

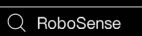
# Airy

The World's First 192-Beam Hemispherical Digital LiDAR

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**RoboSense Technology Co., Ltd**

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# Overview

Airy is the first digital hemispherical LiDAR on the R platform, featuring a chip-based transceiver solution and a high-sensitivity digital detection scheme. Compact in size, comparable to a ping-pong ball, it delivers an ultra-wide hemispherical FOV with 360° horizontal and 90° vertical coverage, encompassing a 60-meter radius range. With 1.72 million points per second and ±1cm detection accuracy, Airy provides real-time detection of object size, contour, and distance. Its well-structured, algorithm-friendly point clouds enable exceptional performance in obstacle avoidance, mapping, and navigation tasks.

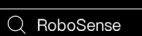
Airy supports a wide variety of robots operating seamlessly in diverse lighting conditions, enabling all-weather continuous operations and advancing the intelligent application of robots across all scenarios.

## Product Specifications

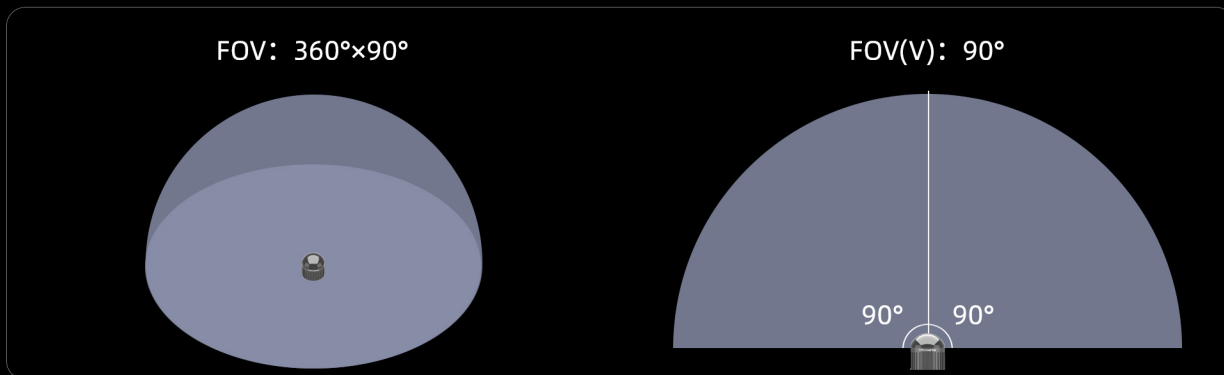
Wavelength	940nm	#of Lines	192/96/48
Range	30m@10%	Laser safety	Class 1 eye safety
Maximum range	60m	Accuracy	±1cm
FOV (H×V)	360°×90°	Blind spot	<0.1m
Angular resolution (H)	0.4°	Angular resolution (V)	0.94°
Frame rate (adjustable)	10Hz	Power consumption	<8W
Points per second (single return mode)	~1,720,000pts/s (192-Beam) ~860,000pts/s (96-Beam) ~430,000pts/s (48-Beam)	Points per second (Dual return mode)	~3,440,000pts/s (192-Beam) ~1,720,000pts/s (96-Beam) ~860,000pts/s (48-Beam)
Ethernet connection	100Base-TX	Output	UDP packets over Ethernet
Dimension	φ60mm×H63mm	UDP packet include	Spatial Coordinates Intensity Timestamp, etc.
Weight (without cabling)	<240g	Operating voltage	9V ~ 32V
Operating temperature	-40°C ~ +60°C	Storage temperature	-40°C ~ +85°C
Time synchronization	\$GPRMC with 1PPS, PTP&gPTP	Ingress protection	IP67、IP6K9K

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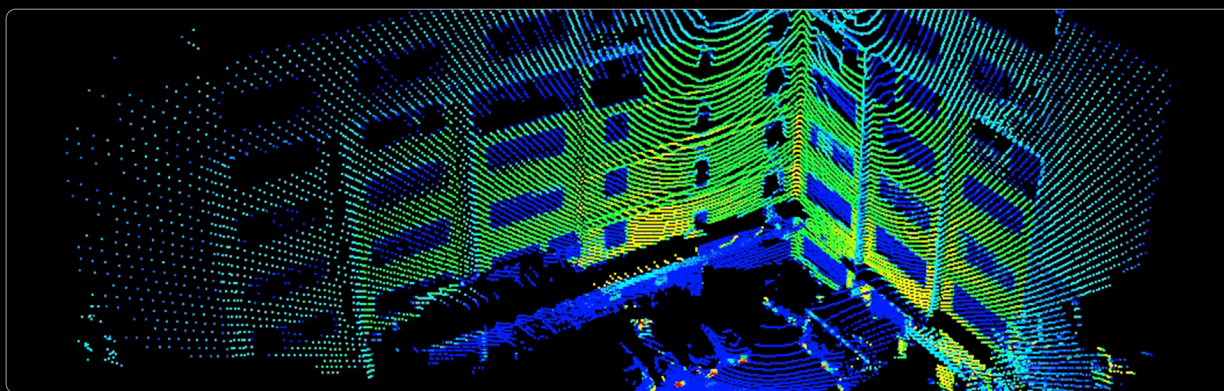


# Perfect Hemispherical FOV

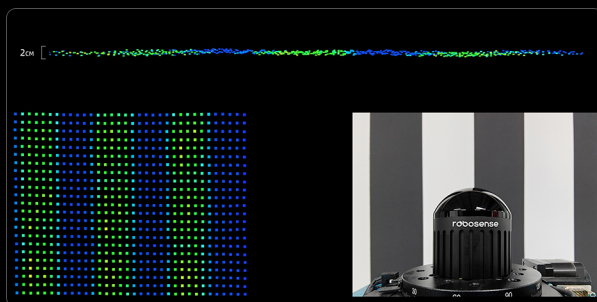


# Neat and High Resolution Point Cloud

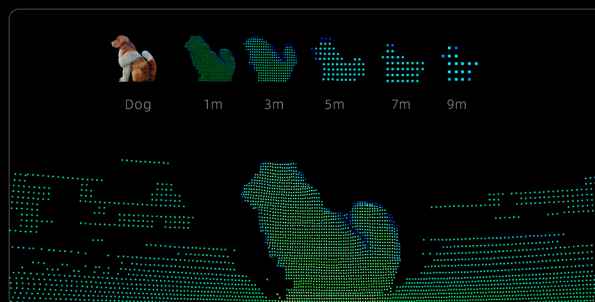
Ultra-wide FOV



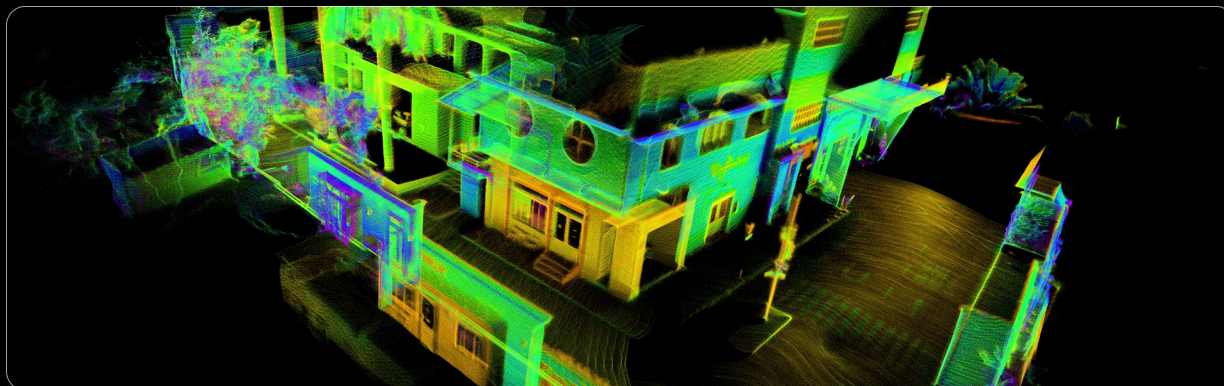
Achieves a distance measurement accuracy of up to  $\pm 1\text{cm}$



High-Definition Detection of Small Animals



3D SLAM



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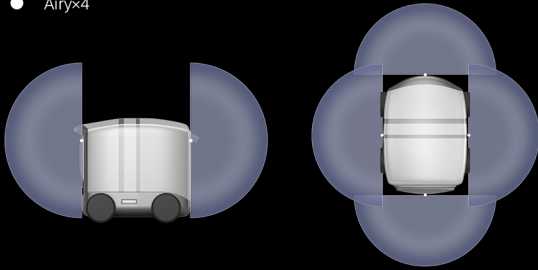
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# Applications

Airy delivers an ultra-wide hemispherical FOV with 360° horizontal and 90° vertical coverage, spanning a 120-meter diameter range. This significantly enhances robots' efficiency in obstacle avoidance, mapping, and localization.

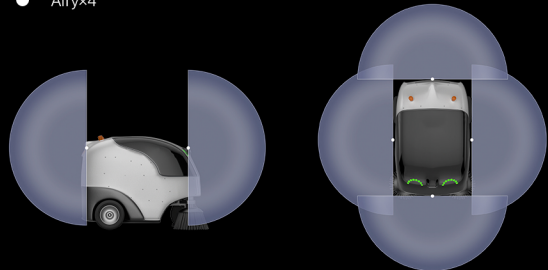
## Autonomous Delivery Robot

● Airyx4



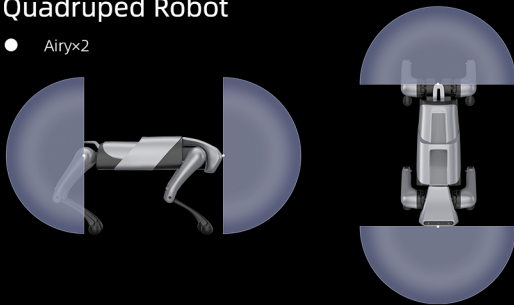
## Cleaning Robot

● Airyx4



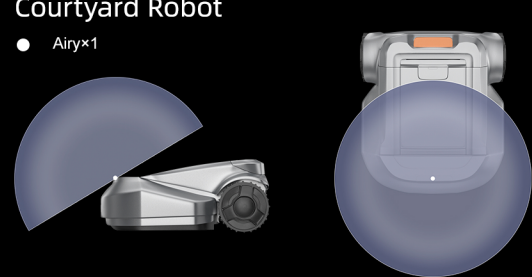
## Quadruped Robot

● Airyx2



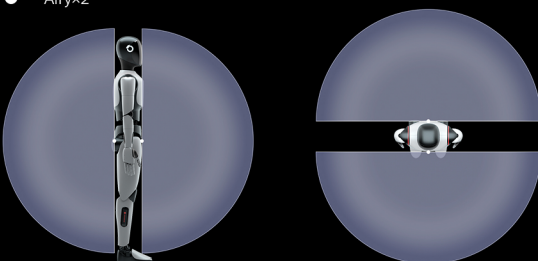
## Courtyard Robot

● Airyx1



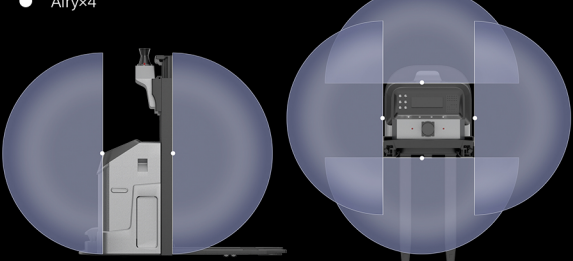
## Humanoid Robot

● Airyx2



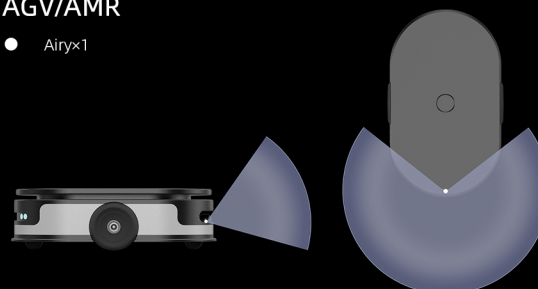
## Unmanned Forklift

● Airyx4



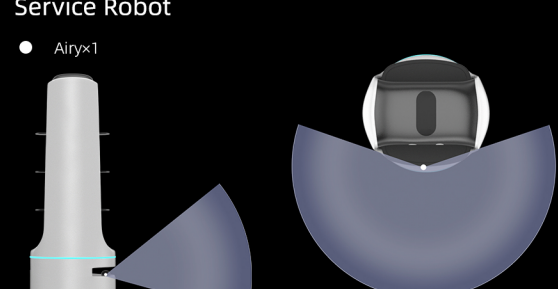
## AGV/AMR

● Airyx1



## Service Robot

● Airyx1



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