Vizum

ViEye® 130PD

Intelligent Grasping Specialized 3D Camera for Small Scene

- High Precision and High Frame Rate
- Strong Light Resistence and Glare Resistence
- Lightweight and Compact
- Paired with FH Vizum Platform (3D Vision-based Grasping Application Platform)

SVersion-ZQ-RGBD-130

www.vizumtech.com

ViEye (130PD)

Applied in small-scale industrial intelligent palletizing, depalletizing, and loading/unloading scenarios, it achieves precise positioning and assists with gripping functions.

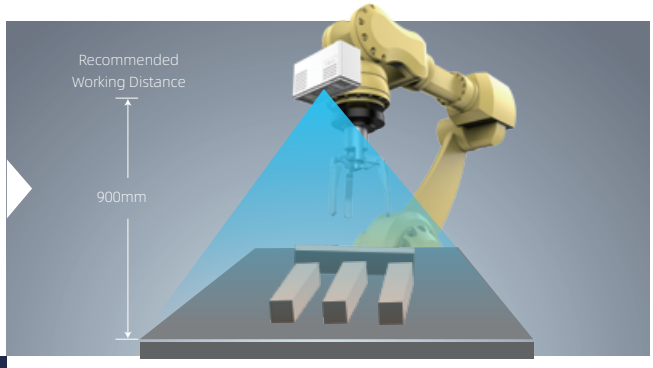
The ViEye® industrial-grade line laser 3D camera (hereinafter referred to as "ViEye") is a 3D camera product designed for machine vision applications that generates point cloud data models, RGBD data, depth maps, grayscale maps, and color maps, among other result data information, quickly. It is also able to adapt to various complex environments,including scenarios with strong light, reflection, and black objects that absorb light, and still supports high-precision modeling.

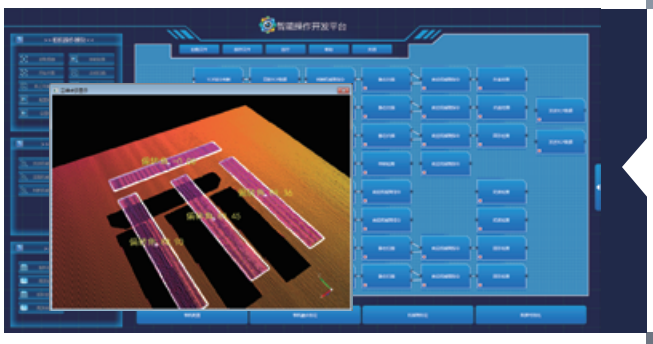
The ViEye is used in industrial intelligent unloading and loading scenarios, serving as the visual input for the work system. It is powerful and features high precision, resistance to strong light, and a small size, making it an indispensable assistant for object positioning and grasping. It can perform functions such as item scanning, item positioning, size detection, and pose recognition. With the help of ViEye, users can easily complete path planning operations and perform workpiece grasping and item sorting actions according to the predetermined procedures.

Product Functions

Target Positioning

It supports the location of object corner points, center points, circular edges, and coordinates of the circular center.





Orientation Positioning

The object's angle and orientation can be positioned using normal vectors, guiding the mechanical arm's grasp angle. At the same time, standardized dimensions can be detected.

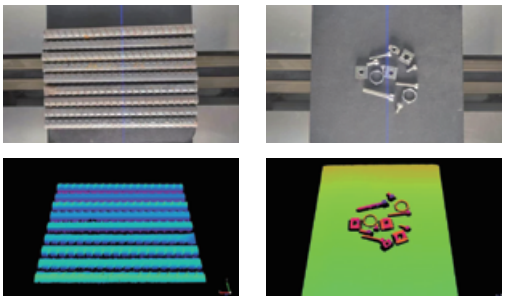
Platform Integration

Supports multiple standard communication protocols, and the positioning result data can be directly integrated with the robot control system.

Product Features

1 Resistant to strong light, anti-glare, and anti-absorption, adapting to various com-plex environments .

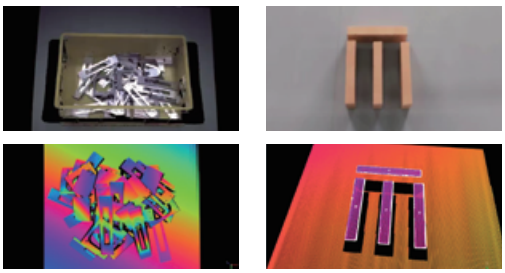
- Supports high-precision modeling in bright environments up to 480,000 Lux.
- Supports noise-free modeling of objects with reflective surfaces and polished materials.
- Black light-absorbing material on object surface for flawless modeling



An example of point cloud rendering in bright light.

2 High precision and high frame rate, improving positioning accuracy.

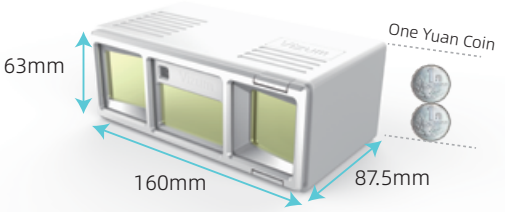
- Adopts a high-resolution image sensor, enabling the output of high-precision point clouds.
- Employs a global shutter sensor, featuring high frame rate line scanning capability.
- High spatial positioning accuracy, meeting the demand for fine-grained scene detection.



An example of point cloud visualization at 3000 frames per second.

3 Lightweight and compact.

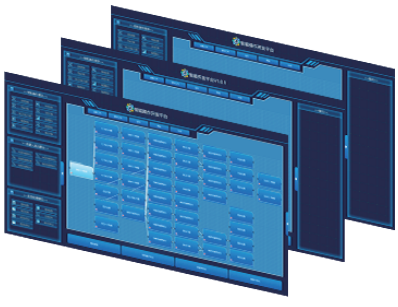
- Weighing only about 1kg, it is suitable for lightweight robotic arm installation.
- Measuring 160mm in length, it is suitable for confined workspaces.



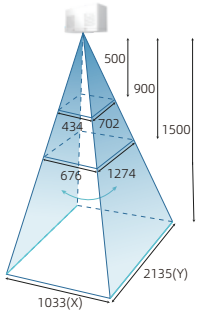
4 Full system solutions, fast deployment.

Camera → Algorithm → Software ↔ Modbus Communication Protocol ↔ Mechanical Arm

Full-chain Development Process	"Do What You Want" Development Platform	Function Module Graphical Representation
Extremely Intelligent Functional Module Expansion	Available and Accessible Development Process	Remote Upgrades, Development at Your Fingertips



Product Specications

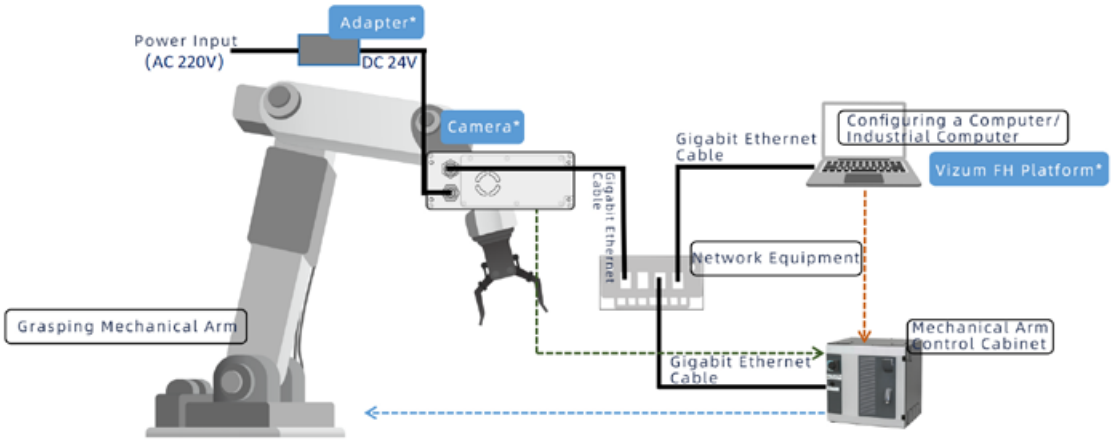
Specication Items	Indications			
Model	SVersion-ZQ-RGBD-130			
Application	Dedicated for Small-Scene Intelligent Grasping			
Baseline Length	130mm			
Dimensions	160×87.5×63mm			
Weight	1060g			
Working Range	500~1500mm			FOV: 
Working Distance	500mm	900mm	1500mm	
Field of View X×Y（mm）	434×702	676×1274	1033×2135	
Z-Axis Accuracy （mm）	0.46	0.87	1.85	
Y-Axis Resolution	1920			
Typical Acquisition Time	0.2~0.8s (Full-frame Frame Rate Max：6FPS)			
Maximum Frame Rate	3000 Line/s			
Front-end Processing	Output the results directly, without the need for additional hardware platforms for calculation			
Output Data Format	RGB+Point Cloud Data (Pcd、Las、Txt)			
Intelligent Development Platform	Vizum FH®Platform			
Resistance to Environmental Light Intensity	480000Lux			
Data Interface	Gigabit Ethernet			
Communication Method	SDK Function Call (C++), Modbus Tcp			
Supported Systems	Windows（7、10、11）、Linux			
Light Source	Blue Light (450nm), Red Light (638nm), Infrared (808nm, 850nm, 940nm) Optional			
Voltage / Power Consumption	24VDC，0.85A			
Working Temperature	-20℃ ~ 70℃			
IP Class	IP65			
Factory Intrinsic Parameter Calibration	Yes			

Note: The above data is from Vizumlab, for reference only. The final product shall be subject to the actual delivered goods and the attached inspection report.

Shipping Invoice

Name	Quantity	Graphic Example
Camera	1	
Camera Power Cord and Adapter	1	
Gigabit Ethernet Cable	1	
Free App Platform	1	Vizum FH Platform - 3D Vision Positioning and Grasping Guidance Application Platform

System Connection



Graphic Example:

- 3D Scanning Data
- Position and Orientation
- Control Signal

Note:

1: * The equipment is provided by Vizum.

2: The example is **Eye in Hand** installation method, the **Eye to Hand** installation method is also supported. Six-axis calibration method is available.

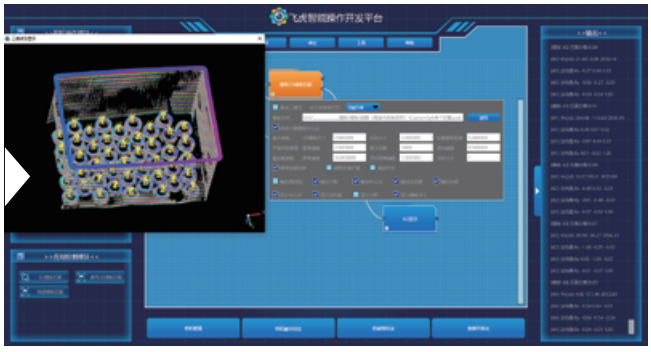
3: Control system interface: Supports Modbus TCP and TCP/IP.

Vizum FH Platform

Through highly modular system integration, with 3D stereo vision technology as the core, functional and algorithmic modules are visually packaged and displayed. Users can select the required functional modules from the algorithm library based on their needs and independently complete tasks using the ViEye. The system is also adaptable to mainstream robotic arms from both domestic and international manufacturers.

Integrated Camera, Algorithms, and Robotic Arms with Unified Control.

- Full-Chain Development Process
- Reusable and Parallel Construction
- Meets Various Gripping Scenarios
- Real-Time Graphical Data Presentation

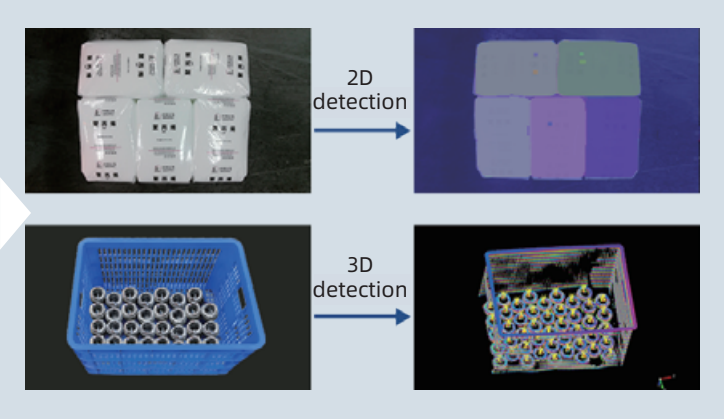


Graphical Drag-and-Drop, No Programming, Easy to Use, and Quick Deployment.

- Drag-and-Drop Modules to Build Workflows
- Instant, Ready-to-Use Development Process
- Quick Setup in Under Five Minutes
- Remote Upgrades and Development Available Immediately

Natural Learning, No Training Required, Grabbing Everything.

- Supports Detection of Various Items
- Multi-Dimensional Parameters with Flexible Settings
- Intelligent End-Device for Rapid Recognition
- Full Coverage Across Multiple Industries and Forms



One-Click Import of Application Cases, Fast Matching for Use

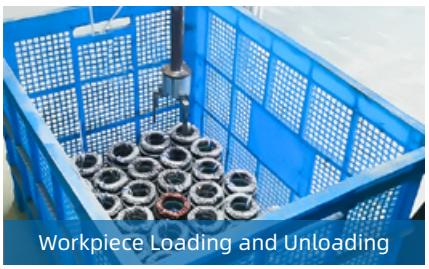
- Measurement/Detection Cases
- Case Types Support Cloud Synchronization
- Gripping Cases
- Self-Developed Cases

Supports Dozens of Domestic and International Robotic Arm Brands

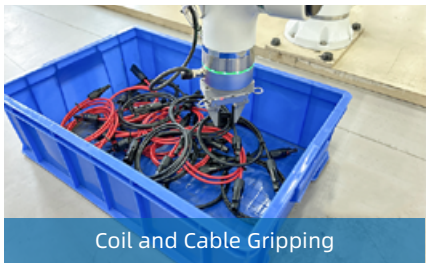
Supports mainstream robotic arm manufacturers from both domestic and international markets, including ABB, Yaskawa, Kuka, Nachi, Panasonic, Fanuc, Kawasaki, Aubo, Han's Robot, Step, Efort, Peitian, Rokae, QJAR, Estun, Siasun, Jaka, Bronte, Moka, and more.

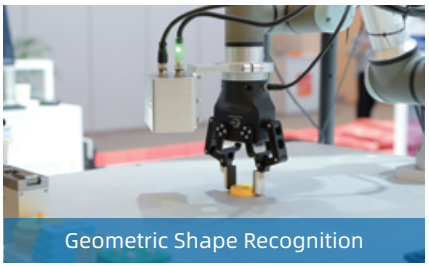
Application Cases


Logistics Palletizing and Depalletizing


Workpiece Loading and Unloading

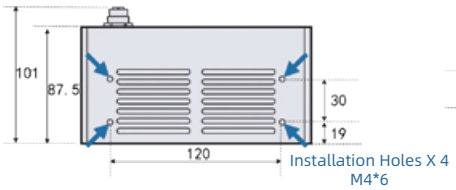

Package and Woven Bag Gripping


Coil and Cable Gripping

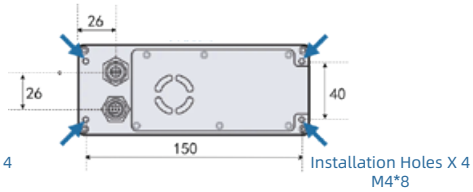

Geometric Shape Recognition

Product Size Unit: mm

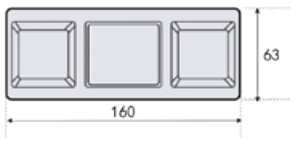
Bottom View

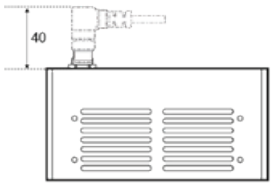


Rear View

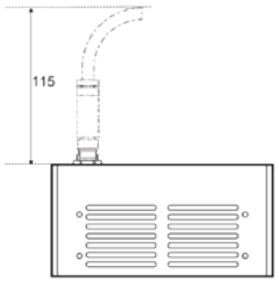


Front View





Elbow Cable Connection



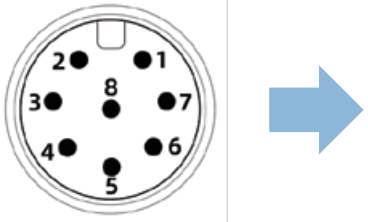
Straight-through Cable Connection

Computer System Requirements

Computer	Requirements
Operating System	Windows11、 Windows10、Windows7（Simplified Chinese, 64-bit Version）
CPU	Based on Intel® Core™ i7 Processor or Higher
Memory	16 GB or Above
Disk Space	500 GB or Above（Need Storage Space for Image Data Additionally）
Graphics Card	Dedicated Graphics Card with 2GB or More of Video Memory
Display Resolution	1920*1080
Network Interface	Gigabit Ethernet Port

Power and Trigger Interfaces

When using external triggering, connect the external signal to the camera's trigger cable according to the actual situation. The detailed explanation and definition of the power and external trigger interface are as follows:



Number	Color-coded Accessory Cables	Indications
1	Red	Positive Terminal of Power Input (VCC)
2	White	Trigger Input Signal_1-GND
3	Green	Trigger Output Signal, Not Currently Supported
4	Yellow	Trigger Input Signal_1
5	Purple	Trigger Input Signal_2(Photocell Input)
6	Blue	Trigger Input Signal_2-GND
7	Brown	Trigger Output Signal-GND
8	Black	Power Ground (GND)