RS-Helios

A New Generation Of 32-Beam LiDAR

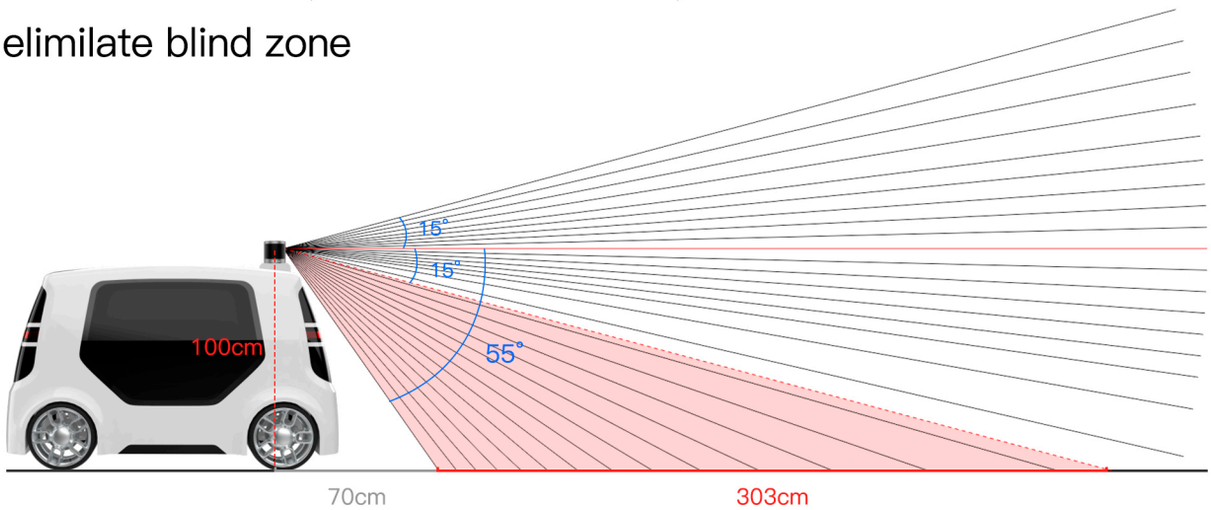
One-Stop Solution For Front Perception And Near-Field Blind-Spot Detection

The RS-Helios is a new generation of 32-beam LiDAR that designed for robots, autonomous vehicles, V2X, and mapping applications.

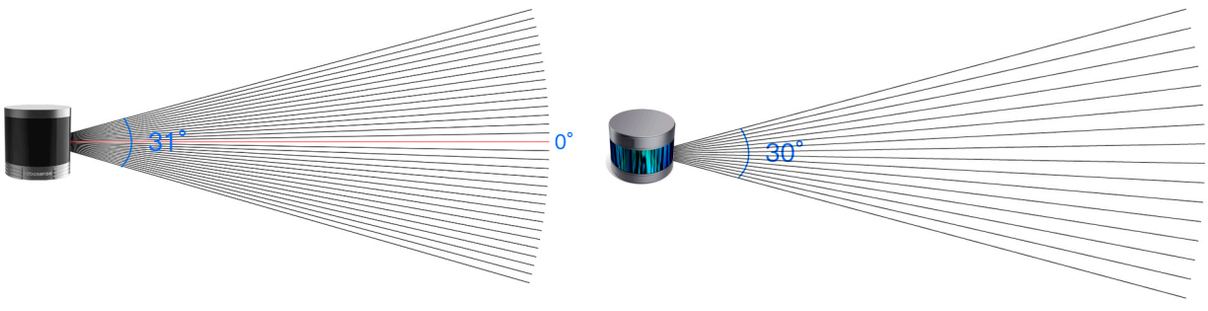
The RS-Helios-5515 adopts a design that arranges dense laser beams in the middle part of the FoV and sparse laser beams on both ends in order to obtain denser high-precision 3D point cloud of environment in front of the vehicle. Combined with a customized 70° ultra-wide vertical FoV tilting downward of 55° below horizon, it greatly reduces the near-field blind zone, and allows for both long-range perception and blind spots detection at the same time. This design will greatly facilitate a simpler vehicle sensor setup. On the other hand, the RS-Helios-1615 adopts an uniform beam layout to provides point cloud within the 31° vertical FoV, which is more friendly for surveying & mapping.

With an innovative new technology architecture, the size of the RS-Helios series is reduced by 29% compared to the RS-LiDAR-32.

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



RS-Helios-1615 has a vertical FoV of 31°, which is more convenient for the construction of high-precision maps.



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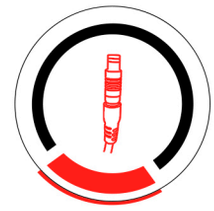
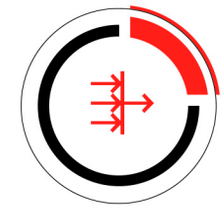
Product Advantages

Customized FoV

−30 ℃
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

Product Specifications		
Version	RS-Helios-5515	RS-Helios-1615
Laser Beams	32	32
Laser Wavelength	905 nm	905 nm
Laser Safety	Class 1 eye safe	Class 1 eye safe
Range[1]	150 m (90 m@10% NIST)	150 m (90 m@10% NIST)
Blind Spot	≤0.2 m	≤0.2 m
Range Accuracy (Typical)[2]	±2 cm (1 m to 100 m) ±3 cm(0.1 m to 1 m) ±3 cm (100 m to 150 m)	±2 cm (1 m to 100 m) ±3 cm (0.1 m to 1 m) ±3 cm (100 m to 150 m)
Horizontal FoV	360°	360°
Vertical FoV	70° (−55°~+15°)	31° (−16°~+15°)
Horizontal Resolution[5]	0.2°/0.4°	0.2°/0.4°
Vertical Resolution	Up to 1.33°	1°
Frame Rate	10 Hz/20 Hz	10 Hz/20 Hz
Rotation Speed	600/1200 rpm (10/20 Hz)	600/1200 rpm (10/20 Hz)
Points Per Second	576,000 pts/s (Single Return Mode) 1,152,000 pts/s (Dual Return mode)	576,000 pts/s (Single Return Mode) 1,152,000 pts/s (Dual Return mode)
Ethernet Connection	100M Base T1	100M Base T1
Output Protocal	UDP packets over Ethernet	UDP packets over Ethernet
UDP Packet Content	Spatial Coordinates, Intensity, Timestamp, etc.	Spatial Coordinates, Intensity, Timestamp, etc.
Operating Voltage	9 V – 32 V	9 V – 32 V
Power Consumption[3]	12 W	12 W
Weight (without cabling)	~1.0 kg	~1.0 kg
Dimension	ϕ97.5 mm * H100 mm	ϕ97.5 mm * H100 mm
Operating Temperature[4]	−30°C ~ +60°C	−30°C ~ +60°C
Storage Temperature	−40°C ~ +85°C	−40°C ~ +85°C
Time Synchronization	$GPRMC with 1PPS,PTP & gPTP	$GPRMC with 1PPS,PTP & gPTP
Ingress Protection	IP67	IP67

* The above data is for mass-produced products only. Any samples, testing machine 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 environment contditions, 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 producct 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.