



# AC1

Active Camera  
AI-Powered Robotic Vision Platform

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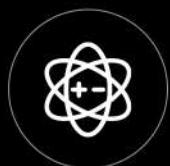
# Overview

Active Camera, invented by RoboSense, is a groundbreaking category in robotic vision designed to tackle the challenges of mobility perception and operational cognition.

The AC1, the first in this series, integrates multiple sensors to deliver hardware-level fusion of depth information, image data, and motion posture data, synchronized in time and space. This enables robots to capture comprehensive environmental details, overcoming interference from sunlight and highly reflective surfaces, and adapting to diverse indoor and outdoor scenarios.

RoboSense's AI-Ready ecosystem equips Active Camera with essential open-source tools—such as drivers, calibration, and data fusion—alongside advanced algorithms for localization, SLAM, and multimodal perception. These resources empower AC1 developers to efficiently craft universal, elegant solutions, unlocking smarter behaviors and enhanced functionalities in robots.

## AI-Ready Ecosystem, Fully Empowering Robotics



### Open-Source ToolKit

Provides open-source tools for Active Camera, including drivers, node data collection, data calibration, data fusion, and cross-compilation support.



### Open-Source Algorithm

Provides open-source algorithm support for Active Camera, including SLAM, localization, object detection and recognition, semantic segmentation, and point cloud-vision fusion.



### Development Cases

Development cases showcasing Active Camera applications in indoor&outdoor mobile robot, humanoid robots and hand-eye coordination operations will be released progressively.



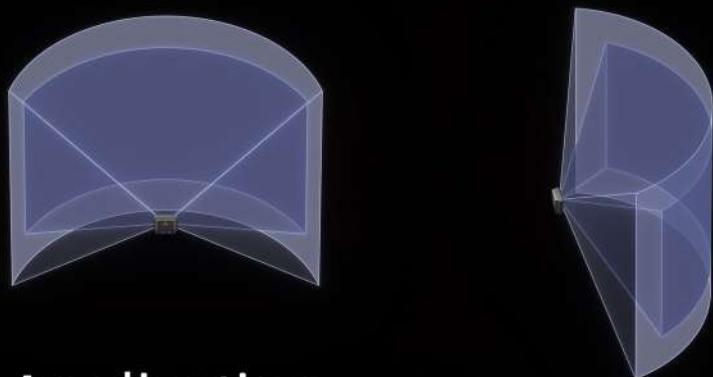
### Datasets

Based on this product series, obstacle avoidance and recognition datasets are provided for robotic mobility and operation scenarios.

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# Ultra-Wide Fusion Perception FOV



- Depth FOV 120°x60°
- RGB FOV 144°x78°
- Fusion FOV 120°x60°

## Application

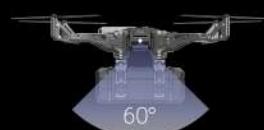
### Humanoid Robot

- AC1 x2



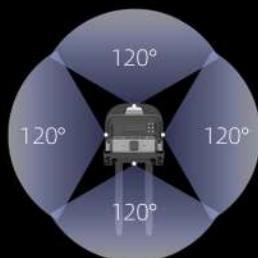
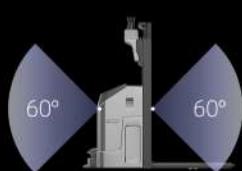
### Drone

- AC1 x1



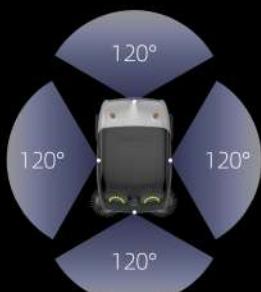
### Warehouse Robot

- AC1 x4



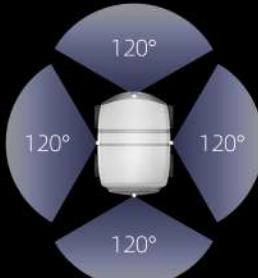
### Cleaning Robot

- AC1 x4



### Delivery Robot

- AC1 x4



### Quadruped Robot

- AC1 x2



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## Product Specifications

Depth	Range	20m@10%, 100kLux*
	Accuracy	3cm@1σ
	Blind spot	≤0.2m
	FOV	120°×60°
	Resolution	~0.625°×0.625°
	Frame rate	10Hz
RGB	FOV	144°×78°
	Resolution	RGB 1920×1080 @30Hz
	Shutter	Rolling Shutter
IMU	Part #	TDK IIM 42652
Sensor Suite	Dimensions	135×80×40mm
	Power consumption	11W ( typical)
	Interface	USB3.0
	Power Supply	12V
	Working temperature	-20°C~+60°C

\*The maximum range is 70m, and for 10% reflectivity under 100kLux ambient light, the range is 20m.