

※Product Name: (3D Stereo-Vision & Depth-Sensing Camera)

※Product model: R77



Figure 2: R77 4.5cm Baseline 74° FOV with Dot-Pattern IR Illuminator

※Product Description :

R77 is a highly cost-effective, high-definition, high-precision 3D stereo vision and depth-sensing camera. It adopts a rolling-shutter RGB+IR process and fuses multi-sensor data to capture infrared light reflected from object surfaces. Through algorithms, it generates 3D spatial information and calculates disparity to output 3D data such as speckle patterns, point cloud maps, and depth maps, enabling 3D environment perception and depth values. It supports modifying the corresponding distance selection range in the code to obtain point clouds at specific distances. The product dimensions are 90 mm × 25.5 mm × 25 mm, with selectable resolutions of 1280 × 920 pixels and 640 × 460 pixels, a horizontal field of view of $74 \pm 3^\circ$, a vertical field of view of $75 \pm 3^\circ$, an 830–850 nm waveband, a 45 mm baseline, and power consumption of 1.5 W. Its accuracy can reach 2%, its depth working distance can reach 4 m, and its optimal distance is 20–150 cm. It uses USB 2.0 Type-C output, allowing convenient connection to various smart motherboards that support OTG. It provides ROS/Android-SDK/Linux-SDK/Windows-SDK and other system SDKs, along with comprehensive technical support.



※Product Specifications:

Models & Specifications	R77		
L*W*H	90mm*25.5mm*25mm	Weight	96g
Output Interfaces	USB2.0 Type-C	Accuracy	2%
Shutter mode	Rolling shutter	Spectral band	830-850nm
Optimal working distance	20cm-150cm	Resolution1 Resolution2	1280*920Pixel 640*460 Pixel
Horizontal FOV	$74 \pm 3^\circ$	Vertical FOV	$57 \pm 3^\circ$
Power consumption	1.5W	Baseline	45mm
Technical Support	Technical Support for Android-SDK/Linux-SDK/Windows-SDK/ROS-SDK and Image Tuning		

※Product Features :

- **Technology:** RGB+IR fusion process with built-in laser and depth algorithm (non-structured light); simultaneous output of RGB images, depth maps, speckle patterns, and point clouds.
- **Shutter options:** Rolling shutter effectively suppresses motion artifacts, making it ideal for high-speed scenarios.
- **Ranging performance:** Detection range from 20 cm to 190 cm, with accuracy up to 2%.
- **Environmental durability:** IP67 dustproof and waterproof rating; suitable for outdoor, dusty, and other harsh operating conditions.
- **Interfaces & software:** USB2.0 Type-C; full-platform SDK support for Android, Linux, Windows, and ROS, with fine-tuning capabilities for image parameters.
- **Flexible customization:** Multiple models available (differing in resolution, field of view, and power consumption); supports project-level deep customization and development.

※ Speckle, depth, and point cloud visualization :



※ Typical Applications :

It is widely used in size-constrained AI products—such as AGV robotic arms, logistics robots, commercial robots, robotic lawn mowers, service robots, snow-removal robots, embodied robots, autonomous sweepers, and unmanned logistics vehicles—for 3D object recognition, obstacle avoidance, 3D spatial perception, and spatial path planning.

Object recognition and grasping for collaborative robots, dexterous hands, and automated equipment.

Gesture-based motion-sensing interaction devices, 3D volume measurement.

应用领域 | Application Fields



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