RS-Helios

A new generation of customized LiDAR platform, including 32-beam and 16-beam LiDAR

RS-Helios series products, the new generation of customized multi-beam LiDAR, are customized for scene applications such as robots, intelligent vehicles and V2X establishments. RS-Helios series adopted a new modular architecture design. Compared with RS-LiDAR-32, it's 29% smaller in size and 60% lower in cost. And it also supports customization of beam number distribution.

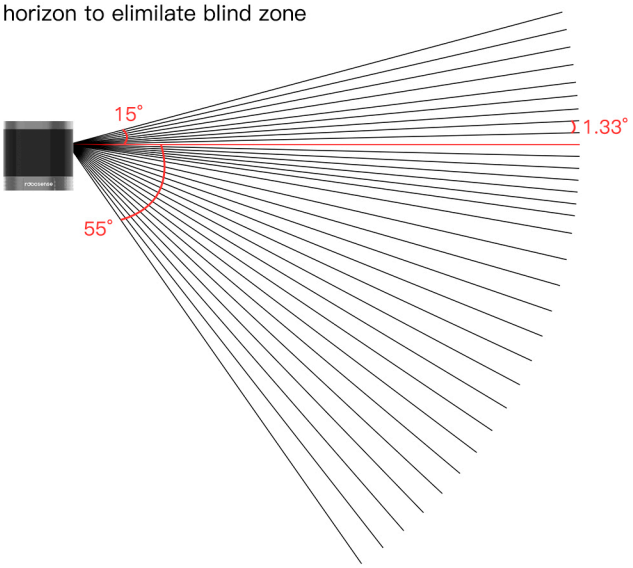
RS-Helios 5515, its 32-beam product, boasts a 70° ultra-wide vertical FoV, fulfilling both perception and blind spot detection needs, simplifying on-board sensor placement.

RS-Helios 1615, its 32-beam product, offers a 31° vertical FoV, uniform 1° vertical resolution, and meets the needs of various scenarios.

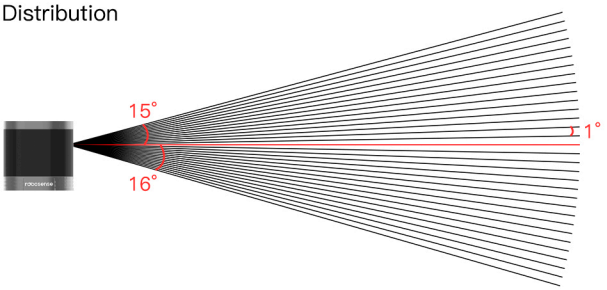
RS-Helios 1610, its 32-beam product, offers the highest vertical angular resolution up to 0.5° of the series, and longer perception distance.

RS-Helios-16P, its 16-beam product, has been fully upgraded in performance and functions compared with RS-LiDAR-16.

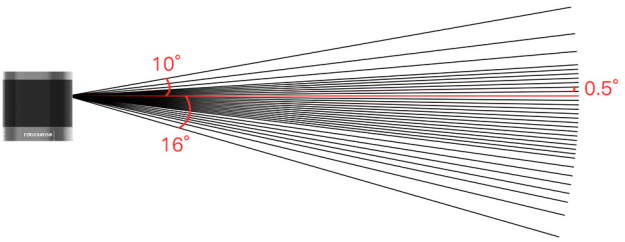
RS-Helios 5515, Vertical FoV of 70°, 55°of FoV below horizon to elimilate blind zone



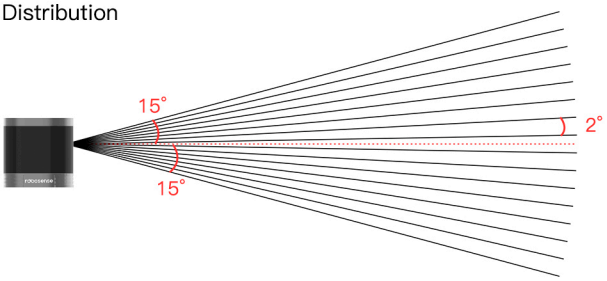
RS-Helios 1615: 31° Vertical FoV, 32-Beam Even Distribution



RS-Helios 1610: 26° Vertical FoV, gets denser in the middle part, up to 0.5° vertical angular resolution



RS-Helios-16P: 30° Vertical FoV, 16-Beam Even Distribution



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RoboSense LiDAR

www.robosense.ai

Product Advantages

Customized FoV+

–40 ℃ Temperature Resistance

Automotive Ethernet Connection

Anti–Interference of Multi–LiDAR & Ambient Light

- High performance mode & low power consumption mode
- Web configuration and monitoring
- Rain, fog, dust and snow denoising function+
- Output pulse signal for external trigger

Note: Functions marked with "+" are offered at customer's request, please contact RoboSense sales for details.

Product Specifications

sensor	RS–Helios–16P	RS–Helios 5515	RS–Helios 1615	RS–Helios 1610
# of Lines	16	32	32	32
Laser Wavelength	905nm	905nm	905nm	905nm
Laser Safety	Class 1 eye safe	Class 1 eye safe	Class 1 eye safe	Class 1 eye safe
Range[1]	150m (90m@10% NIST)	150m (90m@10% NIST)	150m (90m@10% NIST)	150m (90m@10% NIST)
Blind Spot	≤0.2m	≤0.2m	≤0.2m	≤0.2m
Range Accuracy(Typical)[2]	±3cm (0.1m to 1m) ±2cm (1m to 100m) ±3cm (100m to 150m)	±3cm (0.1m to 1m) ±2cm (1m to 100m) ±3cm (100m to 150m)	±3cm (0.1m to 1m) ±2cm (1m to 100m) ±3cm (100m to 150m)	±3cm (0.1m to 1m) ±2cm (1m to 100m) ±3cm (100m to 150m)
Horizontal FoV	360°	360°	360°	360°
Vertical FoV	30° (–15°~+15°)	70° (–55°~+15°)	31° (–16°~+15°)	26° (–16°~+10°)
Horizontal Resolution[5]	0.1°/0.2°/0.4°	0.1°/0.2°/0.4°	0.1°/0.2°/0.4°	0.1°/0.2°/0.4°
Vertical Resolution	2°	Up to 1.33°	1°	Up to 0.5°
Frame Rate	5Hz/10Hz/20Hz	5Hz/10Hz/20Hz	5Hz/10Hz/20Hz	5Hz/10Hz/20Hz
Rotation Speed	300/600/1200rpm (5/10/20Hz)	300/600/1200rpm (5/10/20Hz)	300/600/1200rpm (5/10/20Hz)	300/600/1200rpm (5/10/20Hz)
Points Per Second	~288,000pts/s(Single Return) ~576,000pts/s(Dual Return)	~576,000pts/s(Single Return) ~1,152,000pts/s(Dual Return)	~576,000pts/s(Single Return) ~1,152,000pts/s(Dual Return)	~576,000pts/s(Single Return) ~1,152,000pts/s(Dual Return)
Ethernet Connection	100M Base T1	100M Base T1	100M Base T1	100M Base T1
Output	UDP packets over Ethernet	UDP packets over Ethernet	UDP packets over Ethernet	UDP packets over Ethernet
UDP Packet include	Spatial Coordinates, Intensity, Timestamp, etc.	Spatial Coordinates, Intensity, Timestamp, etc.	Spatial Coordinates, Intensity, Timestamp, etc.	Spatial Coordinates, Intensity, Timestamp, etc.
Operating Voltage	9–32V	9–32V	9–32V	9–32V
Power Consumption[3]	11W	12W	12W	12W
Weight(without cabling)	~0.9 kg	~1.0 kg	~1.0 kg	~1.0 kg
Dimension	ϕ100mm * H100 mm	ϕ100mm * H100 mm	ϕ100mm * H100 mm	ϕ100mm * H100 mm
Operating Temperature[4]	–40℃ ~ +60℃	–40℃ ~ +60℃	–40℃ ~ +60℃	–40℃ ~ +60℃
Storage Temperature	–40°C ~ +85°C	–40°C ~ +85°C	–40°C ~ +85°C	–40°C ~ +85°C
Time Synchronization	$GPRMC with 1PPS, PTP&gPTP	$GPRMC with 1PPS, PTP&gPTP	$GPRMC with 1PPS, PTP&gPTP	$GPRMC with 1PPS, PTP&gPTP
Ingress Protection	IP67	IP67	IP67	IP67

this spec ica1ion. If you have any questions, please con1act RoboSense sales

1. The product ranging performance may be affected by the environment contditions, including but not limited to factors such as ambient temperature and lighting
2. The measurement 1arge1 of accuracy measurement is a 50% NIST diffuse reflectance 1arget. The 1est results may be affected by the environmen1, including but not limited to factors such as ambient 1emperature and target distance. The accuracy values are applicable to most channels, and there may be differences between some channels
3. The producct power consumption tes1 is 1ested a1 a frame rate of 1GHz, and 1he resul1s will be affected by the extemal environment, including but not limited to factors such as ambient temperature, target distance, 1arget reflec1ivity, etc
4. The operating tempera1ure of the product may be affec1ed by the extemal environmen1, including bu1 no1 limi1ed 1o factors such as solar radiation and airflow changes
5. The corresponding opera1ing frequency of 0.1°/0.2°/0.4°is 5Hz/10Hz/20Hz.