

EMPOWERING INTELLIGENT MANUFACTURING
AND BUSINESS EFFICIENCY

Ver. 1, Jul. 2025

* Design and specifications are subject to change without notice.

ZHEJIANG HUARAY TECHNOLOGY CO.,LTD.

📍 Add: NO.590, Changhe Road, Binjiang District, Hangzhou, Zhejiang, P.,R.China

🌐 Website: www.irayple.com/en/home

☎ Service Hotline: +86 400-681-8858

✉ E-mail: overseas@irayple.com



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Website

iRAYPLE



VISION SENSOR PRODUCT CATALOG

www.irayple.com



CONTENTS

01 About us

| | |
|----------------------|----|
| Company Introduction | 01 |
| Corporate Culture | 02 |

02 Product Introduction 03

03 Application 04

04 Algorithm 05

05 software 11

06 Product Features

| | |
|--------|----|
| SS3000 | 13 |
| SS4000 | 14 |
| SS5000 | 15 |

ABOUT iRAYPLE

ABOUT iRAYPLE

Zhejiang HuaRay Technology Co., Ltd. is a company dedicated in research & development, manufacturing, and sales & marketing of machine vision and autonomous mobile robot (AMR) products. With focus in smart manufacturing technologies and logistics innovation, we are committed to creating and delivering value for our customers by enabling a smart factory transformation. As a national high-tech enterprise, iRAYPLE aims to bring the latest technological innovations to our valuable customers. More than 60% of its employees are dedicated in R&D, and the company has filed over 600 patent applications. With its investment in R&D, iRAYPLE has developed deep know-how in its embedded software, image optimization, recognition algorithms, network transmission, navigation, positioning, scheduling, motion control, and other technical fields. iRAYPLE's products and solutions are widely applied in various industries such as logistics, automotive, 3C, lithium battery, photovoltaic, semiconductor, pharmaceutical, and so on. Our machine vision products include industrial area scan cameras, line scan cameras, smart industrial cameras, vision sensors, 3D industrial cameras, and lenses. These products have been used for code recognition, OCR, vision measurement, positioning, defect detection, etc. In addition, our autonomous mobile robot (AMR) products include latent lift, towing, forklifts, and sorting robots are widely used for warehouses and material handling applications. Utilizing its years of technical experience in AI, image optimization, recognition algorithms, and other technologies, iRAYPLE is committed to providing global customers with reliable products, solutions and related services in order to enable a smart factory transformation.

VISION

Provide customers with high quality products and solutions.

MISSION

Empowering intelligent manufacturing and business efficiency

CORE VALUE

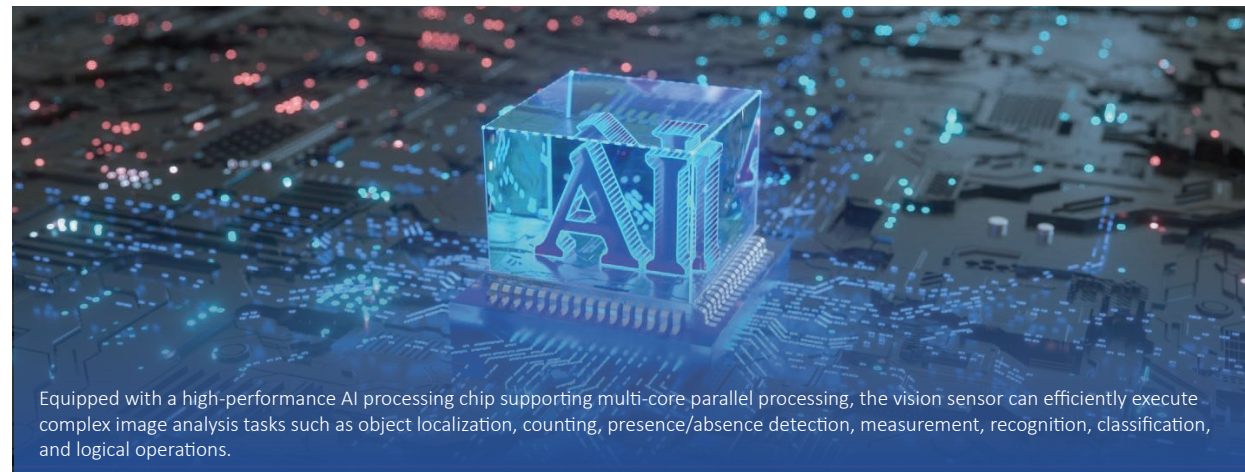
Customer-oriented and committed to customer success

600⁺
R&D Engineers

600⁺
Patent Applications

Product Introduction

Product Introduction



SS3000 series



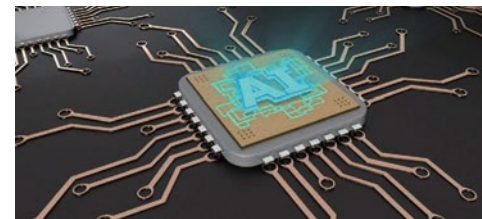
SS4000 series



SS5000 series

AI Detection & Rapid Recognition

Equipped with a high-performance AI chip and multi-core parallel processing for enhanced detection efficiency. Core AI algorithms automatically identify product variations, delivering fast and stable detection.



Multi-core parallel processing: fast and efficient

Equipped with a multi-core high-performance processor, it enables parallel processing of algorithms, image acquisition, and communication processes, significantly boosting detection speed and success rate.



Multi-core processing significantly reduces inspection time:

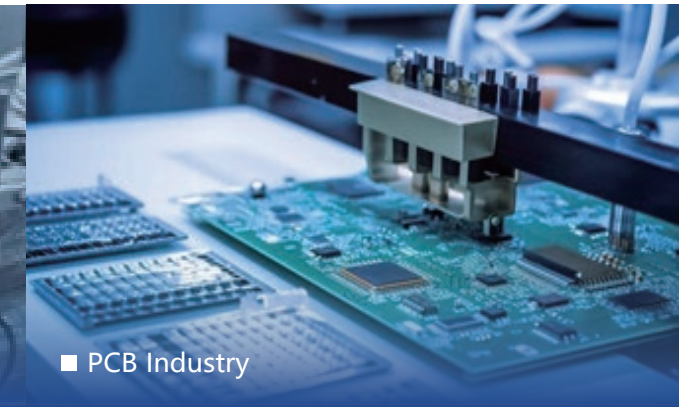


Application

Application



■ Food and Beverage Industry



■ PCB Industry



■ Packaging Industry



■ Pharmaceutical Industry



■ Automotive Industry



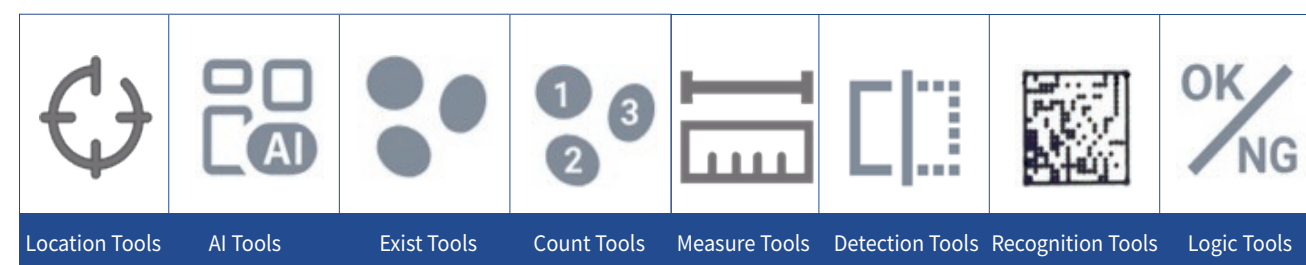
■ New Energy Industry

Algorithm

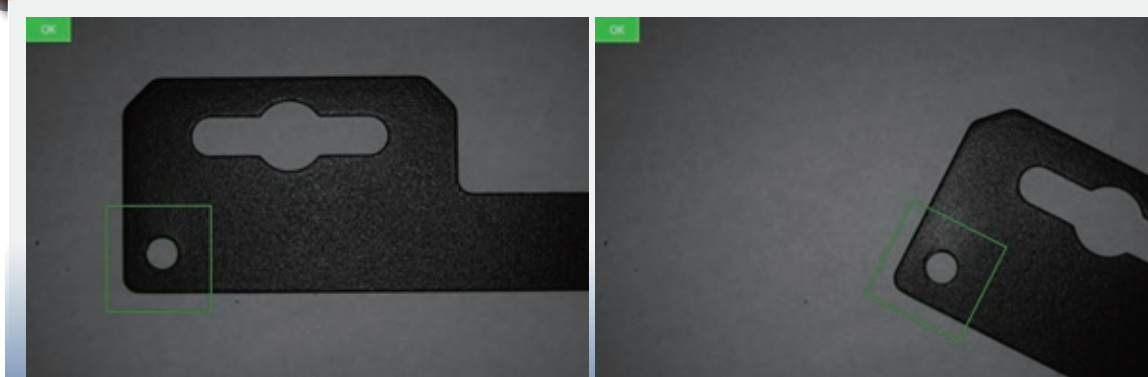
Algorithm

Comprehensive built-in algorithm tools

The full product range features comprehensive built-in algorithm tools that can be flexibly selected and combined to meet diverse industrial inspection needs. The clean, intuitive algorithm configuration interface enables rapid tool setup and debugging with just a few simple steps.

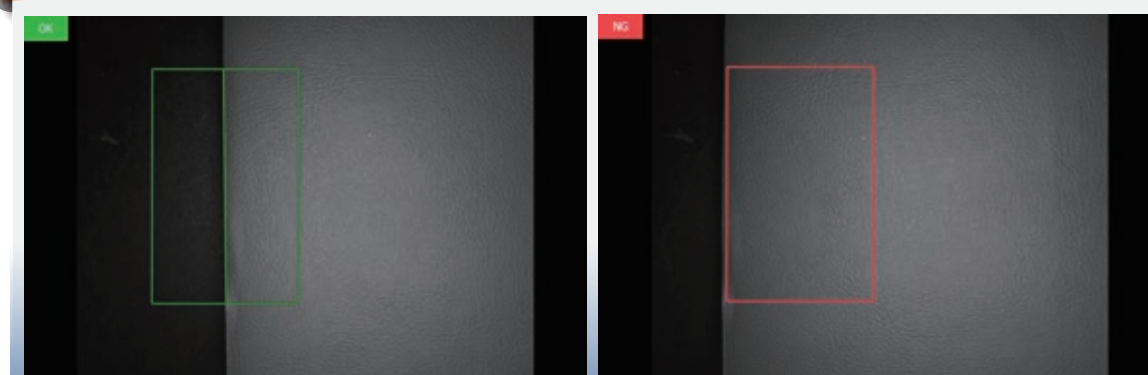


Pattern Match



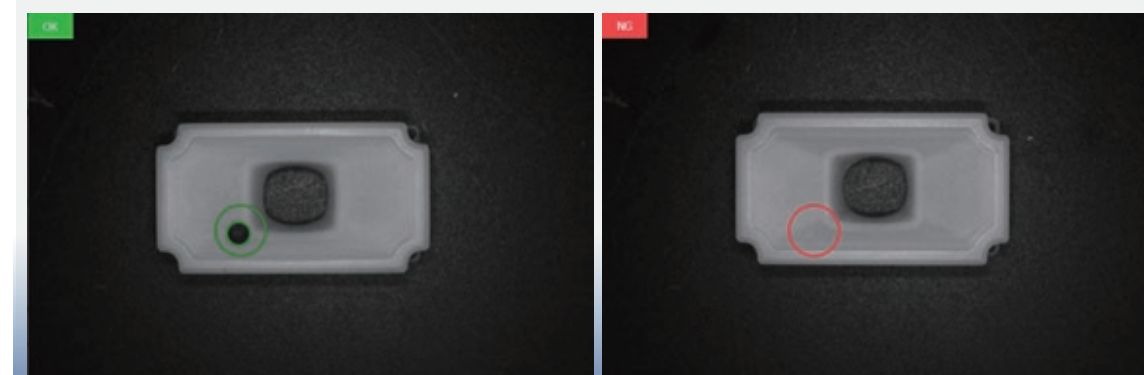
Identify and Track Feature Objects → Reliably detect part corners and holes at any position and angle

Find Line



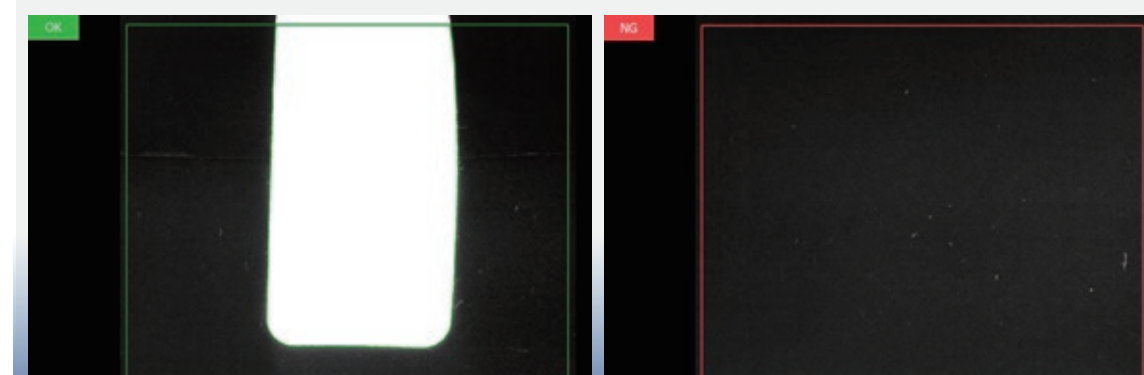
Detect straight edges via pixel differences within a specified region → Detect belt misalignment during conveyor operation

Find Circle



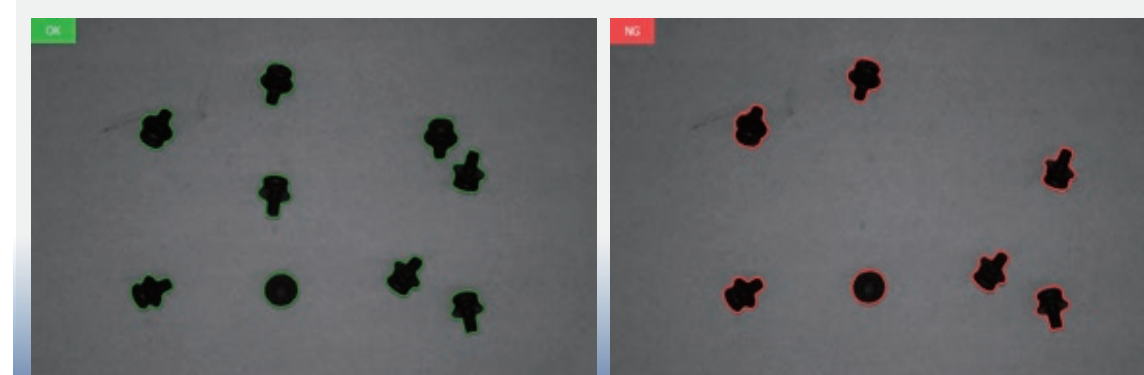
Detect circular features within a specified region via grayscale differences → Detect missing holes in parts using the circle-finding tool

Blob Exist



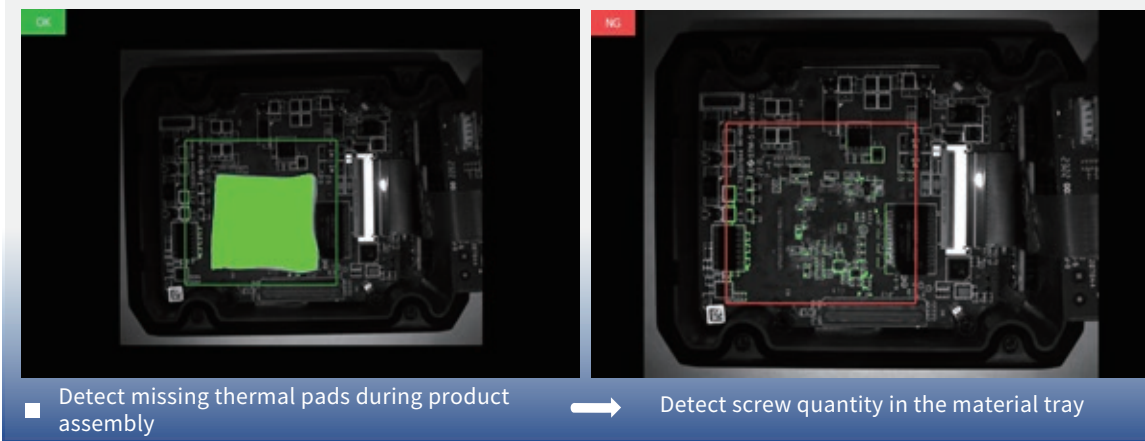
Capable of determining part presence or absence for irregular objects with variable positioning via grayscale thresholding. → Splice Label Presence Detection on Winding Film

Blob Count

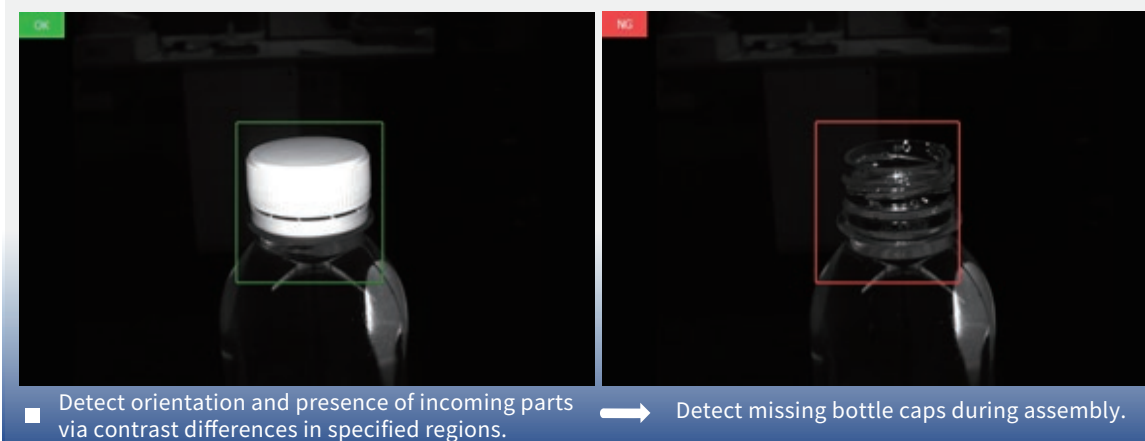


Capable of counting irregularly-shaped products via grayscale thresholding. → Detect screw quantity in the material tray

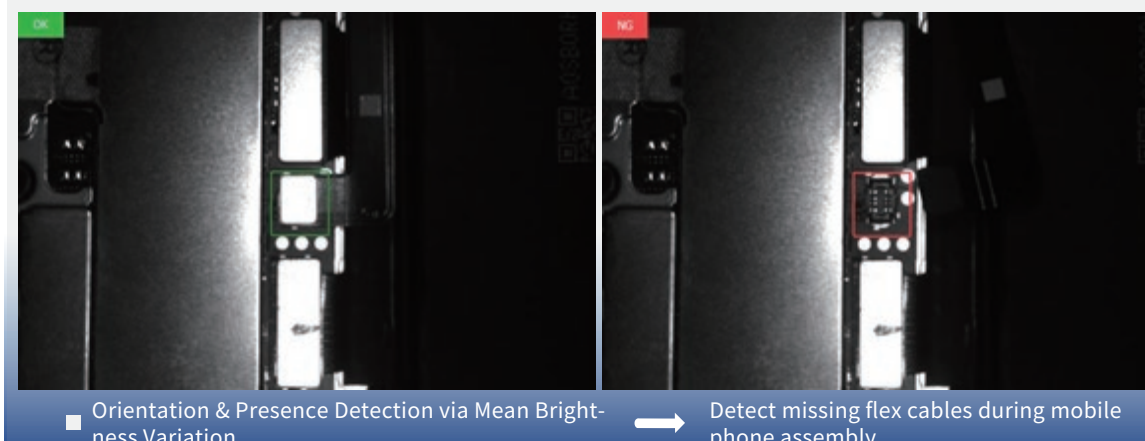
◆ Grayscale Area



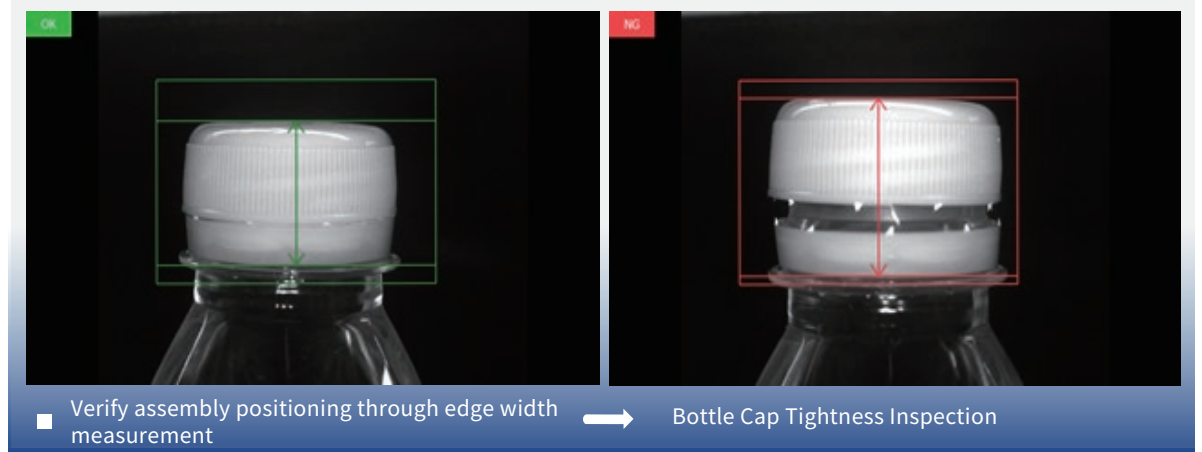
◆ Contrast



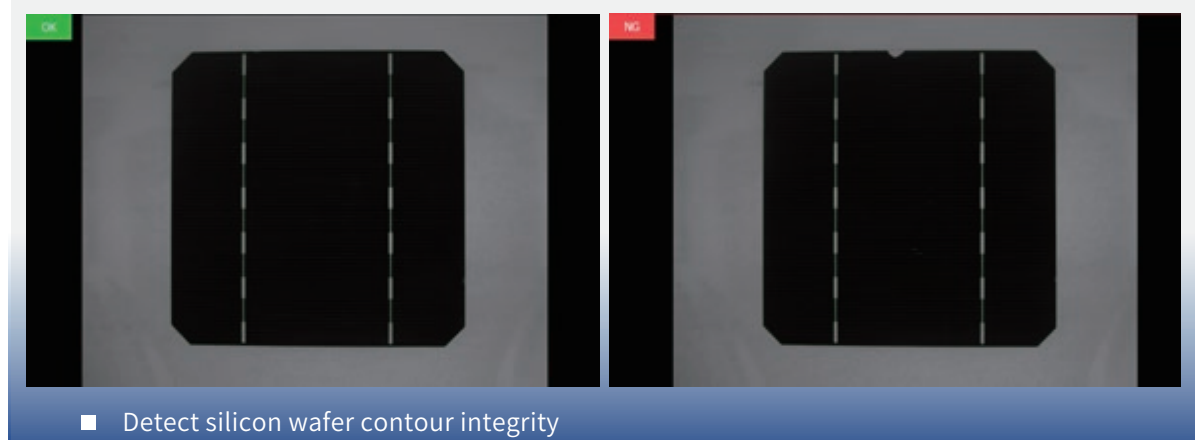
◆ Brightness



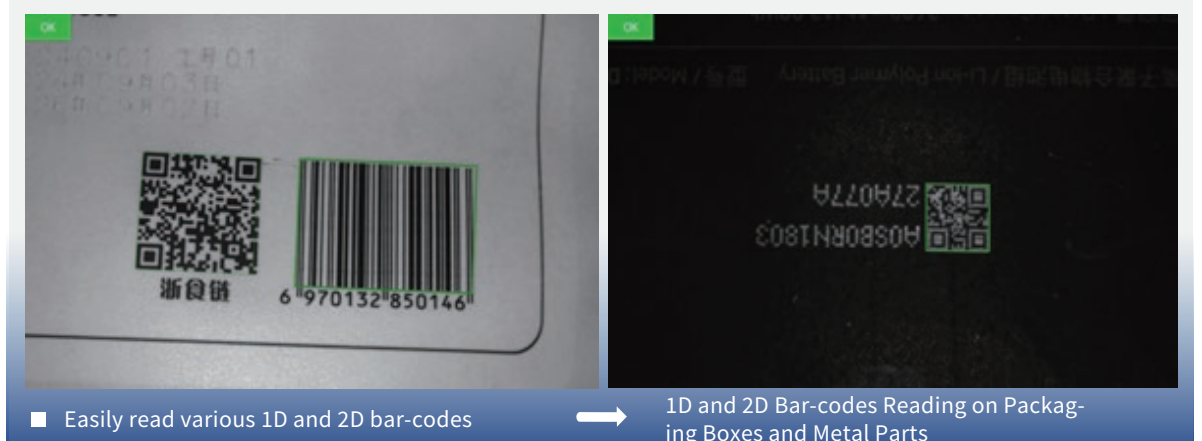
◆ Edge Width



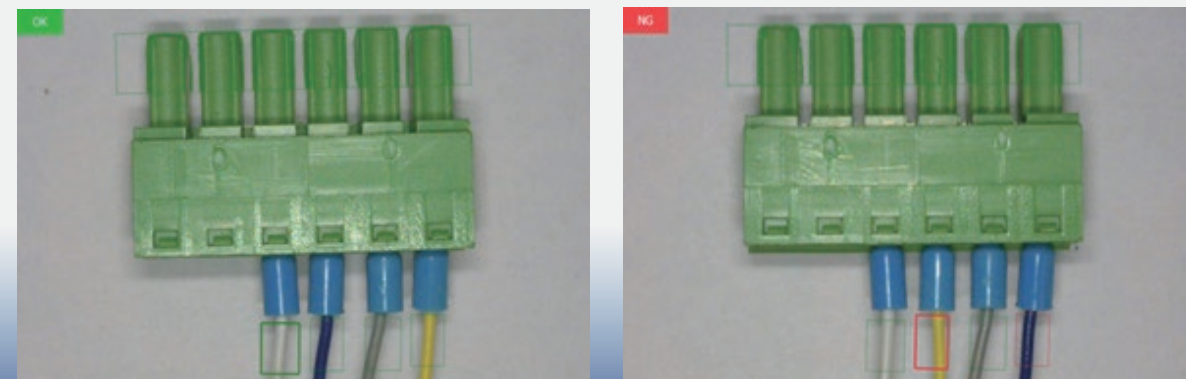
◆ Contour Compare



◆ Code Reading

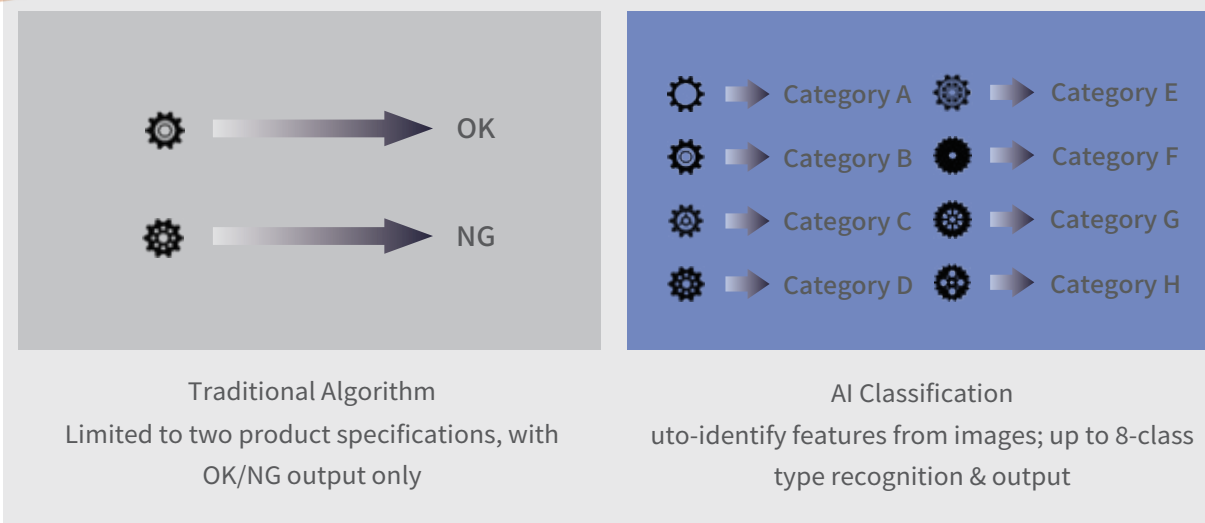


◆ Color Recognition



- Verify assembly positioning through edge width measurement
- Verify wire order on terminals

◆ AI Classification



◆ OCR

High-performance AI OCR for effortless recognition of letters, numbers, and symbols

- Supports multiple font styles, including SEMI fonts, with ease.



- Effortlessly handles complex scenarios, including wrinkled surfaces, curved surfaces, low contrast, and metal reflections.



Curved or wrinkled surfaces



Background interference / Surface curvature



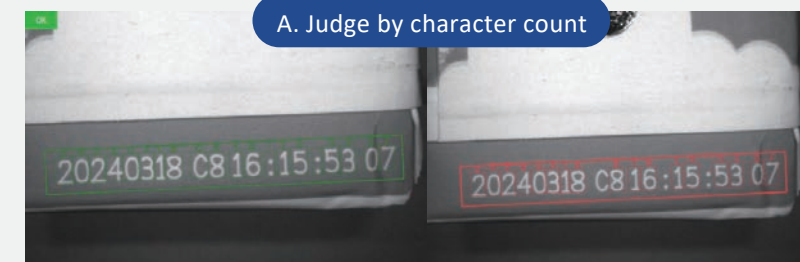
Low contrast



Metal glare

- Supports multiple modes for result judgment

A. Judge by character count



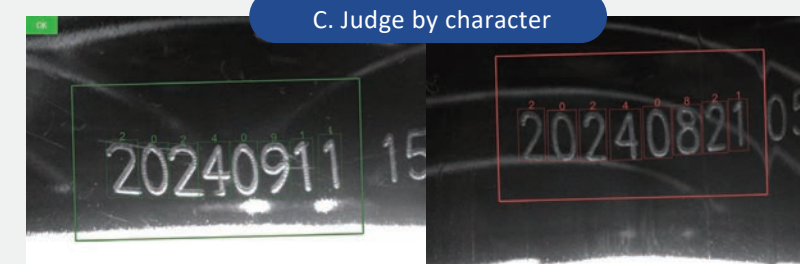
Character filtering causes length discrepancy.

B. Judge by recognition score



Surface film coverage causes low recognition scores.

C. Judge by character

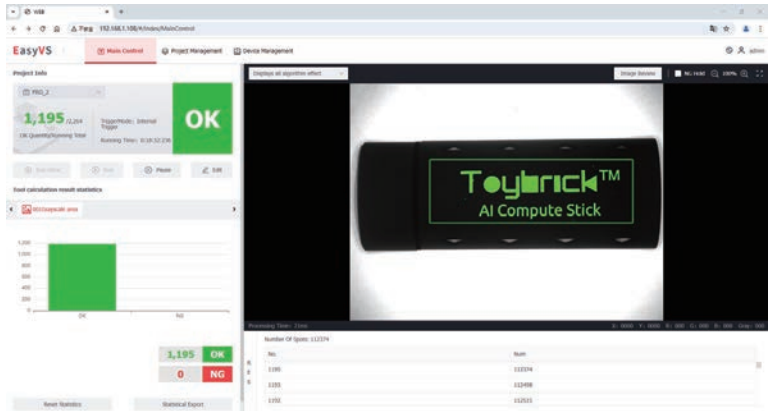


Verify incoming material validity by detecting production date discrepancies.

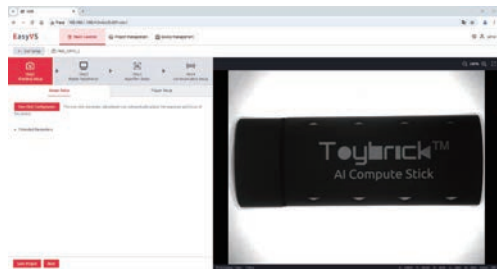
software

Highly Flexible Software Platform

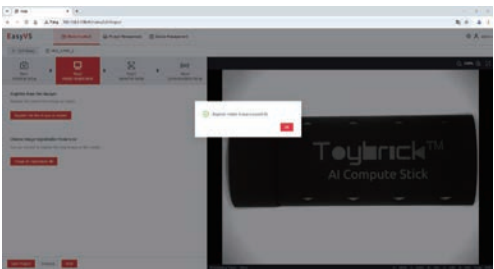
Supports cross-platform web-based operation for easy debugging and monitoring. Default IP: 192.168.1.108



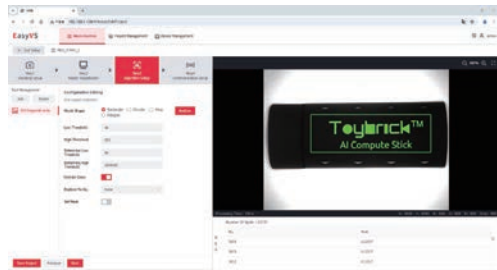
Four-step guided operation process—simple, intuitive, and quick to master, significantly reducing training costs.



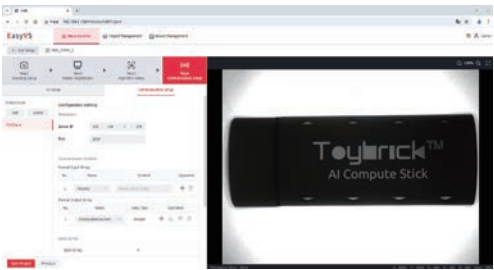
One-click Image Adjustment



Supports master registration using live or imported images.



Streamlined Algorithm Configuration



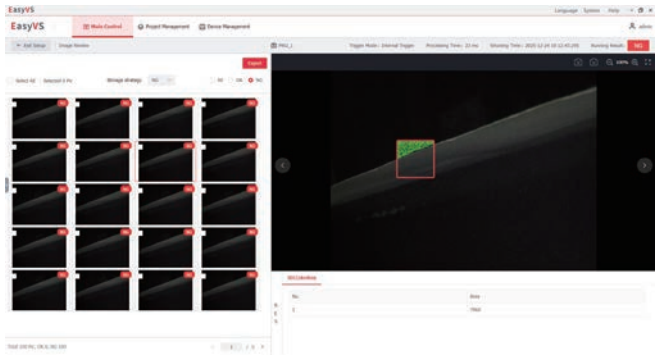
Modular Communication Configuration

Supports a robust communication network for diverse devices.

TCP Client、TCP Server、UDP、Modbus Server、Profinet、EtherNet/IP、Serial、FTP

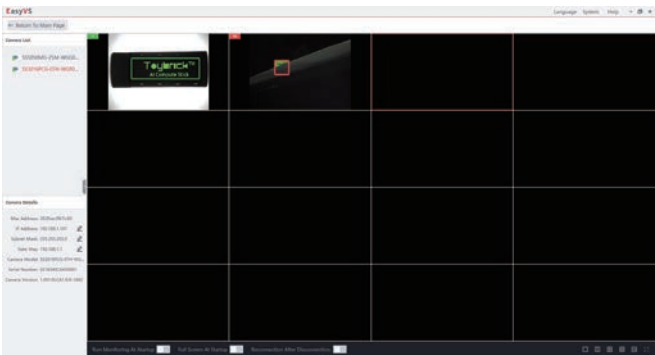
Supports data management and root-cause analysis.

Inspection results and images are saved internally in the camera by default. Options for saving only NG or all results are configurable, with circular overwrite of up to 100 images. Data can be easily viewed and exported for troubleshooting and process improvement analysis.



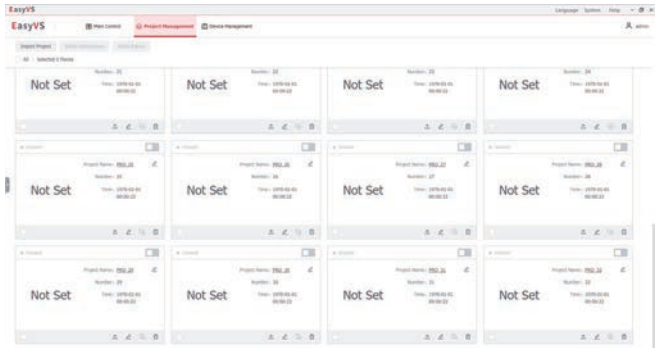
Simultaneously monitor the operating status of multiple sensors

Supports multi-device monitoring, with simultaneous online monitoring of up to 16 cameras.



Supports multi-product mixed-line production

Supports up to 32 programs for rapid switching based on production requirements.



SS3000 Series

SS3000 Series



Ultra-compact body

Ultra-compact body design—the 7mm focal length model is as small as 45×35×25.5mm, seamlessly fitting into various tight machine installation spaces.



SS3016PMG-07H
SS3016PCG-07H



SS3016PMG-16H
SS3016PCG-16H

Multi-color selectable light source

Red/white light source options. Polarizing front cover included as standard for reflective applications; non-polarizing front cover available for higher brightness requirements.



Flexible Focusing

Manual rear focus adjustment, easily operated with a flat-head screwdriver.



SS4000 Series

SS4000 Series



Highly integrated with a compact structure

Highly integrated and compact, the unit measures just 57.5mm × 38mm × 47mm.



Multi-channel multi-color light source

Optional white/red/blue multi-color light source"

Features multiple built-in lighting modes with optional diffuse, polarized, and non-polarized configurations, maximizing adaptability to complex inspection applications.



◆ Superior integrated lighting design

Result Indication

Built-in red/green result indicators for quick status checks without checking the software interface or communication output—clear and intuitive.



Green light indicates OK



Red light indicates NG

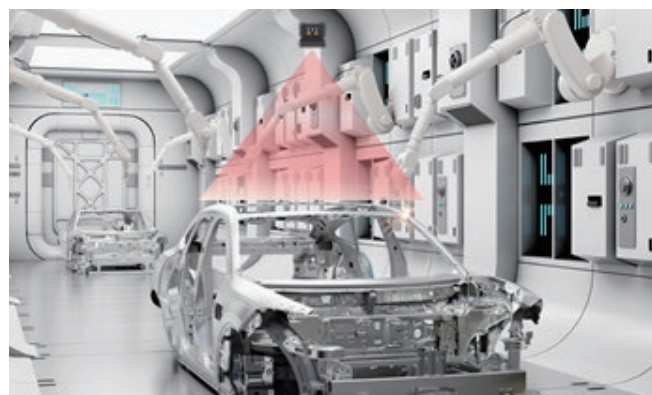
SS5000 Series

SS5000 Series



Wide Field of View, High Resolution

The SS5000 series supports up to 5 MP, covering a wide range of large-field, high-precision inspection needs. The entire line also offers multiple focal lengths, accommodating both wide-angle, large-field applications and small-field, high-accuracy inspections.

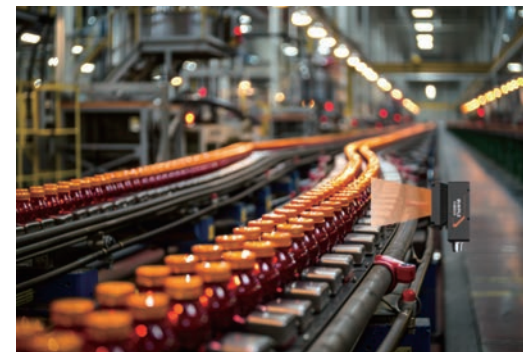


Wide-FOV Detection



Small-FOV High-Precision Recognition

Exceptional processing performance



Built-in high-performance AI processor with proprietary algorithms and multi-core parallel processing enables fast, efficient millisecond-level detection. Supports optional 1.6MP or 5MP resolutions, with maximum frame rates of 60fps at 1.6MP and 45fps at 5MP, suitable for various high-speed moving object detection applications.

Ultra-fast response

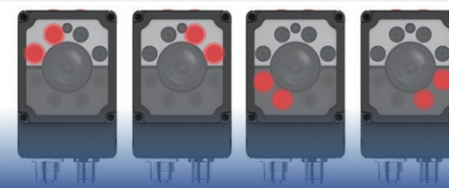
High-frame-rate capture

ms-level processing

1 Gbps transmission

Powerful light source design

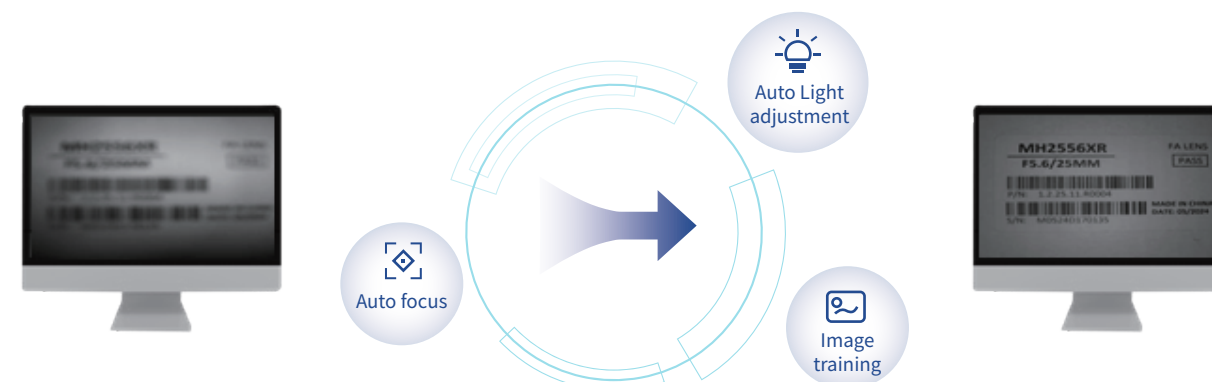
Four-channel light source with individual on/off and brightness control; white/red/blue/IR color options for greater application versatility.



One-click setup for effortless image tuning

SS4000/SS5000 series with built-in motorized zoom lens and powerful image algorithms.

One-click configuration automatically adjusts focus and brightness for optimal image output. Simple and fast operation significantly reduces setup time.



SS3000 Series

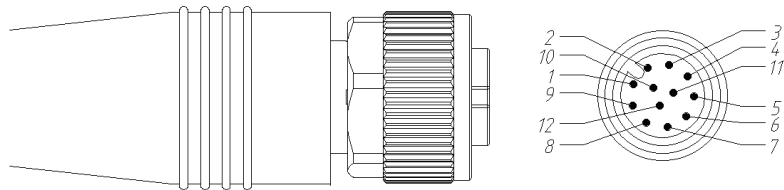
SS3000 Series



Specification

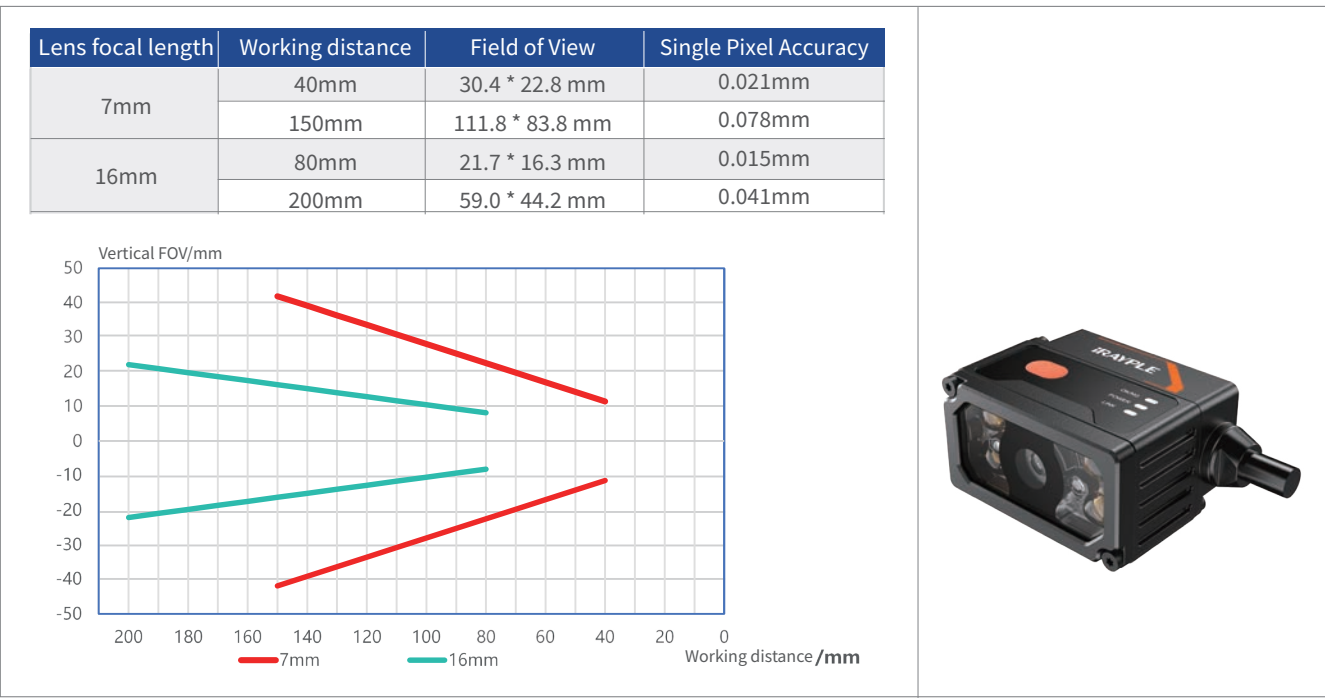
| SS3000 Series | | | | |
|------------------------|--|----------------------|---|----------------------|
| Model | SS3016PMG-07H-WGG01E | SS3016PCG-07H-WGG01E | SS3016PMG-16H-WGG01E | SS3016PCG-16H-WGG01E |
| Resolution | 1440*1080 | | | |
| Mono/Color | Mono | Color | Mono | Color |
| Max. Frame rate | 60fps | | | |
| Focal Length | 7mm | | 16mm | |
| Focus Control | Manual control | | | |
| Working Distance | 40-150mm | | 80-200mm | |
| Field of View (FOV) | 30.4*22.8 ~ 111.8*83.8mm | | 21.7*16.3 ~ 59.0*44.2mm | |
| Light Source Type | White polarized Red/Blue light is optional | White polarized | White polarized Red/Blue light is optional | White polarized |
| Aimer | Orange/Green dual-point indication | | | |
| LED Indicator | Power indicator, Network indicator, Result indicator | | | |
| Function | Location Tools: PatternMatch AI Tools: AI classification Exist Tools: FindLine、FindCircle、BlobExist Count Tools: BlobCount Measure Tools: Grayscale area、Contrast、Brightness、EdgeWidthTool Detection Tools: ContourCompare Recognition Tools: DataCode、BarCode、OCR、ColorRecog(Only Color Models) Logic Tools: LogicCheck、ConditionCheck、Mathematical、StringComparison | | | |
| Software | Easy VS, Web | | | |
| Trigger Mode | Internal Trigger/External Trigger/Ethernet/Serial/Industrial Ethernet | | | |
| Connector | Industrial-grade M12 connectors are Ethernet and GPIO interfaces | | | |
| CommunicationMode | RS232, Ethernet | | | |
| Communication protocol | TCP Client、TCP Server、UDP、Profinet、EtherNet/IP、Modbus Server、FTP、RS232 | | | |
| Power Supply | Support 9~26VDC, 1A input, suitable for industrial environment | | | |
| Power Consumption | <3.5W | | | |
| Protection | IP65 | | | |
| Casing Material | Aluminum alloy + Front cover | | | |
| Product Dimensions | 45*35*25.5mm(without cable) | | 45*52*25.5mm(without cable) | |
| Net Weight | <150g | | | |
| Operating | -20°C~+50°C | | | |
| Operating Humidity | 20%~95%, Non condensing | | | |
| Storage Temperature | -30°C~+70°C | | | |
| Certification | CE、KC、UL、UKCA | | | |

Connector Pin-out

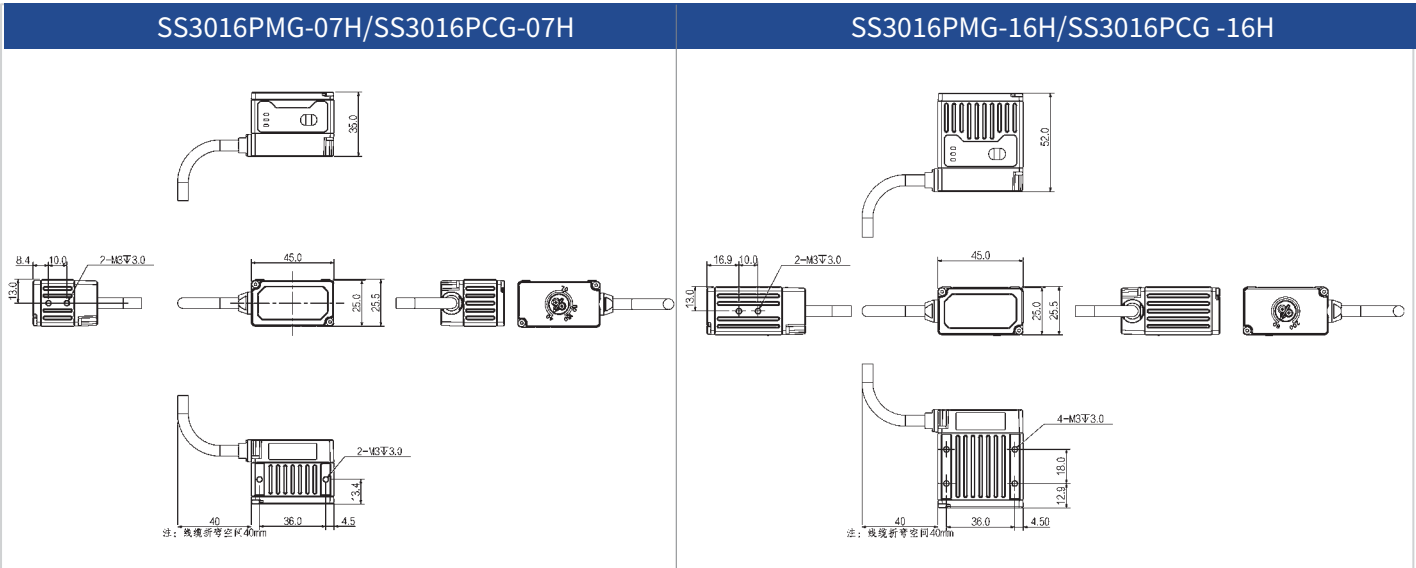


| Pin | Description | Function | Cable Description | Cable wire color | |
|-----|-------------|----------------------|-------------------------|------------------|--------------|
| 1 | POWER | Power | DC 5.5mm socket | | Red |
| 2 | POWER_GND | Power GND | DC 5.5mm socket | ■ | Black |
| 3 | OPT_OUT0 | Opto-isolated output | Brown loose wire | | Brown |
| 4 | OPT_GND | Opto-isolated GND | Purple&White loose wire | ■ | Purple&White |
| 5 | OPT_IN0 | Opto-isolated input | Yellow loose wire | | Yellow |
| 6 | GPIO | Configurable IO | Blue loose wire | ■ | Blue |
| 7 | MD1_P | RJ45 Port | RJ45 Port | | Green |
| 8 | MD1_N | RJ45 Port | RJ45 Port | ■ | Green&White |
| 9 | MD0_P | RJ45 Port | RJ45 Port | | Orange |
| 10 | MD0_N | RJ45 Port | RJ45 Port | ■ | Orange&White |
| 11 | RS232_RXD | Received data | Purple loose wire | | Purple |
| 12 | RS232_TXD | Transmit data | Gray loose wire | ■ | Gray |

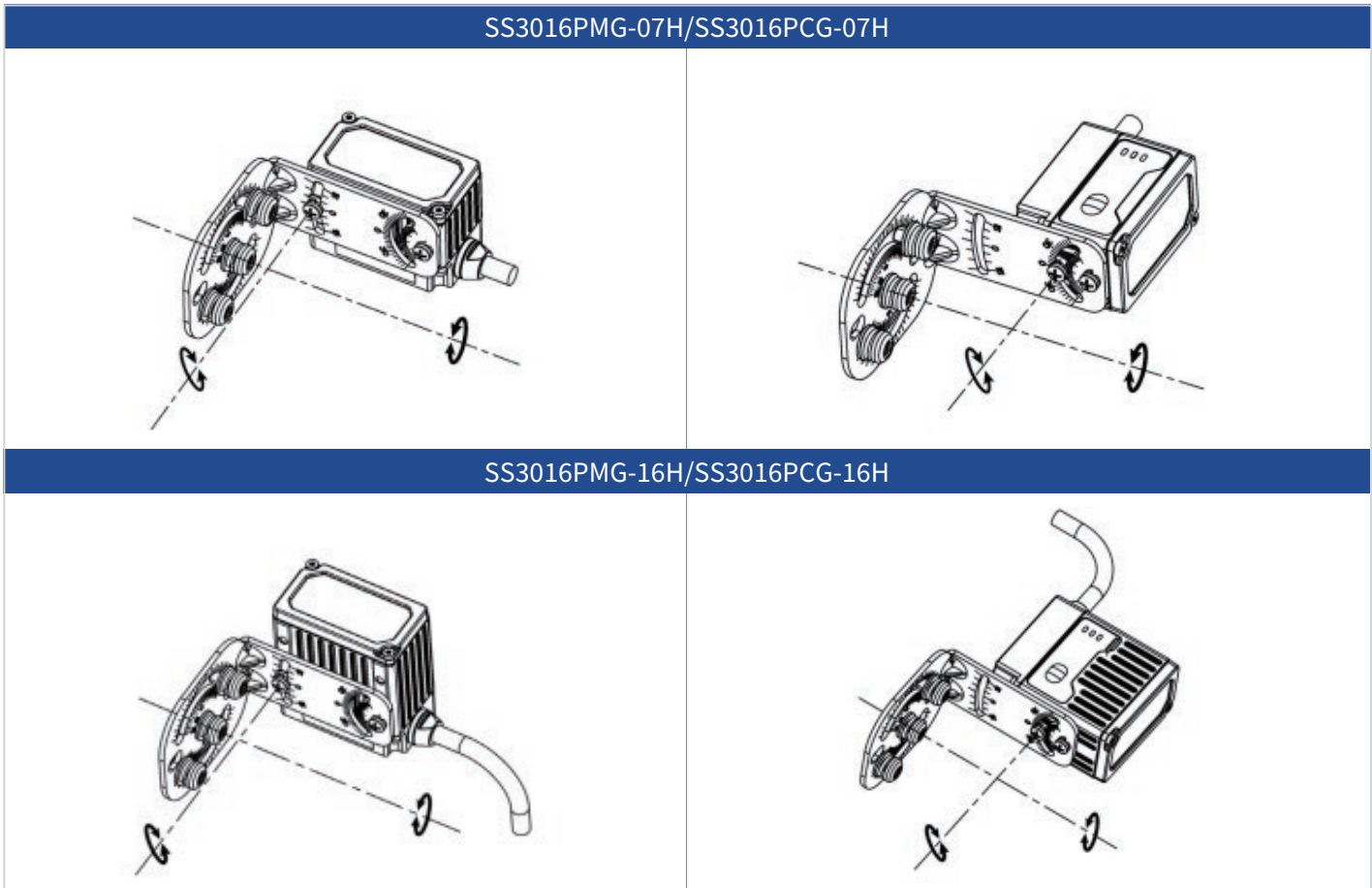
Detection Range



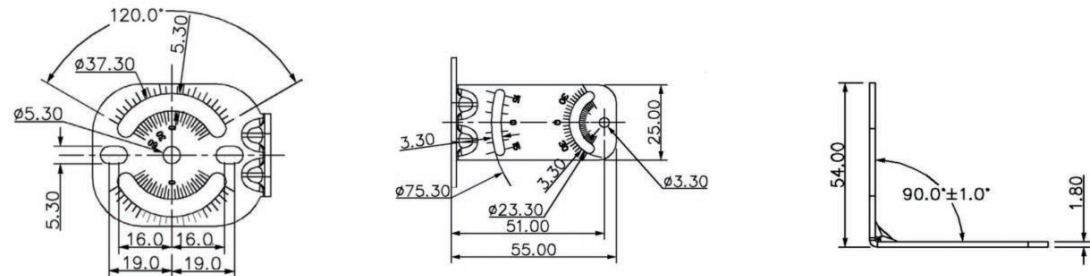
Dimension (Unit: mm)



Installation Bracket



Adapter Bracket



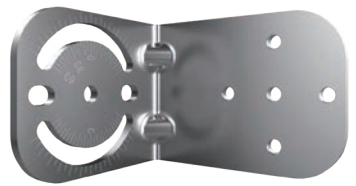
System Components



SS3000 (1.6MP)













BKT-R3002



BKT-R0001

Cables

| SS3000 Series | | | |
|---|--|--|---|
| | Power & GPIO | | |
| | Standard Cable | High Flexible Cable | |
| 5m | CABIO-M12A12-XXRJP-05 | CABIO-M12A12-XX-05D | |
| 10m | CABIO-M12A12-XXRJP-10 | CABIO-M12A12-XX-10D | |
| 15m | CABIO-M12A12-XXRJP-15 | CABIO-M12A12-XX-15D | |
| |  |  | |
| <div><div>9-26 VDC</div><div>I/O Signal</div><div>RS-232</div><div>PLC Protocols</div><div>Ethernet</div><div>Ethernet</div></div> | | | |
| <div>Power</div> <div></div> <div>9-26V DC</div> | <div>Host(PLC)</div> <div></div> <div>PLC</div> <div></div> <div>HMI Data Center Factory</div> | <div>Host(PC)</div> <div></div> <div>PC</div> <div></div> <div>Data Center</div> | <div>Set up(PC)</div> <div></div> <div>PC</div> <div>Debugging Monitoring EDS Files Image Saving</div> |

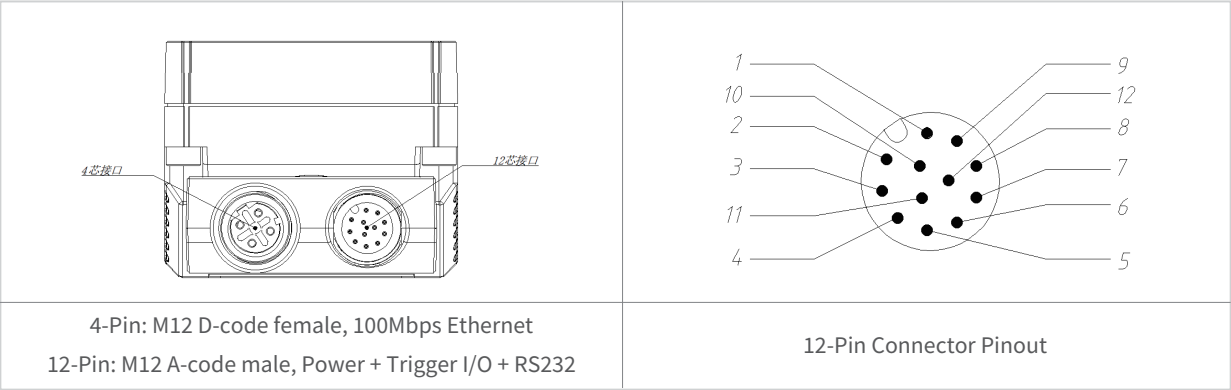
SS4000 Series

SS4000 Series

Specification

| SS4000 Series | | | | |
|------------------------|---|----------------------|---|---------------------|
| Model | SS4013MG-07M-WGG01E | SS4013CG-07M-WGG01 E | SS4013MG-12M-WGG01E | SS4013CG-12M-WGG01E |
| Resolution | 1280*1024 | | | |
| Mono/Color | Mono | Color | Mono | Color |
| Max. Frame rate | 60fps | | | |
| Focal Length | 7mm | | 16mm | |
| Focus Control | Manual control | | | |
| Working Distance | | | | |
| Field of View (FOV) | 42.8 * 34.3 ~ 372.2 * 297.7mm | | 21.7 * 17.3 ~ 214.5 * 171.6mm | |
| Light Source Type | White polarized Red/Blue light is optional | White polarized | White polarized Red/Blue light is optional | White polarized |
| Aimer | Red/Green | | | |
| LED Indicator | Power indicator, Network indicator, Result indicator | | | |
| Function | Location Tools: PatternMatch AI Tools: AI classification Exist Tools: FindLine、FindCircle、BlobExist Count Tools: BlobCount Measure Tools: Grayscale area 、Contrast、Brightness、EdgeWidthTool Detection Tools: ContourCompare Recognition Tools: DataCode、BarCode、OCR、ColorRecog(Only Color Models) Logic Tools: LogicCheck、ConditionCheck、Mathematical、StringComparison | | | |
| Software | Easy VS, Web | | | |
| Trigger Mode | Internal Trigger/External Trigger/Ethernet/Serial/Industrial Ethernet | | | |
| Connector | 2 industrial M12 connectors, Ethernet and GPIO | | | |
| CommunicationMode | RS232, Ethernet | | | |
| Communication protocol | TCP Client、TCP Server、UDP、Profinet、EtherNet/IP、Modbus Server、FTP、RS232 | | | |
| Power Supply | Support 9~26VDC, 1.5A input, suitable for industrial environment | | | |
| Power Consumption | <14W | | | |
| Protection | IP65 | | | |
| Casing Material | Aluminum alloy + Front cover | | | |
| Product Dimensions | 47*57.8*38mm(without connector) | | | |
| Net Weight | <180g | | | |
| Operating Temperature | -20°C~+50°C | | | |
| Operating Humidity | 20%~95%, Non condensing | | | |
| Storage Temperature | -30°C~+70°C | | | |
| Certification | CE、KC、UL、UKCA | | | |

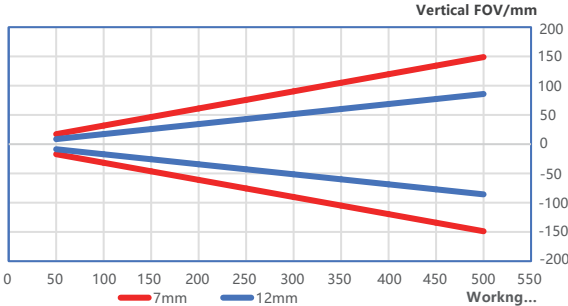
Connector Pin-out



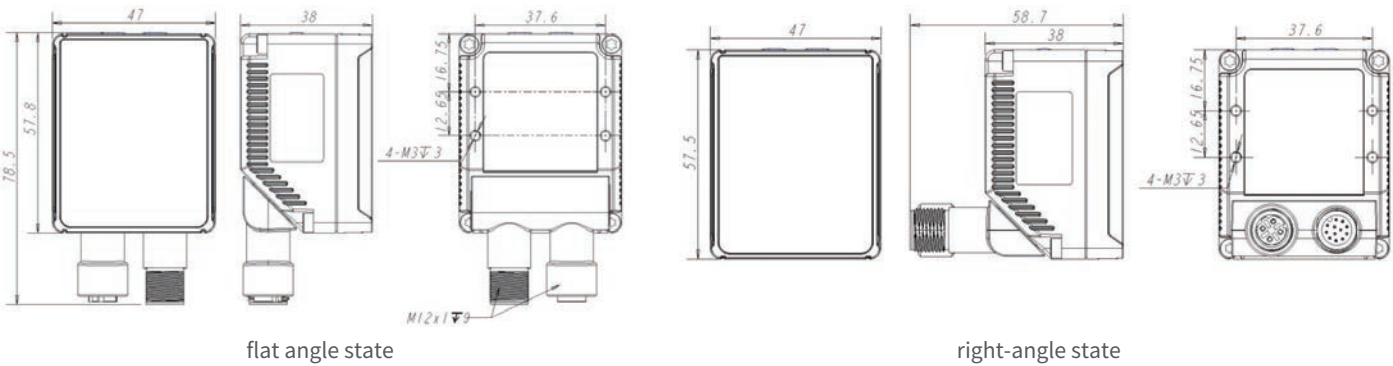
| Pin | Description | Function | Cable Description | Cable wire color | |
|-----|-------------|--------------------------|-------------------------|------------------|--------------|
| 1 | OPT_OUT2 | Opto-isolated Output 2 | Brown&White loose wire | | Brown&White |
| 2 | RS232_TXD | RS232 TX | DB9 female serial port | | Gray |
| 3 | RS232_RXD | RS232 TX | DB9 female serial port | | Purple |
| 4 | SIGNAL_GND | RS232 Signal GND | DB9 female serial port | | Black&White |
| 5 | OPT_IN1 | Opto-isolated Input 1 | Yellow loose wire | | Yellow |
| 6 | OPT_IN_GND | Opto-isolated Input GND | Purple&White loose wire | | Purple&White |
| 7 | POWER | Power | DC 5.5mm socket | | Red |
| 8 | POWER_GND | POWER_GND | DC 5.5mm socket | | Black |
| 9 | OPT_OUT_GND | Opto-isolated Output GND | Green loose wire | | Green |
| 10 | OPT_IN0 | Opto-isolated Input 0 | Orange loose wire | | Orange |
| 11 | OPT_OUT0 | Opto-isolated Output 0 | Blue loose wire | | Blue |
| 12 | OPT_OUT1 | Opto-isolated Output 1 | Brown loose wire | | Brown |
| - | - | Shield ground | - | | White |

Detection Range

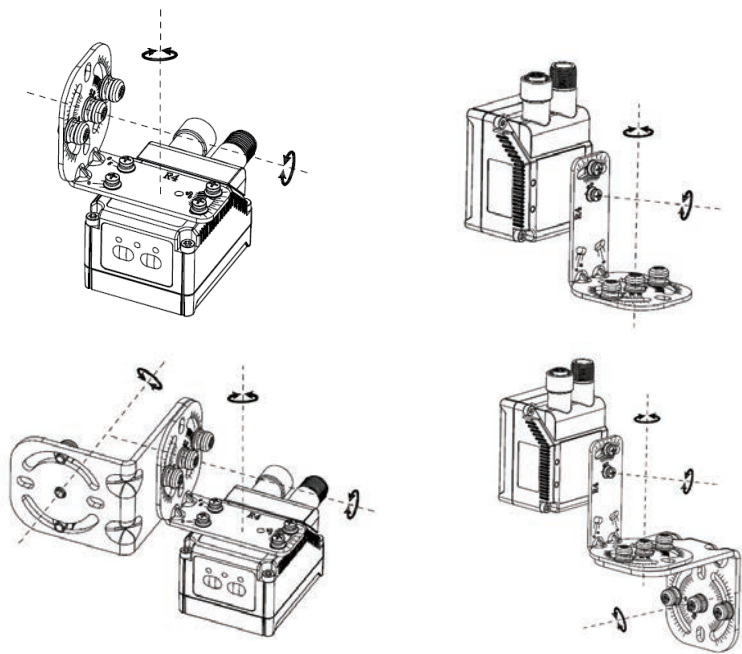
| Lens focal length | Working distance | Field of View | Single Pixel Accuracy |
|-------------------|------------------|------------------|-----------------------|
| 7mm | 50mm | 42.8 * 34.3 mm | 0.029mm |
| | 500mm | 372.2 * 297.7 mm | 0.258mm |
| 12mm | 50mm | 21.7 * 17.3 mm | 0.015mm |
| | 500mm | 214.5 * 171.6 mm | 0.149mm |



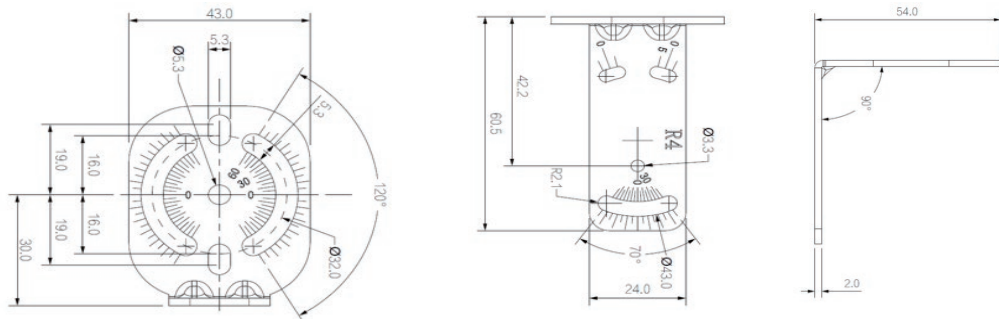
Dimension (Unit: mm)



Installation Bracket



Adapter Bracket



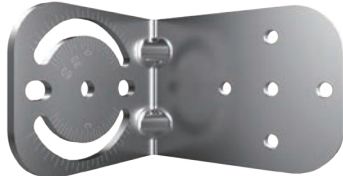
System Components



SS4000 (1.3MP)















BKT-R4001



BKT-R0001

Cables

| Power & GPIO | | | Power & GPIO | | | |
|--|---|---|---|---|--|---|
| | Standard Cable | High Flexible Cable | Standard Cable | High Flexible Cable | | |
| 5m | CABIO-M12A12F-DCXX-05 | CABIO-M12A12F-DCXX-05D | CABNET-M12A4-RJ45-05 | CABNET-M12A4-RJ45-05D | | |
| 10m | CABIO-M12A12F-DCXX-10 | CABIO-M12A12F-DCXX-10D | CABNET-M12A4-RJ45-10 | CABNET-M12A4-RJ45-10D | | |
| 15m | CABIO-M12A12F-DCXX-15 | CABIO-M12A12F-DCXX-15D | CABNET-M12A4-RJ45-15 | CABNET-M12A4-RJ45-15D | | |
| |  |  |  |  | | |
| <div><div>9-26 VDC</div><div>I/O Signal</div><div>RS-232</div><div>PLC Protocols</div><div>Ethernet</div><div>Ethernet</div></div> | | | | | | |
| <div><div>Power</div><div></div><div>9-26V DC</div></div> | | <div><div>Host(PLC)</div><div></div><div>PLC</div><div></div><div>HMI Data Center Factory</div></div> | | <div><div>Host(PC)</div><div></div><div>PC</div><div></div><div>Data Center</div></div> | | <div><div>Set up(PC)</div><div></div><div>PC</div><div>Debugging Monitoring EDS Files Image Saving</div></div> |

SS5000 Series

SS5000 Series



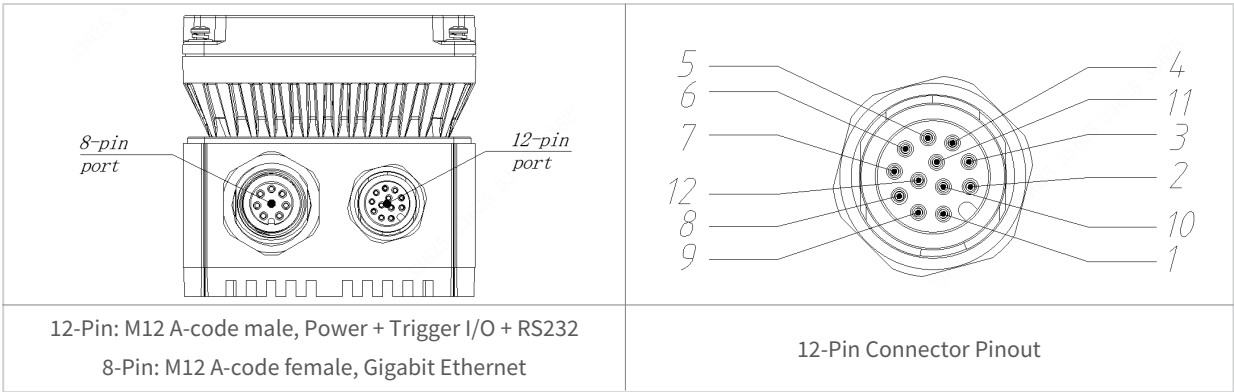
Specification

| S5016 Series | | | | | | | | |
|------------------------|---|----------------------------------|---|----------------------------------|---|----------------------------------|---|----------------------------------|
| Model | SS5016MG-08 M-WGG01E | SS5016CG-08 M-WGG01E | SS5016MG-12 M-WGG01E | SS5016CG-12 M-WGG01E | SS5016MG-16 M-WGG01E | SS5016CG-16 M-WGG01E | SS5016MG-25 M-WGG01E | SS5016MG-25 M-WGG01E |
| Resolution | 1440*1080 | | | | | | | |
| Mono/Color | Mono | Color | Mono | Color | Mono | Color | Mono | Color |
| Max. Frame rate | 60fps | | | | | | | |
| Focal Length | 8mm | | 12mm | | 16mm | | 25mm | |
| Focus Control | Auto focus | | | | | | | |
| Working Distance | 80-1500mm | | 80-1500mm | | 100-1500mm | | 250-1500mm | |
| Field of View (FOV) | 56.1*42.1 ~ 915.6*686.7mm | | 36.3*27.2 ~ 623.8*467.8mm | | 30.7*23.0 ~ 463.9*347.9mm | | 46.5*34.9 ~ 295.7*221.8mm | |
| Light Source Type | White, Polar-ized/Non-polar-ized Red/Blue/IR light is optional | White, Polar-ized/Non-po-larized | White, Polar-ized/Non-polar-ized Red/Blue/IR light is optional | White, Polar-ized/Non-polar-ized | White, Polar-ized/Non-polar-ized Red/Blue/IR light is optional | White, Polar-ized/Non-po-larized | White, Polar-ized/Non-polar-ized Red/Blue/IR light is optional | White, Polar-ized/Non-po-larized |
| Aimer | Red/Green | | | | | | | |
| LED Indicator | Power, Ethernet, Status, Result | | | | | | | |
| Function | Location Tools: PatternMatch AI Tools: AI classification Exist Tools: FindLine、FindCircle、BlobExist Count Tools: BlobCount Measure Tools: Grayscale area 、Contrast、Brightness、EdgeWidthTool Detection Tools: ContourCompare Recognition Tools: DataCode、BarCode、OCR、ColorRecog(Only Color Models) Logic Tools: LogicCheck、ConditionCheck、Mathematical、StringComparison | | | | | | | |
| Software | Easy VS, Web | | | | | | | |
| Trigger Mode | Internal Trigger/External Trigger/Ethernet/Serial/Industrial Ethernet | | | | | | | |
| Connector | 2 industrial M12 connectors, Ethernet and GPIO | | | | | | | |
| CommunicationMode | RS232, Ethernet | | | | | | | |
| Communication protocol | TCP Client、TCP Server、UDP、Profinet、EtherNet/IP、Modbus Server、FTP、RS232 | | | | | | | |
| Power Supply | Support 9~26VDC, 1A input, suitable for industrial environment | | | | | | | |
| Power Consumption | <18W | | | | | | | |
| Protection | IP65 | | | | | | | |
| Casing Material | Aluminum alloy + Front cover | | | | | | | |
| Product Dimensions | 82 mm×55 mm×53 mm(without connector) | | | | | | | |
| Net Weight | <350g | | | | | | | |
| Operating | -20°C~+50°C | | | | | | | |
| Operating Humidity | 20%~95%, Non condensing | | | | | | | |
| Storage Temperature | -30°C~+70°C | | | | | | | |
| Certification | CE、KC、UL、UKCA | | | | | | | |

Specification

| S5050 Series | | | | | | | | |
|------------------------|---|----------------------------------|---|----------------------------------|---|----------------------------------|---|----------------------------------|
| Model | SS5050MG-08M-WGG01 | SS5050CG-08M-WGG01 | SS5050MG-12M-WGG01 | SS5016CG-12M-WGG01 | SS5016MG-16M-WGG01 | SS5016CG-16M-WGG01 | SS5016MG-25M-WGG01 | SS5016CG-25M-WGG01 |
| Resolution | 2368*1792 | | | | | | | |
| Mono/Color | Mono | Color | Mono | Color | Mono | Color | Mono | Color |
| Max. Frame rate | 45fps | | | | | | | |
| Focal Length | 8mm | | 12mm | | 16mm | | 25mm | |
| Focus Control | Auto focus | | | | | | | |
| Working Distance | 80-1500mm | | 80-1500mm | | 100-1500mm | | 250-1500mm | |
| Field of View (FOV) | 93.6*70.8 ~ 1543.7*1168.2mm | | 54.5*41.2 ~ 994.6*752.7mm | | 48.4*36.6 ~ 764.3*578.4mm | | 75.8*57.3 ~ 485.6*367.5mm | |
| Light Source Type | White, Polar-ized/Non-polar-ized Red/Blue/IR light is optional | White, Polar-ized/Non-po-larized | White, Polar-ized/Non-polar-ized Red/Blue/IR light is optional | White, Polar-ized/Non-po-larized | White, Polar-ized/Non-po-larized Red/Blue/IR light is optional | White, Polar-ized/Non-po-larized | White, Polar-ized/Non-polar-ized Red/Blue/IR light is optional | White, Polar-ized/Non-po-larized |
| | Red/Green | | | | | | | |
| Aimer | | | | | | | | |
| LED Indicator | Power, Ethernet, Status, Result | | | | | | | |
| Function | Location Tools: PatternMatch AI Tools: AI classification Exist Tools: FindLine、FindCircle、BlobExist Count Tools: BlobCount Measure Tools: Grayscale area 、Contrast、Brightness、EdgeWidthTool Detection Tools: ContourCompare Recognition Tools: DataCode、BarCode、OCR、ColorRecog(Only Color Models) Logic Tools: LogicCheck、ConditionCheck、Mathematical、StringComparison | | | | | | | |
| Software | Easy VS, Web | | | | | | | |
| Trigger Mode | Internal Trigger/External Trigger/Ethernet/Serial/Industrial Ethernet | | | | | | | |
| Connector | 2 industrial M12 connectors, Ethernet and GPIO | | | | | | | |
| CommunicationMode | RS232, Ethernet | | | | | | | |
| Communication protocol | TCP Client、TCP Server、UDP、Profinet、EtherNet/IP、Modbus Server、FTP、RS232 | | | | | | | |
| Power Supply | Support 9~26VDC, 1A input, suitable for industrial environment | | | | | | | |
| Power Consumption | <18W | | | | | | | |
| Protection | IP65 | | | | | | | |
| Casing Material | Aluminum alloy + Front cover | | | | | | | |
| Product Dimensions | 82 mm×55 mm×50.7 mm(without connector) | | | | | | | |
| Net Weight | <350g | | | | | | | |
| Operating | -20°C~+50°C | | | | | | | |
| Operating Humidity | 20%~95%, Non condensing | | | | | | | |
| Storage Temperature | -30°C~+70°C | | | | | | | |
| Certification | CE、KC、UL、UKCA | | | | | | | |

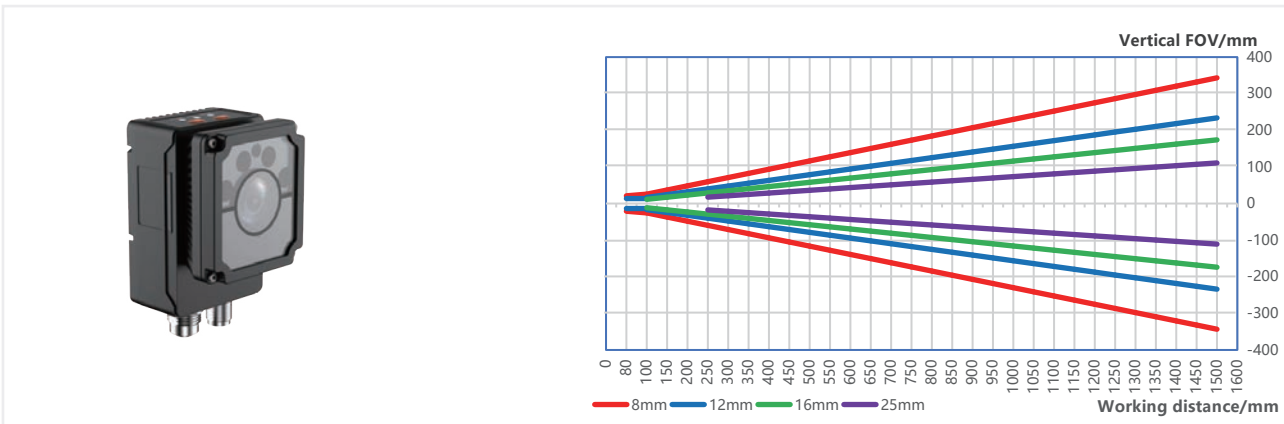
Connector Pin-out



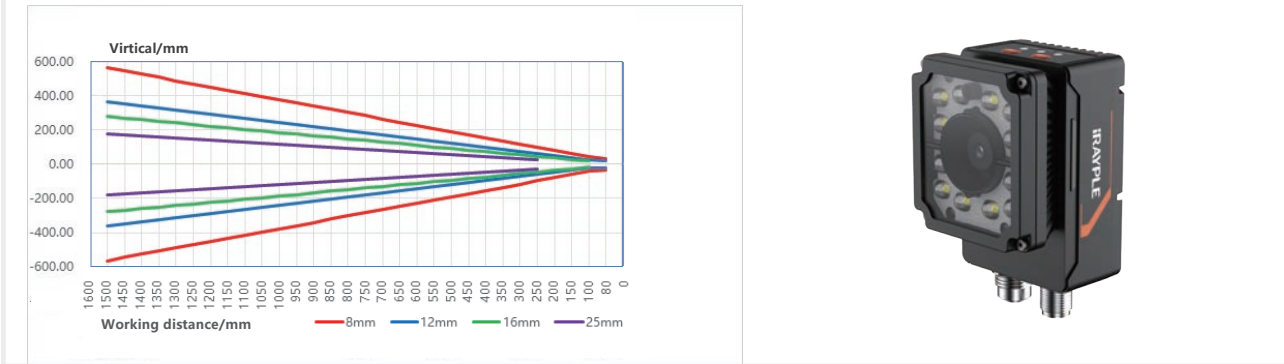
| Pin | Description | Function | Cable Description | Cable wire color | |
|-----|-------------|--------------------------|-------------------------|------------------|--------------|
| 1 | OPT_OUT2 | Opto-isolated Output 2 | Brown&White loose wire | | Brown&White |
| 2 | RS232_TXD | RS232 TX | DB9 female serial port | | Gray |
| 3 | RS232_RXD | RS232 RX | DB9 female serial port | | Purple |
| 4 | SIGNAL_GND | RS232 Signal GND | DB9 female serial port | | Black&White |
| 5 | OPT_IN1 | Opto-isolated Input 1 | Yellow loose wire | | Yellow |
| 6 | OPT_IN_GND | Opto-isolated Input GND | Purple&White loose wire | | Purple&White |
| 7 | POWER | Power | DC 5.5mm socket | | Red |
| 8 | POWER_GND | POWER_GND | DC 5.5mm socket | | Black |
| 9 | OPT_OUT_GND | Opto-isolated Output GND | Green loose wire | | Green |
| 10 | OPT_IN0 | Opto-isolated Input 0 | Orange loose wire | | Orange |
| 11 | OPT_OUT0 | Opto-isolated Output 0 | Blue loose wire | | Blue |
| 12 | OPT_OUT1 | Opto-isolated Output 1 | Brown loose wire | | Brown |
| - | - | Shield ground | - | | White |

Detection Range

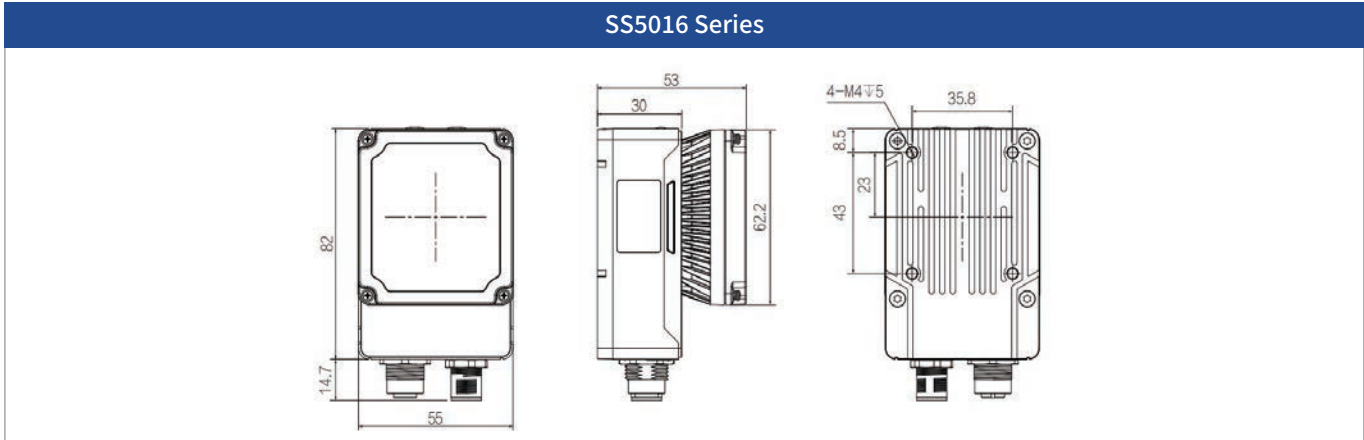
| S5016 series | | | |
|-------------------|------------------|---------------------|-----------------------|
| Lens focal length | Working distance | Field of View | Single Pixel Accuracy |
| 8mm | 80mm | 56.1 mm x 42.1 mm | 0.039mm |
| | 1500mm | 915.6 mm x 686.7 mm | 0.636mm |
| 12mm | 80mm | 36.3 mm x 27.2 mm | 0.025mm |
| | 1500mm | 623.8 mm x 467.8 mm | 0.433mm |
| 16mm | 100mm | 30.7 mm x 23.0 mm | 0.021mm |
| | 1500mm | 463.9 mm x 347.9 mm | 0.322mm |
| 25mm | 250mm | 46.5 mm x 34.9 mm | 0.032mm |
| | 1500mm | 295.7 mm x 221.8 mm | 0.205mm |

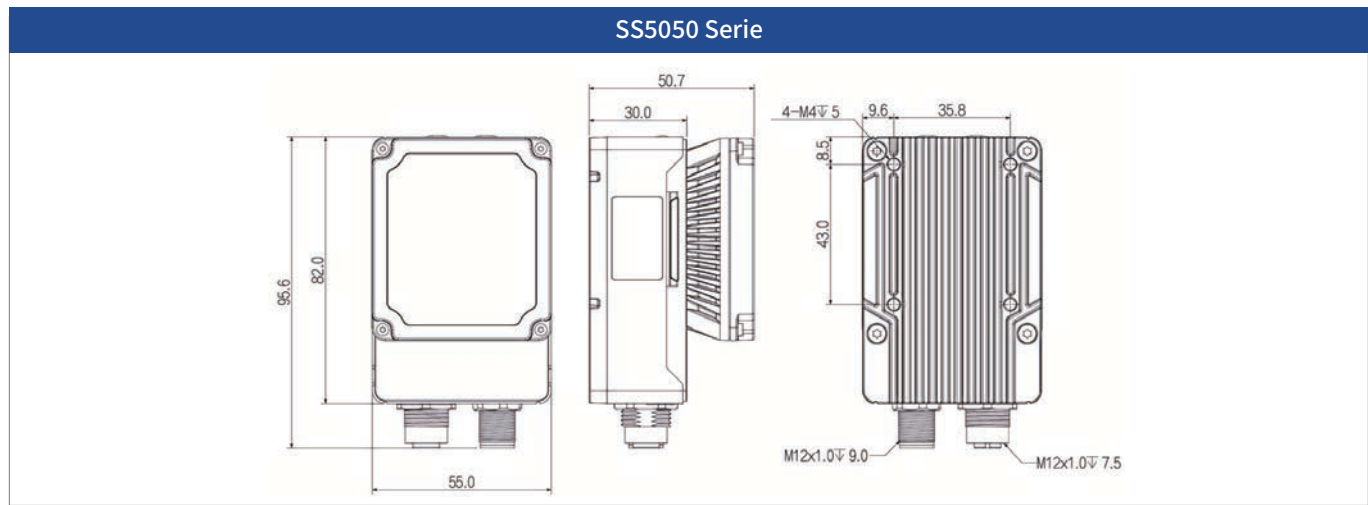


| S5050 Series | | | |
|-------------------|------------------|-----------------------|-----------------------|
| Lens focal length | Working distance | Field of View | Single Pixel Accuracy |
| 8mm | 80mm | 93.6 mm x 70.8 mm | 0.040mm |
| | 1500mm | 1543.7 mm x 1168.2 mm | 0.652mm |
| 12mm | 80mm | 54.5 mm x 41.2 mm | 0.023mm |
| | 1500mm | 994.6 mm x 752.7 mm | 0.420mm |
| 16mm | 100mm | 48.4 mm x 36.6mm | 0.020mm |
| | 1500mm | 764.3 mm x578.4 mm | 0.323mm |
| 25mm | 250mm | 75.8 mm x 57.3 mm | 0.032mm |
| | 1500mm | 485.6 mm x 367.5 mm | 0.205mm |

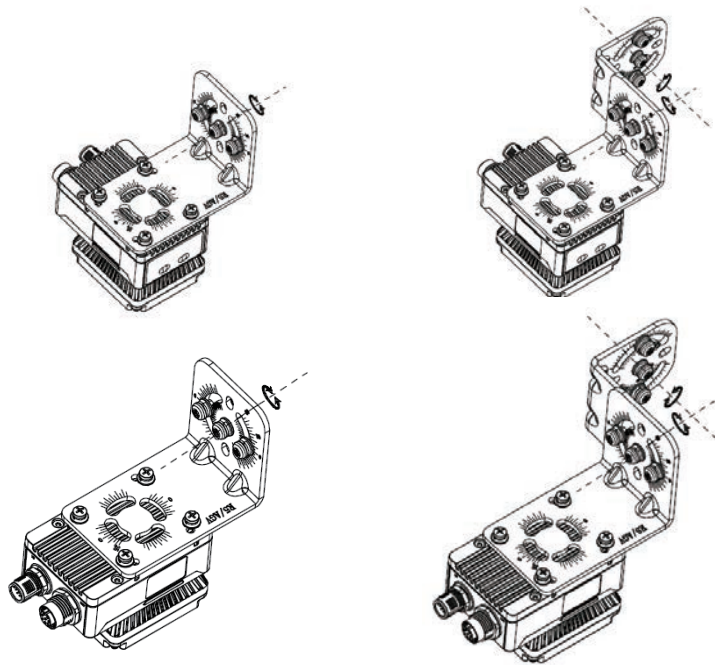


Dimension

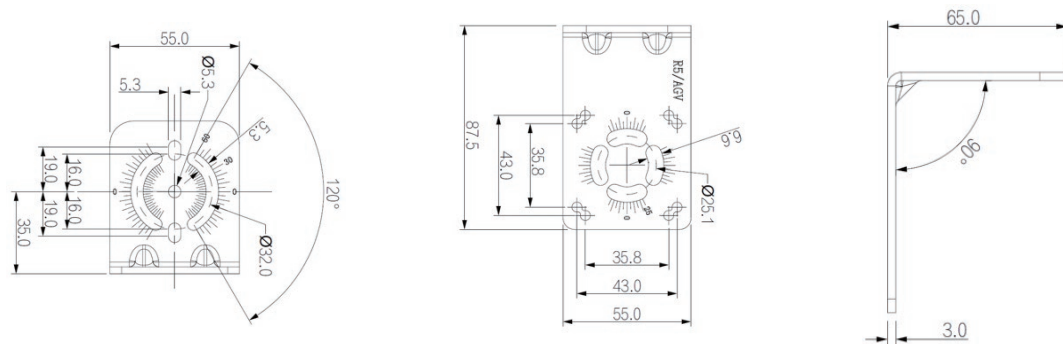




Installation Bracket



Adapter Bracket



System Components



SS5000 (1.6/5MP)















BKT-R5001



BKT-R0001

Cables

| Power & GPIO | | | Power & GPIO | |
|--|---|--|---|---|
| | Standard Cable | High Flexible Cable | Standard Cable | High Flexible Cable |
| 5m | CABIO-M12A12F-DCXX-05 | CABIO-M12A12F-DCXX-05D | CABNET-M12A8-RJ45-05 | CABNET-M12A8-RJ45-05D |
| 10m | CABIO-M12A12F-DCXX-10 | CABIO-M12A12F-DCXX-10D | CABNET-M12A8-RJ45-10 | CABNET-M12A8-RJ45-10D |
| 15m | CABIO-M12A12F-DCXX-15 | CABIO-M12A12F-DCXX-15D | CABNET-M12A8-RJ45-15 | CABNET-M12A8-RJ45-15D |
| |  |  |  |  |
| <div><div>9-26 VDC</div><div>I/O Signal</div><div>RS-232</div><div>PLC Protocols</div><div>Ethernet</div><div>Ethernet</div></div> | | | | |
| <div><div>Power</div><div></div><div>9-26V DC</div></div> | <div><div>Host(PLC)</div><div></div><div>PLC</div><div></div><div>HMI Data Center Factory</div></div> | | <div><div>Host(PC)</div><div></div><div>PC</div><div></div><div>Data Center</div></div> | <div><div>Set up(PC)</div><div></div><div>PC</div><div>Debugging Monitoring EDS Files Image Saving</div></div> |

Transfer Bracket

