

## What you should know about

# RoboSense

RoboSense is the world leading LIDAR environment perception solution provider who specifically focuses on autonomous driving industry. Through consistent technological innovation, the company creatively combines LIDAR hardware, 3D data processing algorithms and deep learning technology to bring the world with top-notch robot perception solutions which enable robots to see the world with better than human eyes environment perception capability.

RoboSense was founded by a team of PhDs from Harbin Institute of Technology in 2014. Over 7-year R&D and 3-year commercialization, RoboSense has successfully set up a research-production-marketing operation model for LIDAR Environment Perception Products.

Currently, the company has nearly 200 talents(factory workers not included) with 60% are post-graduate level R&D engineers. RoboSense has established long-term partnership with a few top engineering colleges including MIT, Tsinghua, and HIT, etc.

60%

### R&D Team

The R&D team is composed of more than 100 professionals, among which more than 60% are PhDs and Postgraduates.

10+

### R&D Experience

More than 10 years of technological accumulation on robotics R&D. Commercialization of R&D achievements started from 2014.

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### Technical Strength

World leading technology power with many years of technological accumulation.

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More than what you see

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robosense

RS-LiDAR-32  
Multi-Beam  
Real Time  
LiDAR



[www.robosense.ai](http://www.robosense.ai)

# RS-LiDAR-32 Multi-Beam Real Time LiDAR

RS-LiDAR-32 is a line of 32 beam solid-state hybrid LiDAR products newly rolled out by RoboSense. This line comprises 2 products: RS-LiDAR-32A and RS-LiDAR-32B, both of which are developed according to OEM requirements on LiDAR products in high-speed autonomous driving scenarios.

RS-LiDAR-32 has its laser heads lined up with smaller interspace in the middle and larger interspace on both ends. Its minimum vertical angular resolution is  $0.33^\circ$ , which sets the world record. Such layout concentrates the scanning force on the more important driving space. RS-LiDAR-32 detects with a maximum 200 meter measurement range, allowing a generous 7 seconds response time for vehicles driving at 100km/h to ensure safe driving in high-speed autonomous driving conditions.

## Applications

### 32 Laser Beams

The 32 beam RS-LiDAR-32A and RS-LiDAR-32B are customized to fulfill OEM's LiDAR requirements on higher speed autonomous driving.

### 200m Measurement Range

The 200 meter measurement range of RS-LiDAR-32 gives more response time for autonomous vehicles in high-speed autonomous driving conditions.

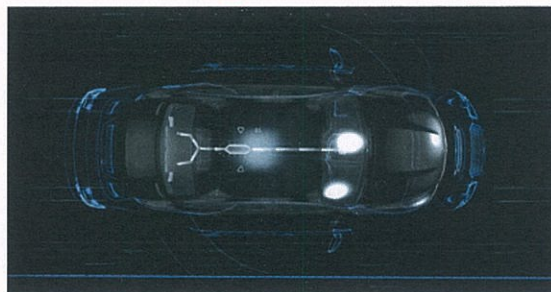
### $0.33^\circ$ Vertical Angular Resolution

The laser heads of RS-LiDAR-32 with a minimum angular resolution of  $0.33^\circ$  are symmetrically lined up with smaller interspace in the middle part and larger interspace on both ends. The rich precision point cloud data of which makes human shape distinguishable within 100 meters.

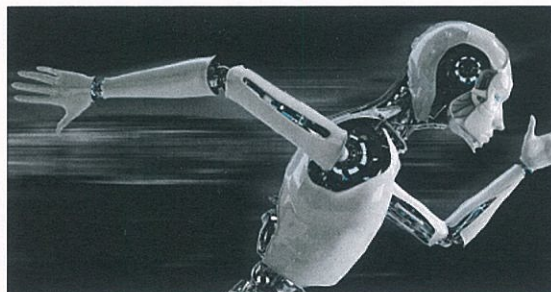
## Application Scenarios

RS-LiDAR-32 is specially designed for high speed autonomous driving scenarios. Together with RoboSense's proprietary RS-LiDAR-Algorithms, it can deliver highly reliable autonomous driving environment perception data. More than that, RS-LiDAR-32 is also suitable for mobile robots environment perception and HD mapping.

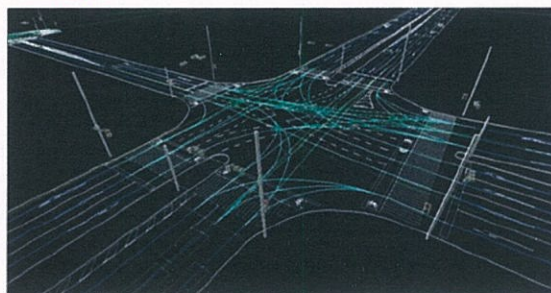
### Autonomous Driving Environment Perception



### Robot Environment Perception



### HD Maps



## Product Parameters

<b>Sensor</b>	Laser	32channels
	Wavelength	905nm
	Laser class	class1
	Accuracy	$\pm 2\text{cm}$ (typical)
	Range	0.2m~200m
	Data rate	640,000pts/s
	Angular resolution (vertical)	A: $30^\circ$ ( $+15^\circ\sim-15^\circ$ ) B: $40^\circ$ ( $+15^\circ\sim-25^\circ$ )
	FOV(vertical )	$0.33^\circ$ ( $+1.66^\circ\sim-4.66^\circ$ )
	FOV (horizontal)	$360^\circ$
	Angular resolution (horizontal)	$0.09^\circ\sim 0.36^\circ$ (5~20Hz)
<b>Mechanical</b>	Input voltage	9~32VDC
	Power	13.5W (typical)
	Sensor protection	IP67
	Operation temperature	$-10\sim 60^\circ\text{C}$
	Dimension	A: $\phi 115\text{mm}\times 95.7\text{mm}$ B: $\phi 115\text{mm}\times 110.5\text{mm}$
	Weight	A:0.92kg B:1.0kg
<b>Data</b>	Data collection	3D space coordinates/ reflectivity



RS-LiDAR-32A

RS-LiDAR-32B