RS−LiDAR−M1 (Simple / Smart)

Smart LiDAR Sensor

RS−LiDAR−M1 is an automotive grade solid−state LiDAR, that RoboSense specially designed for massive production vehicles. It provides highly reliable 3D environment perception for vehicles to deliver safe driving.

Based on RoboSense's revolutionary patented MEMS technology, M1 has much simplified structure and way less demands on components. This new revolutionary solid−state LiDAR system excels with a lot of advantages including high reliability, low cost, easy for massive production, and easy for integration into vehicle body, etc.
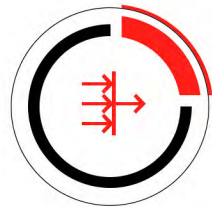
Product Advantages

180m Measurement Range

15Hz Frame Rate

0.2° × 0.2° Resolution

Resist Interference Of Other LiDAR & Ambient Light

AI Perception*

Obstacles Detection

Obstacles Classification

Dynamic Objects Tracking

Freespace Detection

*M1 Smart version: Build−in AI perception algorithms & IC chipset, Output−−point cloud rawdata & perception result
M1 Simple version: Hardware−only, Output−−point cloud rawdata

Sensor			
Version	M1 Simple	Horizontal FoV	120° (−60.0° ~ +60.0°)
Laser Wavelength	905nm	Vertical FoV	25° (−12.5° ~ +12.5°)
Laser Safety	Class 1 eye safe	Horizontal Resolution	0.2° (Average)
Range[1]	180m (120m@10% NIST)	Vertical Resolution	0.2° (Average)
Blind Spot	≤1m	Frame Rate	15Hz
Range Accuracy (Typical)[2]	Up to ±5cm		

| Output	
Points Per Second	1,125,000pts/s(Single Return Mode)
Ethernet Connection	1000 Mbps
Output	UDP packets over Ethernet
UDP Packet include	Spatial Coordinates, Intensity, Timestamp, etc.

Mechanical / Electrical / Operational			
Operating Voltage	9V – 36V	Dimension(Without dataline)	120mm(D)x110mm(W)x50mm(H)
Power Consumption[3]	28W	Operating Temperature[4]	−20°C ~ +65°C
Weight(without cabling)	~800g	Storage Temperature	−40°C ~ +105°C
Time Synchronization	PTP	Ingress Protection	IP67

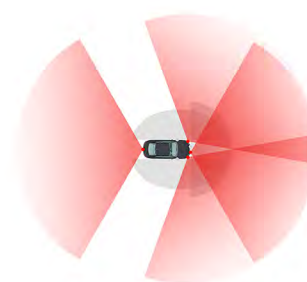# Deployment Recommendations

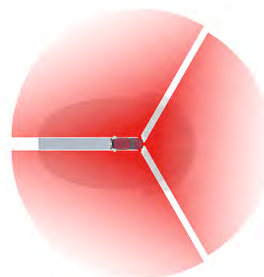■ RS−LiDAR−M1   ■ Blind Spot LiDAR
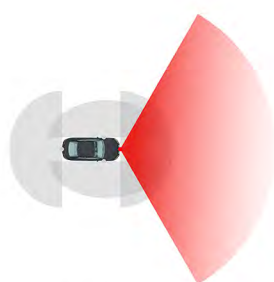
For L2+/L3 Car
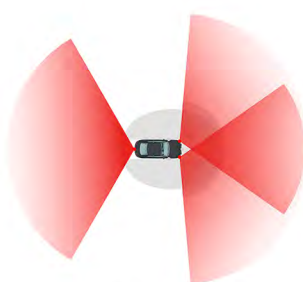
For L3/L4 Car

For L4 Robo−Taxi A

For L4 Robo−Taxi B

For L4 Robo−Truck

1 The range performance is depending on circumstance factors, not only temperature, range and target reflectivity but also including other uncontrollable factors.
2 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.
3 The power consumption is tested under 15Hz frame rate. The result is depending on circumstance factors, not only temperature, range and target reflectivity but also including other uncontrollable factors.
4 The operation temperature is depending on circumstance factors, not only sun load and air flow but also including other uncontrollable factors.