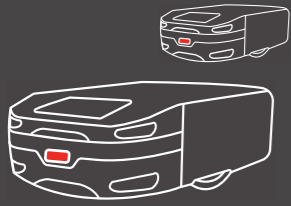# Applications

Mobile Robots

The emergence of ToF (Time of Flight) cameras has brought a revolutionary option for machine vision solutions used in AGVs and AMRs. Due to their high frame rate, high light resistance, and ability to coexist with multiple machines, they are more suitable for cost-effective mobile vision inspection scenarios compared to other depth vision technologies.

Automation

With the most competitive advantage of versatility. Vzense ToF camera can be used in a wide range of applications, from detecting the presence of objects to monitoring entire assembly lines. This flexibility makes them ideal for use in smart logistics, robot safety, levelmonitoring, load monitoring, mobile robots and smart health.
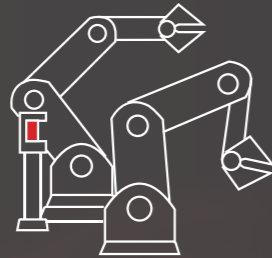
People Counting

People counting systems need privacy protection because they often gather sensitive data that could identify individuals based on their movements and presence in specific areas. Vzense ToF cameras, which use infrared light to measure depth, help ensure privacy. Their high frame rate provides accurate data collection while maintaining privacy.

Item Picking

Item picking is a critical aspect of modern industrial automation, increasingly applied across various industries. The use of ToF technology in item picking is a revolutionary breakthrough because it not only boasts technical advantages such as high frame rates and strong light resistance but also features a compact structure and low cost.

About Time-of-Flight

A 3D Time-of-Flight (ToF) camera measures distances by emitting infrared light and timing how long it takes to bounce back. This helps create a 3D map of the scene, making it useful for autonomous vehicles, gesture recognition, robotics, and 3D scanning.

While Time-of-Flight (ToF) technology may not boast the highest accuracy compared to other 3D vision methods, it distinguishes itself through a compelling combination of advantages: longer range, robust ambient light resistance, high frame rate, and crucially, low cost. Those unique features make ToF excep-tionally versatile across a wide array of applications. Below are real shots from our cameras.
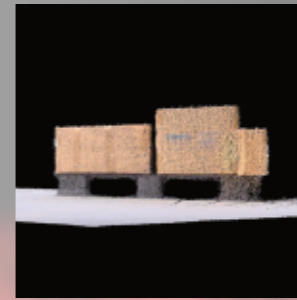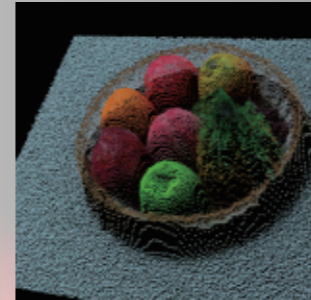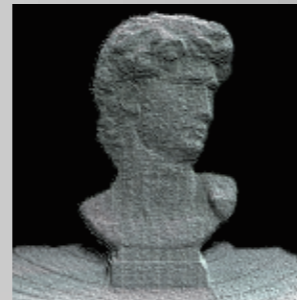
Goermicro Vzense

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or search for: Vzense

About Us

Established in October 2017, Goertek Microelectronics (Goermicro) is a subsidiary of Goertek Inc., specializing in the research, development, and manufacturing of high-precision electronic components and microelectronic devices. It is now capable of providing customers with one-stop product solutions, from chips to devices to modules. Vzense, the depth sensing products brand of Goermicro, is dedicated to developing and designing innovative 3D ToF and RGB depth cameras, along with user-friendly application and software development kits (SDKs) for camera configuration, connection, and exploration.

Contact Us

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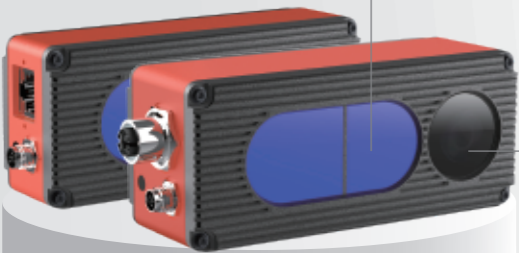
3D CAMERA BROCHURE

1800+
Granted Patents

2700+
Employees

600+
R&D Specialists

12+
ToF Products

Products Introduction

Sony DepthSense iToF Sensor
The latest IMX570 chip offers a resolution of 640x480, 15fps frame rate

Global Shutter RGB Camera
Resolution 1600*1200

DS Series
(DS86/ DS87)

Advanced Pulse-iToF Camera with Ultra-high SNR
Supports Unlimited Multi-camera Coexistence

Global Shutter RGB Camera
Resolution 1600*1200

NYX Series
(NYX650/ NYX660)

Detailed Parameters

DS SERIES — CW-iToF RGBD Camera

Model	DS86	DS87
ToF Sensor	Sony IMX570 CMOS	
ToF Resolution	640*480	
ToF Frame Rate	Max. 15fps	
ToF FoV	67°(H)*50°(V)	
PoE+	No	Yes
RGB Camera	Yes	
RGB Resolution	1600*1200	
Global Shutter	Yes	
Interface	RJ45+M8 Aviation Plugs	M12+M8 Aviation Plugs
IP Rating	IP42	IP67
Ideal Working Range(m)	0.5~4.5	
Output Format	16bit(depth)+8bit(IR)+JPEG(RGB)	
Operation System	Windows/Linux/Arm Linux/ROS1/ROS2	
SDK Support	C/C++/Python	
Camera Size (mm)	125.2*50*34.5	131.3*50*44.5
Package Size (mm)	246*152*85	
Gross Weight (kg)	0.68	0.85

NYX SERIES — Pulse-iToF RGBD Camera

Model	NYX650	NYX660
ToF Sensor	Nuvoton Pulse iToF	
ToF Resolution	640*480	
ToF Frame Rate	Max. 30fps	
ToF FoV	70°(H)*50°(V)	
PoE+	No	Yes
RGB Camera	Yes	
RGB Resolution	1600*1200	
Global Shutter	Yes	
Interface	RJ45+M8 Aviation Plugs	M12+M8 Aviation Plugs
IP Rating	IP42	IP67
Ideal Working Range(m)	0.3~4.5	
Output Format	16bit(depth)+8bit(IR)+JPEG(RGB)	
Operation System	Windows/Linux/Arm Linux/ROS1/ROS2	
SDK Support	C/C++/Python	
Camera Size (mm)	125.2*50*34.5	131.3*50*44.5
Package Size (mm)	246*152*85	
Gross Weight (kg)	0.68	0.85

Highlights

Sony Inside
Sony DepthSense iToF Sensor with the latest IMX570 chip offers a resolution of 640x480 and a frame rate of up to 15 fps.

Support HDR
The HDR mode combines multiple exposures in the phase domain to deliver accurate depth information.

High Accuracy
Outstanding depth data is achieved through phase modulation, making it suitable for both indoor and outdoor use.

Dual Frequency
The masterful combination of two different frequencies helps to improve overall accuracy.

High Frame Rate
The maximum frame rate of the NYX series camera can reach up to 30fps, making it particularly suitable for fast-moving scenes.

Light Robustness
The series boasts excellent light resistance, allowing smooth usage in both low-light and bright-light environments.

Flexible FoV
The NYX series ToF and RGB cameras have a field of view of 70° (horizontal) by 50° (vertical).

Multi-camera Coexistence
Through ingenious technical adjustments, the NYX achieves unparalleled multi-device coexistence without restrictions.