



128 Beam, Minimum  $0.1^\circ$  Vertical Angular Resolution, 200 m Range @ 10% Reflectivity



RS-Ruby is a 128-beam LiDAR specifically designed for L4+ autonomous driving. Compared with RS-LiDAR-32, RS-Ruby has a 3x higher vertical angular resolution of  $0.1^\circ$  and a 2x to 3x improved maximum detection range. RS-Ruby wholly fulfils the requirements of high-speed autonomous driving for greater possibilities.

RS-Ruby operates flawlessly on low working temperatures, down to  $-30^\circ\text{C}$ , and has achieved breakthroughs in anti-interference technology. It has also proven resistance in interference of other LiDAR and ambient light in all-weather types, making it an excellent choice for advanced autonomous driving.

The RS-Ruby and RS-Bpearl combination offers exciting new possibilities for environmental perception in Robotaxi.

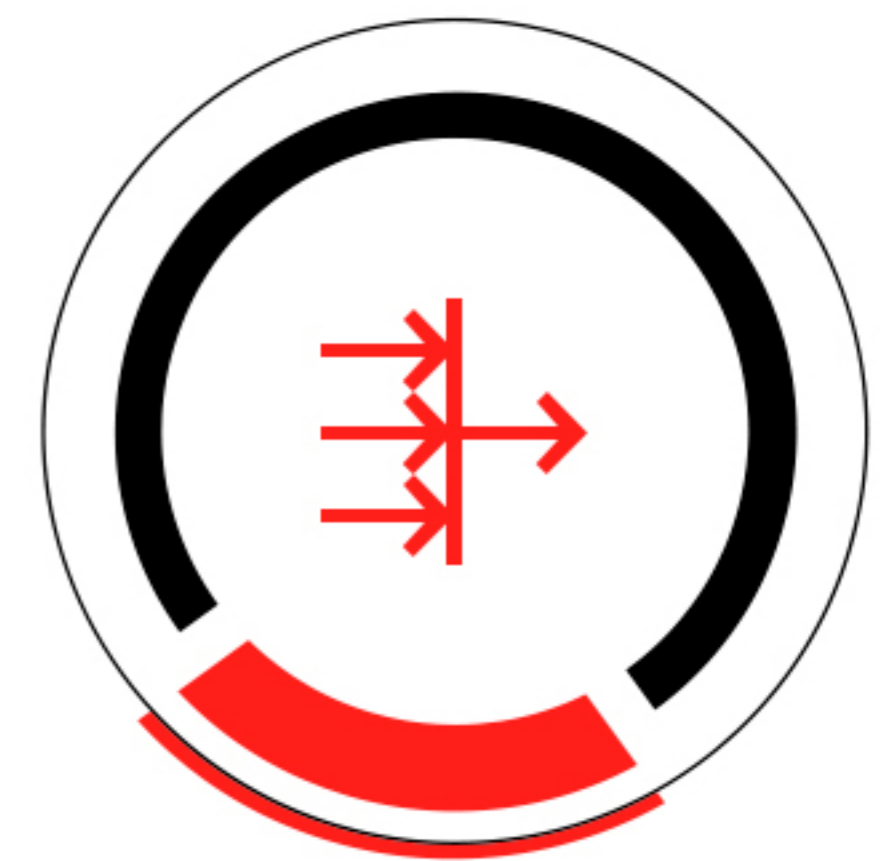
## Product Advantages



200 m on 10% NIST

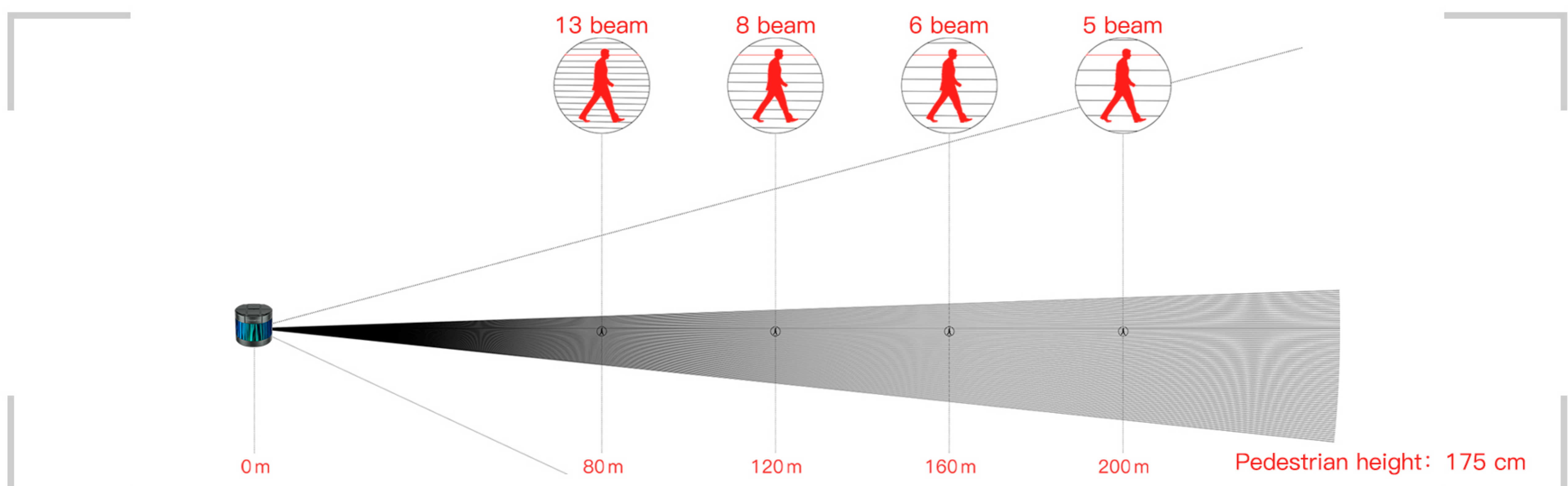


$-30^\circ\text{C}$   
Temperature Resistance



Resists Interference Of Other  
LiDAR & Ambient Light

$0.1^\circ$  Vertical Angular Resolution, Designed for Detection of Long-Distance Obstacles



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RoboSense LiDAR

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## Sensor

# of Lines	128	Horizontal FoV	360°
Laser Wavelength	905 nm	Vertical FoV	40°
Laser Safety	Class 1 eye safe	Horizontal Resolution <sup>2</sup>	0.2°/0.4°
Range <sup>1</sup>	250 m (200 m@10% NIST)	Vertical Resolution	Up to 0.1°
Blind Spot	≤1.5 m	Frame Rate	10 Hz/20 Hz
Range Accuracy (Typical) <sup>3</sup>	Up to ±3 cm	Rotation Speed	600/1200 rpm (10/20 Hz)

## Output

Points Per Second	2,304,000 pts/s (Single Return Mode) 4,608,000 pts/s (Dual Return Mode)		
Ethernet Connection	1000 Mbps		
Output	UDP packets over Ethernet		
UDP Packet include	Spatial Coordinates, Intensity, Timestamp, etc.		

## Mechanical / Electrical / Operational

Operating Voltage	19 V ~ 32 V	Dimension	φ166 mm * H148.5 mm
Power Consumption <sup>4</sup>	45 W	Operating Temperature <sup>5</sup>	-30° C ~ +60° C
Weight (without cabling)	~3.75 kg	Storage Temperature	-40° C ~ +85° C
Time Synchronization	\$GPRMC with 1PPS, g PTP	Ingress Protection	IP67

# Applications



## Autonomous Driving

1 The range performance is depending on circumstance factors, not only temperature, range and target reflectivity but also including other uncontrollable factors.

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

3 The measurement target of accuracy is a 50% NIST diffuse reflectance target, the test performance is depending on circumstance factors, not only temperature, range and target reflectivity but also including other uncontrollable factors.

4 The power consumption is tested under 10Hz frame rate. The result is depending on circumstance factors, not only temperature, range and target reflectivity but also including other uncontrollable factors.

5 The operation temperature is depending on circumstance factors, not only sun load and air flow but also including other uncontrollable factors.