INNOVIZ™ TECHNOLOGIES

INNOVIZ360

Next-Generation 360° LiDAR for automotive and non-automotive applications

CONFIGURABLE 1280 SCANNING LINES!

Innoviz360 is the next-generation high-performance 360° LiDAR for automotive and non-automotive applications from Innoviz. Its unsurpassed 3D perception performance is targeted at mass-production of Level 4 to Level 5 autonomous vehicles, as well as non-automotive industries including heavy machinery, smart cities, logistics and construction.

The rugged, reliable, functionally safe, and cost-effective LiDAR is lightweight, low-power, and resilient to sunlight and weather conditions. The sensor delivers a dense, highly accurate, 3D point cloud with unrivaled angular resolution at a high frame rate for distances up to 300m.

Innoviz360 supports pre-configured functionality including FOV scanning configuration with Region of Interest (ROI), pixel summation, frame rate, and multiple reflections.

KEY PERFORMANCE METRICS

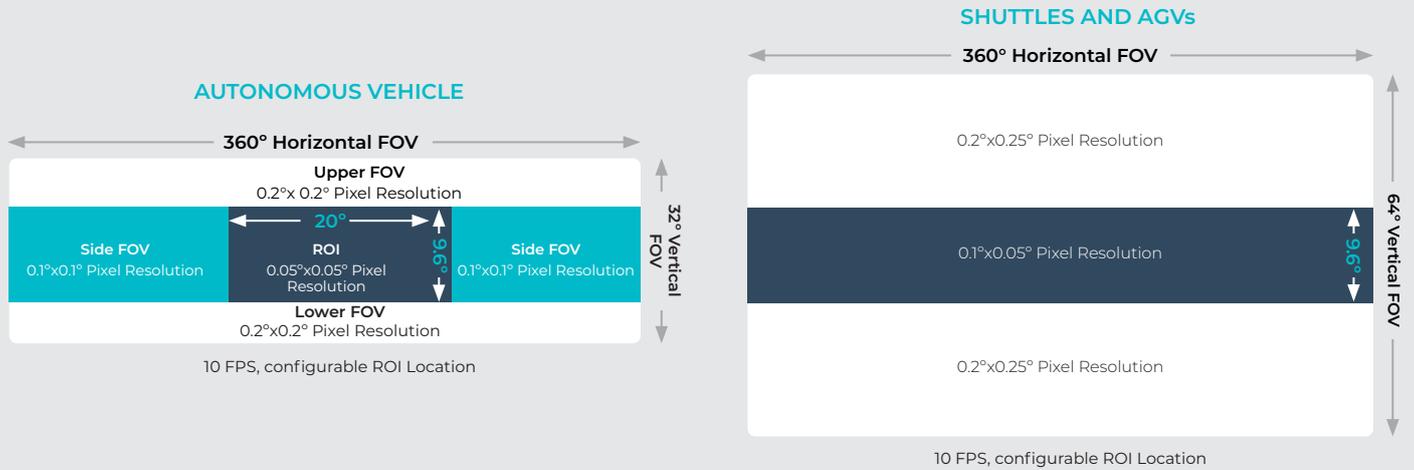| 0.3m-300m	0.05°x 0.05°	360°x64°	0.5-25 FPS
Detection Range	Maximum Angular Resolution (HxV)	Maximum Field of View (HxV)	Programmable Frame Rate
300-1280 Lines per Frame	IP6K6K, IP6K9K, IP6K7	70x200x60mm	-40°C to 85°C
Configurable Scanning Lines	Ingress Protection	Dimensions (HxWxD)	Operating Temperature

UNIQUE FEATURES

- Support multiple FOV configurations with or without Region of Interest (ROI)
- Configurable Scanning Lines
- Up to 3 reflections per pixel
- Resilient to Sunlight & Weather Conditions
- Automotive Ethernet
- ISO 21434-Compliant (Cybersecurity)

MARKET APPLICATIONS

Autonomous Vehicles

Robotaxis and Shuttles

Trucking

Heavy Machinery

Smart Cities

Logistics

Construction

INNOVIZ™ TECHNOLOGIES

SCANNING CONFIGURATION EXAMPLES

AUTONOMOUS VEHICLE

360° Horizontal FOV

Upper FOV
0.2°x 0.2° Pixel Resolution

Side FOV
0.1°x0.1° Pixel Resolution

20°

ROI
0.05°x0.05° Pixel Resolution

9.6°

Side FOV
0.1°x0.1° Pixel Resolution

Lower FOV
0.2°x0.2° Pixel Resolution

32° Vertical FOV

10 FPS, configurable ROI Location

SHUTTLES AND AGVs

360° Horizontal FOV

0.2°x0.25° Pixel Resolution

0.1°x0.05° Pixel Resolution

9.6°

0.2°x0.25° Pixel Resolution

64° Vertical FOV

10 FPS, configurable ROI Location

SPECIFICATIONS

LASER

Laser Product Class	Class 1, Eye-safe (IEC-60825-1)
Wavelength	905nm

INTERFACES

Data, Command and Control	Automotive Ethernet (1000Base-T1)
Time Synchronization	PTP over Ethernet (1588V2/802.1AS)

OUTPUTS

Point Cloud Attributes	Per reflection: Distance, reflectivity, and confidence
	Per-pixel: Timestamp, number of reflections, blockage indication, and coordinates of pixel
	Per frame: Window blockage detection, frame sequence number
Point Cloud Reflections	Maximum 3
Pixel Latency	<10msec
Time Stamp	10 μsec accuracy for every pixel

MECHANICAL/ELECTRICAL

Typical Power Consumption		25W
Operating Voltage		6.5 to 32VDC
Dimensions		70x200x60mm (HxWxD)
Weight		~700g
Ambient Temperature	Operating	-40°C to 85°C
	Storage	-40°C to 105°C
Lifetime		15 years or 300,000km

PERCEPTION SOFTWARE

Innoviz's perception software (purchased separately) converts the LiDAR's raw point cloud data into high quality perception outputs for outstanding object detection, classification, and tracking; LiDAR calibration; detection quality indication; and pixel collision classification (frame-by-frame detection and classification of pixels as possible obstacles within the drivable and non-drivable area). The perception software can be ported to the vehicle ECU.

INNOVIZ ™
T E C H N O L O G I E S