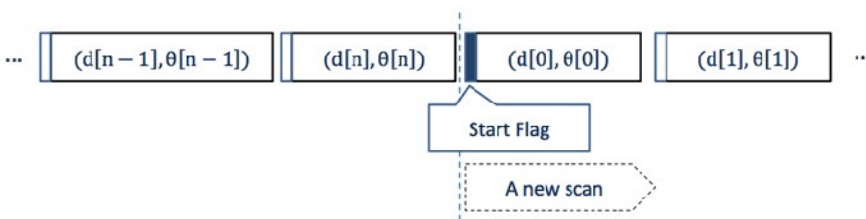
Optical

Item	Unit	Min	Typical	Max	Comments
Laser wavelength	Nanometer(nm)	775	785	795	Infrared Light Band
Laser power	Milliwatt (mW)	TBD	3	5	Peak power
Pulse length	Microsecond(us)	TBD	110	300	

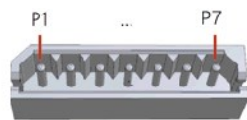
Data Format

RPLIDAR outputs sampling data continuously, each sample point contains below information. Please refer to the protocol application note for details.

Data Type	Unit	Description
Distance	mm	Current measured distance value
Heading	degree	Current heading angle of the measurement
Quality	level	Quality of the measurement
Start Flag	(Boolean)	Flag of a new scan



Interface (Development Kit)



5267-7A

Pin	Signal name	Type	Description	Minimum	Typical	Maximum
P1	VMOTO	Power	Power supply for the RPLIDAR scan motor	-	5V	9V
P2	MOTOCTL	Input	Enable pin for RPLIDAR scan motor/PWM control signal (active high)	0V	-	VMOTO
P3	GND	Power	GND signal for RPLIDAR scan motor	-	0V	-
P4	V5.0	Power	Power supply for RPLIDAR scan core	3.6V	5V	6V
P5	TX	Output	Serial output for RPLIDAR scan core	0V	-	5V
P6	RX	Input	Serial input for RPLIDAR scan core	0V	-	5V
P7	GND	Power	GND signal for RPLIDAR scan core	-	0V	V5.0

- [User manual](#)
- [Introduction and Datasheet](#)

For any further questions and technical support, please contact RoboPeak [here](#).

RELATED PRODUCTS



RPLIDAR A2

Techsupport

This product is designed by Slamtec, For technical support, please contact with them via support@slamtec.com

Best-sellers



Crazyflie 2.0



RPLIDAR A2 - The Thinnest L...



ESP-32S Wifi Bluetooth Co...



NodeMCU v2 - Lua based E...

Technical Details

Weight	G.W 380g
Battery	Exclude

Part List

RPLIDAR A1 (PWM motor driver embedded)	1
USB Adapter	1
RPLIDAR A1 communication cable	1

Documents

- [User manual](#)

Questions and Answers

Have a question about this? Ask people who own it.

0

has anyone tried this on a frc robot

rbruneau4621 on Apr 18,2017

Reply |
upvote (0)

Hello, if you need more details, please feel free to contact techsupport@seeed.cc.Thanks.

ae on Apr 18,2017 14:05 PM

Reply |
upvote (0)

We had it setup for FTC this year and had it mapping a room and objects in the room. We didn't have time to finish it for the field but are considering it next year. We were using an STM to capture and display the data but planned on moving it to i2c so that we could process the data in the phone. We actually used an Neato sourced version of this but I'm sure it would work the same and we believe it will provide invaluable data.

Shane Hamilton on Apr 21,2017 01:22 AM

Reply |
upvote (0)

Tried to a few years ago, actually had a full field-position and some degree of autonomous navigation, but that year it was specifically banned on the basis that it has a non-first approved motor in it. I would ask in the Q&A this year, though, this was (apparently) developed in part for FIRST, hence the price point.

jayduey on Apr 26,2017 14:19 PM

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upvote (0)

View History



Non-invasive AC Current S...



Non-invasive AC Current S...



315MHz Codec-Adaptive ...



Ultra Sonic range measur...

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