


FAIRY

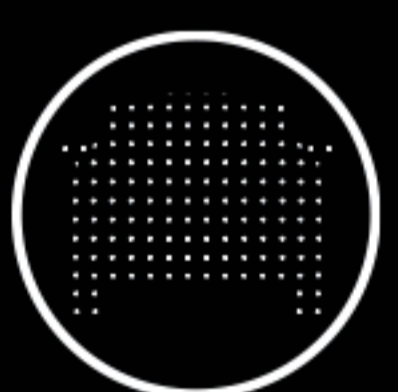


The World's First High-Precision Mid-Range Digital LiDAR

Fairy is the world's first high-precision, high-definition mid-range digital LiDAR. Powered by RoboSense's innovative chip-based transceiver solution and digital architecture, Fairy features a compact and lightweight design. It boasts an ultra-high precision of 0.5cm, a 360°×32° FOV, and a detection range of up to 150m. With structured point clouds optimized for algorithms, Fairy enables real-time detection of object size, shape, and distance, facilitating 3D mapping, obstacle avoidance, and autonomous navigation for robots with outstanding accuracy.

Leveraging its active illumination technology, Fairy operates independently of ambient light, ensuring stable and continuous performance in nighttime, strong light, rain and fog conditions. This significantly enhances robotic adaptability in complex environments while ensuring highly reliable perception data.

Advantage



48-line
#of Lines



0.5cm (1 σ)
Ultra-high precision



<350g
Weight



φ75xH70 (mm)
Compact size



150m
Longest ranging



IMU
Integrated



360°×32°
FOV (H×V)



~685,000 pts/s
Points per second of the
48-line version

RoboSense / Suteng Innovation Technology Co., Ltd.

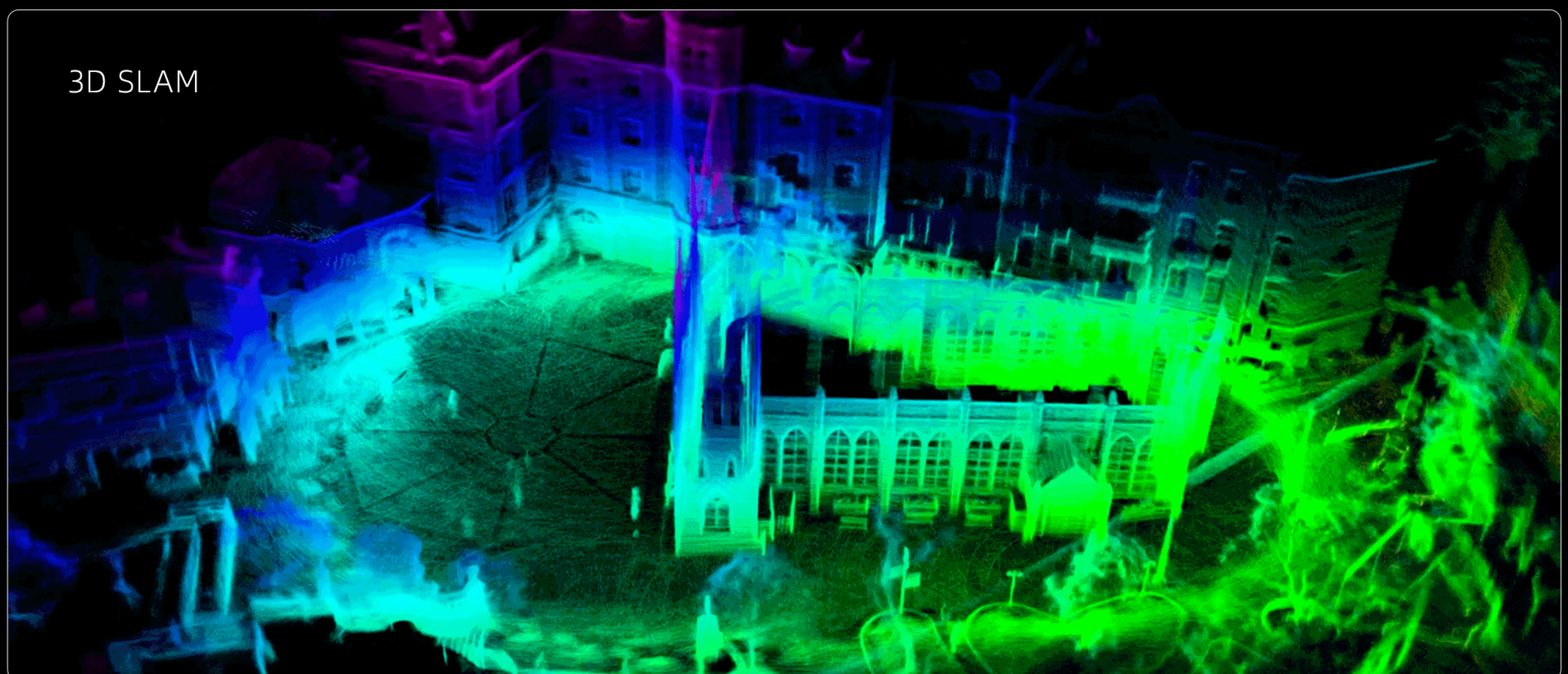
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Product Specifications

#of Lines	48	Wavelength	940nm
Range	80m@10%	Laser safety	Class 1
Maximum range	150m	Precision ¹	0.5cm (1 σ)
FoV (H*V)	360°×32°	Blind spot	≤0.2m
Angular resolution (H)	0.25°	Angular resolution (V)	0.67°
Frame rate (adjustable)	10Hz	Power consumption	<10W
Points per second (48-Line)	~685,000 pts/s		
Ethernet connection	100Base-TX / 100Base-T1	Output	UDP packets over Ethernet
Dimension	φ75mm×H70mm	UDP packet include	3D spatial coordinates, reflectivity, timestamp
Weight (without cabling)	< 350g	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

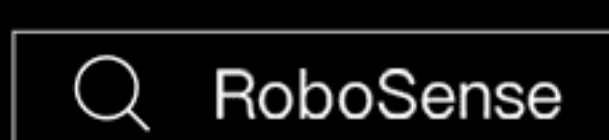
1.Measurement Conditions: 30°C outdoor temperature, 0.5m to 70m range, 50% target reflectivity, average accuracy across channels 13 to 36.

Point Cloud



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