



# RS-Helios

A New Generation Of 32 Beams LiDAR  
One-Stop Solution For Front Perception And  
Near-Field Blind-Spot Detection



The RS-Helios is a new generation of 32 beams LiDAR that designed for robots, autonomous vehicles, V2R, 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 technonoly architecture, the size of the RS-Helios series is reduced by 29% compared to the RS-LiDAR-32.

## Product Advantages



Customized FOV



-30°C  
Temperature Resistance



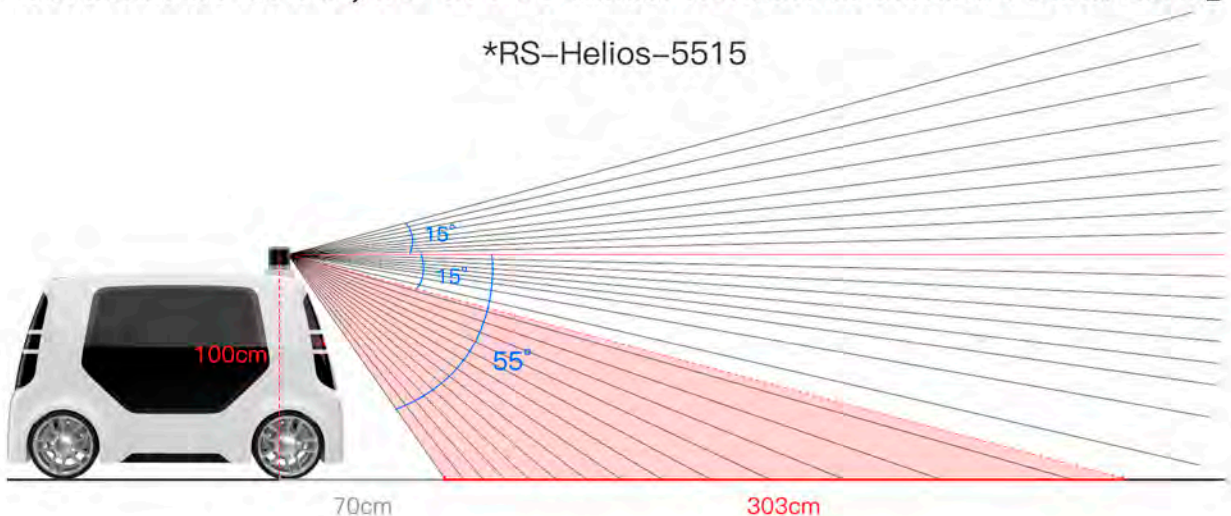
Automotive  
Ethernet Connection



Anti-Interference of  
Multi-LiDAR & Ambient Light

「Vertical FoV of 70°, 55° of FoV below horizon to elimilate blind zone」

\*RS-Helios-5515



## Sensor

Version	RS-Helios-5515	RS-Helios-1615
Laser Beams	32	32
Laser Wavelength	905nm	905nm
Laser Safety	Class 1 eye safe	Class 1 eye safe
Range <sup>1</sup>	150m(80m@10% NIST)	150m(80m@10% NIST)
Blind Spot	≤0.1m	≤0.1m
Range Accuracy(Typical) <sup>2</sup>	±2cm(1m to 100m) ±3cm(0.1m to 1m) ±3cm(100m to 150m)	±2cm(1m to 100m) ±3cm(0.1m to 1m) ±3cm(100m to 150m)
Horizontal FoV	360°	360°
Vertical FoV	70°(-55°~+15°)	31°(-16°~+15°)
Horizontal Resolution	0.2°/0.4° <sup>5</sup>	0.2°/0.4° <sup>5</sup>
Vertical Resolution	Up to 1.33°	1°
Frame Rate	10Hz/20 Hz	10Hz/20 Hz
Rotation Speed	600/1200rpm(10/20Hz)	600/1200rpm(10/20Hz)

## Output

Points Per Second	576,000pts/s(Single Return Mode) 1,152,000pts/s(Dual Return mode)	576,000pts/s(Single Return Mode) 1,152,000pts/s(Dual Return mode)
Ethernet Connection	100M Base T1	100M Base T1
Output Protocol	UDP packets over Ethernet	UDP packets over Ethernet
UDP Packet Content	Spatial Coordinates, Intensity, Timestamp, etc.	Spatial Coordinates, Intensity, Timestamp, etc.

## Mechanical / Electrical / Operational

Operating Voltage	9V – 32V	9V – 32V
Power Consumption <sup>3</sup>	12W	12W
Weight(without cabling)	~1.0 kg	~1.0 kg
Dimension	φ100mm * H100 mm	φ100mm * H100 mm
Operating Temperature <sup>4</sup>	-30°C ~ +60°C	-30°C ~ +60°C
Storage Temperature	-40°C ~ +85°C	-40°C ~ +85°C
Time Synchronization	\$GPRMC with 1PPS	\$GPRMC with 1PPS
Ingress Protection	IP67	IP67

<sup>1</sup> The above range is measured at 10% reflectivity. Any external factors such as atmospheric conditions, weather, time of day, etc., may affect the range. Please contact RoboSense sales.

<sup>2</sup> The above range accuracy may be affected by the environment conditions, including but not limited to factors like air density, temperature, and humidity.

<sup>3</sup> The measurement range of maximum measurement is a 90° FOV (field of view) at 100m. This data result may be affected by the environment, including but not limited to air density, ambient temperature and blind distance. The above value is applicable to most common, and there may be differences between some devices.

<sup>4</sup> The product power consumption 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 air density, ambient temperature, blind distance, blind rate, etc.

<sup>5</sup> The operating temperature of the product may be affected by the external environment, including but not limited to factors such as air density and air flow velocity.

<sup>6</sup> The corresponding operating frequency is 0.1°/0.2°/0.4° @ 30/10/5 Hz.

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RoboSense LiDAR

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