



# Ruby Plus

0.1° Angular Resolution, 240 m Range at 10% Reflectivity, Top Ranging Capability

Ruby Plus is a new 128-beam mechanical LiDAR specifically designed for L4+ autonomous driving. Compared with RS-Ruby, it has reduced volume by 50%, weight by 52% and power consumption by 33% for a greatly improved performance.

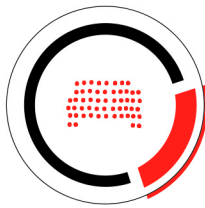
Ruby Plus has achieved a breakthrough in detection range, reaching 240 m at 10% reflectivity, making it 20% higher than its competitors. It can detect vehicles and pedestrians 200 m away with a maximum resolution of 0.1°, greatly increasing the response time for high-speed autonomous driving.

Additionally, Ruby Plus's stronger ground detection capability is complemented by excellent reflectivity performance to achieve a maximum 85 m extra-long traffic lane line detection.

## Product Advantage



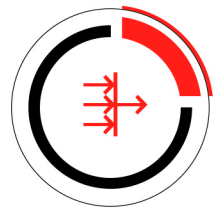
240 m at 10% NIST



Up to 0.1° × 0.1° Angular Resolution

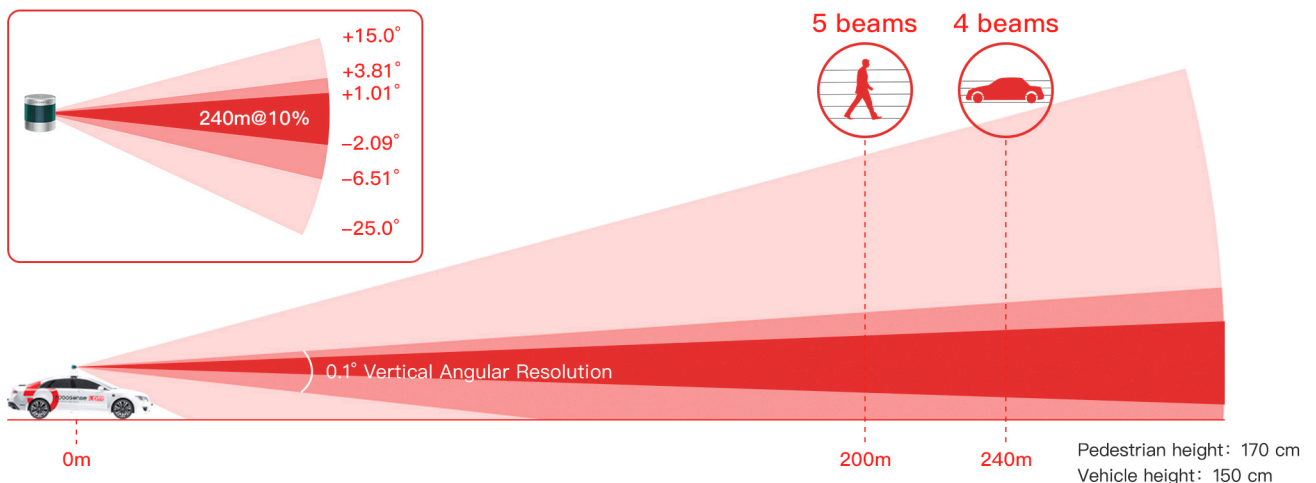


Maximum 85 m traffic lane line detection



Resists Interference of Other LiDAR & Ambient Light

104 channels with 0.1° vertical angular resolution; 32 channels in the middle with 240 m at 10% reflectivity



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Q RoboSense LiDAR

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Sensor			
# of Lines	128	Vertical Resolution	Up to 0.1°
Laser Wavelength	905nm	Horizontal Resolution <sup>5</sup>	[Balance] 0.2° / 0.4° [High Performance] 0.1° / 0.2°
Laser Safety	Class 1 eye safe	Horizontal FoV	360°
Blind Spot	≤0.4m	Frame Rate	10Hz/ 20Hz
Vertical FoV	40° ( -25° ~+15°)	Rotation Speed	600/1200rpm (10/20Hz)
Range <sup>6</sup>	250m(240m@10% NIST)		
Range Accuracy <sup>2</sup>	±2cm		

Output	
Points Per Second	[Balance] ~2,304,000pts/s (Single Return) ~4,608,000pts/s (Dual Return) [High Performance] ~4,608,000pts/s (Single Return) ~9,216,000pts/s (Dual Return)
Ethernet Connection	1000M Base T1
Output	UDP packets over Ethernet
UDP Packet include	Spatial Coordinates, Intensity, Timestamp, etc.

Mechanical			
Operating Voltage	9–32V	Dimensions	Φ125mm * H128mm
Power Consumption <sup>3</sup>	[Balance] 27W [High Performance] 30W	Operating Temperature <sup>4</sup>	-40°C ~ +60°C
Weight(without cabling)	~1.85 kg	Storage Temperature	-40°C ~ +85°C
Time Synchronization	\$GPRMC with 1pps, PTP & gPTP	Ingress Protection	IP67、IP6K9K

# Applications



1. 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.
2. The measurement target of accuracy is a 50% NIST diffuse reflectance target under 100 klux light. The test performance is dependent on circumstantial factors, including temperature, range, target reflectivity and other variables.
3. The power consumption is tested under a 10 Hz frame rate. The results are dependent on circumstantial factors, including temperature, range, target reflectivity and other variables.
4. The operational temperature is dependent on circumstantial factors, including sun load, air flow and other variables.
5. The corresponding operating frequency of 0.2°/0.4° is 10Hz/20Hz.
6. The detection range is measured under 100 klux light. The range performance is dependent on circumstantial factors, including temperature, range, target reflectivity and other variables.