

Helios

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



Helios series products, the new generation of customized multi-beam LiDAR, are customized for scene applications such as robots, intelligent vehicles and V2X establishments. 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. Its 32-beam product Helios 32 provides 3 customized types to meet the multi-scenario applications of different machines and equipment:

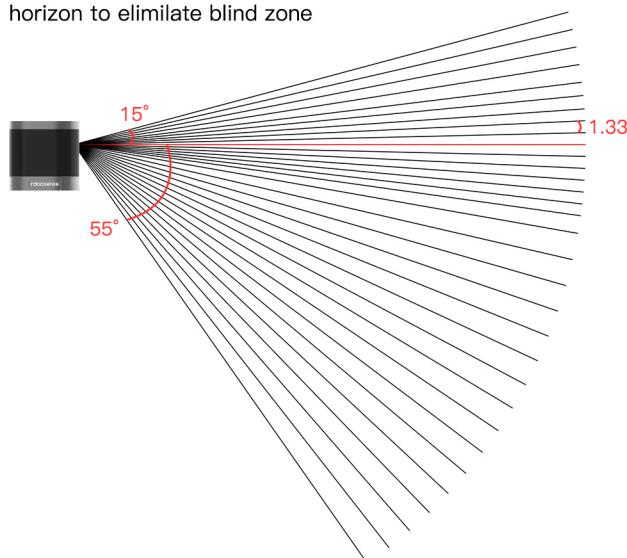
26° Vertical FOV: offers the highest vertical angular resolution up to 0.5° of the series, and longer perception distance.

31° Vertical FOV: offers uniform 1° vertical resolution, and meets the needs of various scenarios.

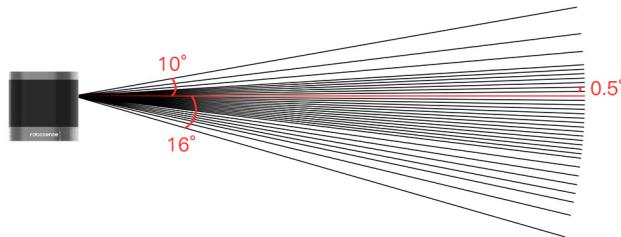
70° Ultra-wide Vertical FOV: fulfilling both perception and blind spot detection needs, simplifying on-board sensor placement.

It's 16-beam product Helios 16 offers 30° Vertical FOV, has been fully upgraded in performance and functions compared with RS-LiDAR-16.

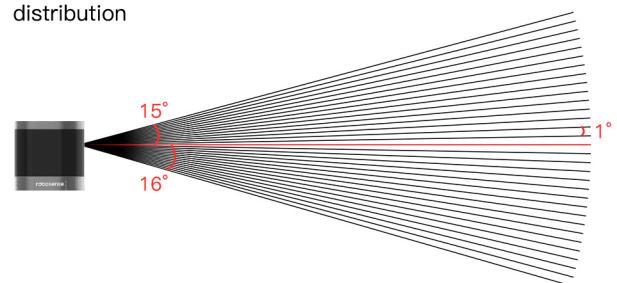
Helios 32: 70° Vertical FOV, 55° of FOV below horizon to eliminate blind zone



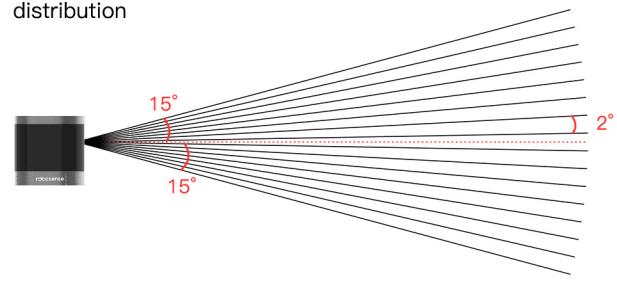
Helios 32: 26° Vertical FOV, gets denser in the middle part, up to 0.5° vertical angular resolution



Helios 32: 31° Vertical FOV, 32-Beam even distribution



Helios 16: 30° Vertical FOV, 16-Beam even distribution



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Product Advantages



Customized FOV⁺



-40 °C 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

Name	Helios 16	Helios 32		
Type	\	70° FoV	31° FoV	26° FoV
# 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(110m@10% NIST)	150m(110m@10% NIST)	150m(110m@10% NIST)	150m(110m@10% NIST)
Blind Spot	≤0.2m	≤0.2m	≤0.2m	≤0.2m
Range Accuracy(Typical) ²	1cm	1cm	1cm	1cm
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	100Base-T1	100Base-T1	100Base-T1	100Base-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)	~1.0 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°C ~ +60°C	-40°C ~ +60°C	-40°C ~ +60°C	-40°C ~ +60°C
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、IP6K9K	IP67、IP6K9K	IP67、IP6K9K	IP67、IP6K9K

* The following data is only for mass-produced products. Any samples, testing machines and other non-mass-produced versions may not be referred to this specification. If you have any questions, please contact RoboSense sales.

1. The product ranging performance may be affected by the environmental conditions, including but not limited to factors such as ambient temperature and lighting.

2. The measurement target of accuracy measurement is a 50% NIST diffuse reflectance target. The test results may be affected by the environment, including but not limited to factors such as ambient temperature and target distance. The accuracy values are applicable to most channels, and there may be differences between some channels.

3. The product power consumption test is tested at a frame rate of 10Hz, and the results will be affected by the external environment, including but not limited to factors such as ambient temperature, target distance, target reflectivity, etc.

4. The operating temperature of the product may be affected by the external environment, including but not limited to factors such as solar radiation and airflow changes.

5. The corresponding operating frequency of 0.1°/0.2°/0.4° is 5Hz/10Hz/20Hz.