

Ruby Plus Series

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

Ruby Plus series (RP128) is a new 128-beam mechanical LiDAR specifically designed for L4+ autonomous driving. Compared with RS-Ruby Series, it has reduced volume by 50%, weight by 52% and power consumption by 33% for a greatly improved performance.

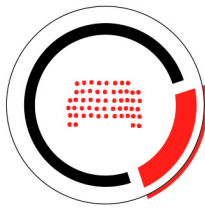
Ruby Plus series (RP128) has achieved a breakthrough in detection range, reaching 240m at 10% reflectivity, making it 20% higher than its competitors. It can detect vehicles and pedestrians 200m away with a maximum resolution of 0.1°, greatly increasing the response time for high-speed autonomous driving.

Additionally, the stronger ground detection capability of Ruby Plus series (RP128) is complemented by excellent reflectivity performance to achieve a maximum 85m extra-long traffic lane line detection.

Product Advantage



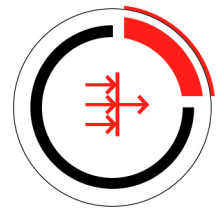
240 m at 10% NIST



Up to 0.1° x 0.1° Angular Resolution

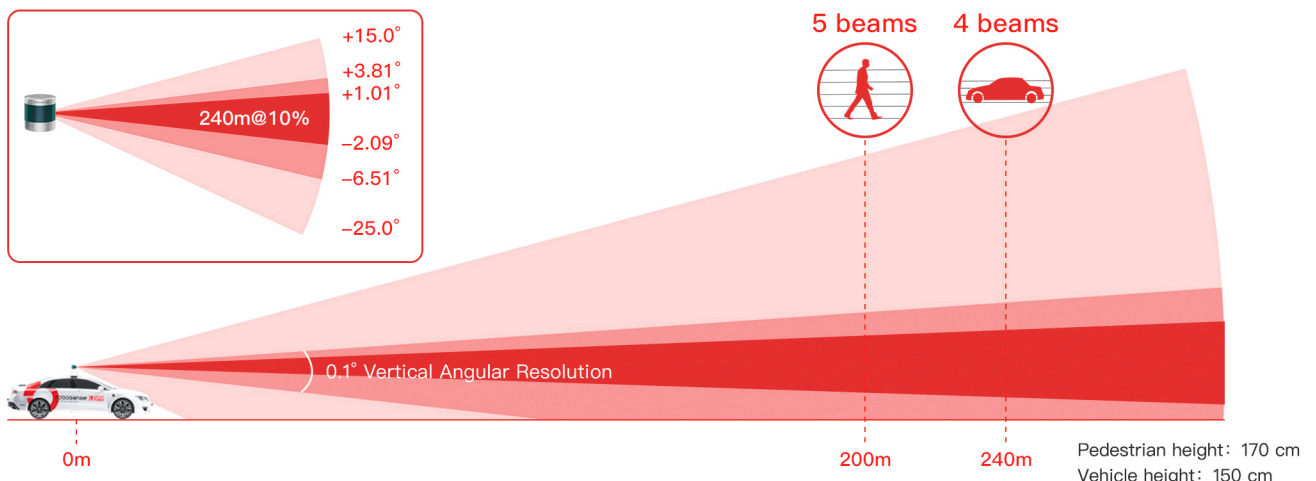


Maximum 85 m traffic lane line detection



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



Sensor			
Model	RP128	Vertical Angular Resolution	Up to 0.1°
# of Lines	128	Horizontal Angular Resolution ⁵	[Balance] 0.2° / 0.4° [High Performance] 0.1° / 0.2°
Laser Wavelength	905nm	Horizontal FoV	360°
Laser Safety	Class 1 eye safety	Frame Rate	10Hz/ 20Hz
Blind Spot	≤0.4m	Rotation Speed	600/1200rpm (10/20Hz)
Vertical FoV	40° (-25° ~+15°)	Range Precision (Typical) ²	2cm
Range ⁶	250m(240m@10% NIST)		

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	1000Base-T1
Output	UDP packets over Ethernet
UDP Packet include	Spatial Coordinates, Intensity, Timestamp, etc.

Mechanical			
Operating Voltage	9-32V	Dimension	Φ125mm * H128mm
Power Consumption ³	[Balance] 27W [High Performance] 30W	Operating Temperature ⁴	-40°C ~ +60°C
Weight(without cable)	1850g±50g	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.