

Bpearl

Hemispherical FoV, Short-Range,
Blind Spot LiDAR



Bpearl is a new type of short-range LiDAR explicitly designed for the detection of blind spots. Loaded with RoboSense's innovative signal processing technology, Bpearl can detect objects within a few centimeters. With the hemispherical field of view, Bpearl can precisely identify obstacles around the vehicle surface like pets, children, roadbeds and much more.

Bpearl's disruptive modular design dramatically reduces costs while making the product more flexible, compact, and customizable.

Product Advantages



Blind Spot ≤ 10 cm

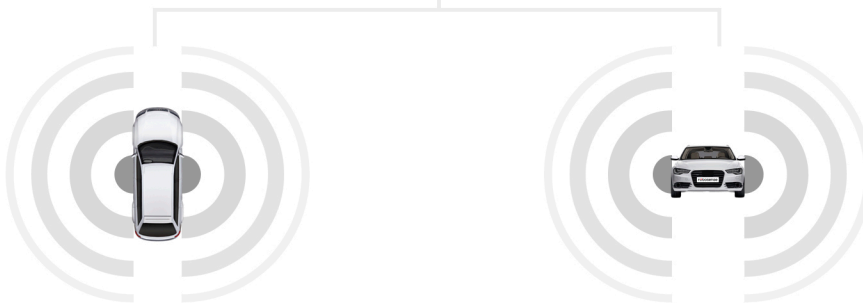


Hemispherical FoV



-40° C
Temperature Resistance

Unique FoV Designed for Near-Field Blind-Spot Detection

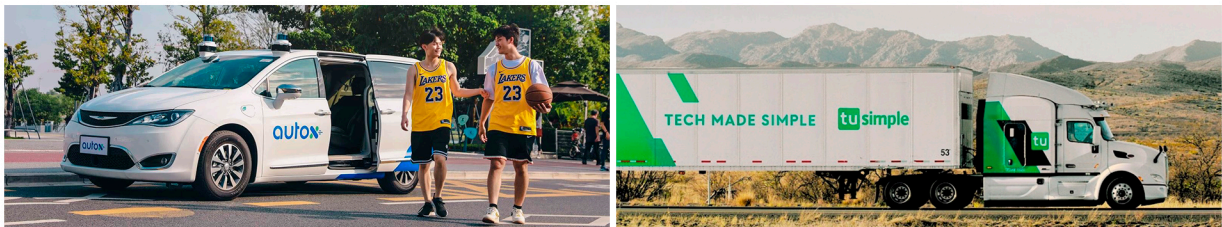


Sensor			
# of Lines	32	Horizontal FoV	360°
Laser Wavelength	905 nm	Vertical FoV	90°
Laser Safety	Class 1 eye safe	Horizontal Resolution ²	0.1°/0.2°/0.4°
Range ¹	100m (30m@10% NIST)	Vertical Resolution	2.81°
Blind Spot	≤0.1 m	Frame Rate	5 Hz/10 Hz/20 Hz
Range Accuracy (Typical) ³	±1cm	Rotation Speed	300/600/1200 rpm (5/10/20Hz)

Output	
Points Per Second	576,000pts/s (Single Return) 1,152,000pts/s (Dual Return)
Ethernet Connection	100 Mbps
Output	UDP packets over Ethernet
UDP Packet include	Spatial Coordinates, Intensity, Timestamp, etc.

Mechanical / Electrical / Operational			
Operating Voltage	9–32 V	Dimension	φ100 mm * H111 mm
Power Consumption ⁴	12 W	Operating Temperature ⁵	-40° C ~ +60° C
Weight (without cabling)	~0.89 kg	Storage Temperature	-40° C ~ +85° C
Time Synchronization	\$GPRMC with 1PPS, PTP&gPTP	Ingress Protection	IP67、IP6K9K

Applications



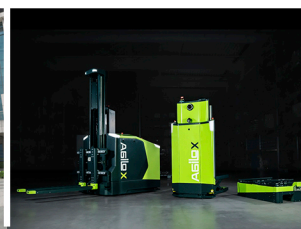
Autonomous Driving



V2X



Robotics



Industrial

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 factor