

# SC SERIES MACHINE VISION SYSTEM SMART CAMERAS

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All in One



## ■ Comprehensive Error-proofing Detection Algorithm

Inspection solutions such as presence/absence, U/D, Positioning, counting, etc. are often used for error-proof inspection. More visual inspection tools can provide the optimal solution for parts of different shapes on the production line, making visual application easier.

## ■ Multiple Accessories Available for Better Imaging

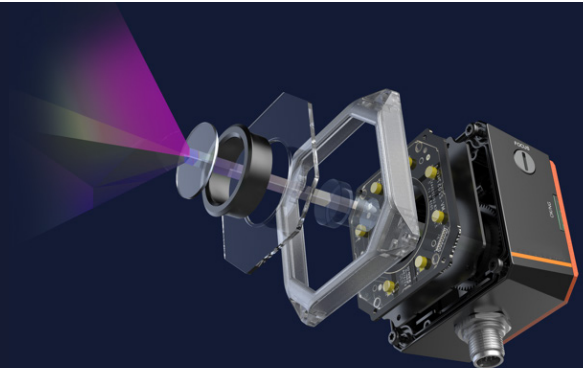
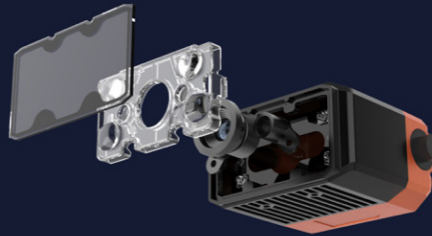
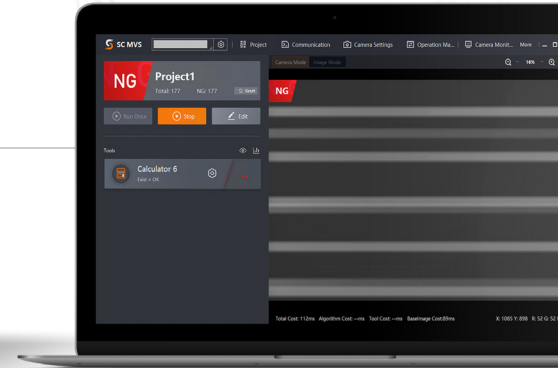
Red, blue, white and infrared light sources provide better imaging for products of different colors.

Visible light polarization mirror to filter glare interference.

Vertical and coaxial wiring supported, to adapt to more field applications.

## ■ Easy-to-use Software

The SCMVS software equipped for SC series cameras debugging shares a well-designed interface and useful vision tools, requiring less professionalism for engineers. It can also quickly filter suitable tools in the visualized display interface, and help to deploy real-time applications on site.



# SC2000 Vision Sensors

Put a whole vision system into one small camera, including illumination, image acquisition, image analysis, and communication.

It brings a new choice for presence inspection applications.



| Model          | Sensor size | Pixel size | Resolution  | Max. frame rate | Mono/Color | Interface     | Power consumption | Power supply | Lens Mount | EFL          | Lens cap    | Light source   |
|----------------|-------------|------------|-------------|-----------------|------------|---------------|-------------------|--------------|------------|--------------|-------------|----------------|
| SC2004EM(Mini) | 1/2.9"      | 6.9 μm     | 704 × 540   | 60 fps          | Mono       | Fast Ethernet | 7.5 W@12 VDC      | 12 ~ 24 VDC  | M10        | 6.72 mm      | Transparent | White          |
| SC2016EM(Mini) | 1/2.9"      | 3.45 μm    | 1408 × 1024 | 60 fps          | Mono       | Fast Ethernet | 7.5 W@12 VDC      | 12 ~ 24 VDC  | M10        | 6.72 mm      | Transparent | White          |
| SC2004EM       | 1/2.9"      | 6.9 μm     | 704 × 540   | 60 fps          | Mono       | Fast Ethernet | 9.9 W@24 VDC      | 12 ~ 24 VDC  | M11        | 6.72/12/15mm | Transparent | White/Red/Blue |
| SC2016EM       | 1/2.9"      | 3.45 μm    | 1408 × 1024 | 60 fps          | Mono       | Fast Ethernet | 9.9 W@24 VDC      | 12 ~ 24 VDC  | M11        | 6.72/12/15mm | Transparent | White/Red/Blue |

Available  
Vision Tools

### Existence

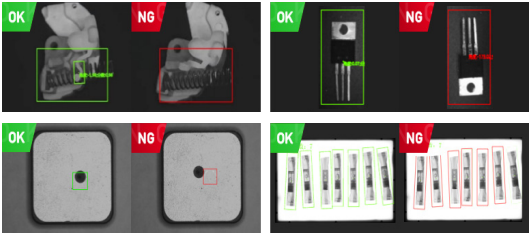
Pattern existence  
spot existence

### Count

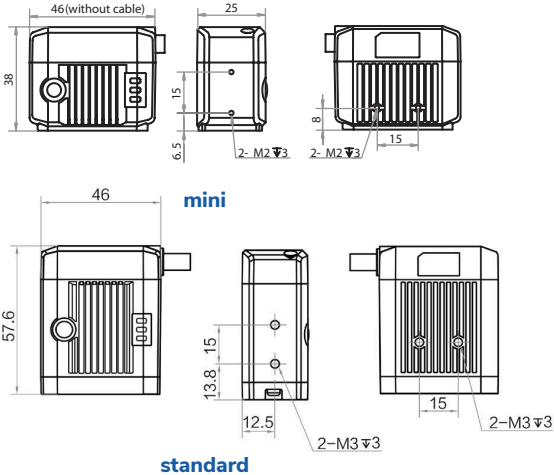
Pattern count  
spot count

### Measurement

Brightness analysis  
contrast measurement



## Dimension



# SC3000 Vision Sensors

Adopts built-in location and measurement algorithms to detect object’s existence, location, dimension, etc.



| Model   | Sensor size | Pixel size | Resolution  | Max. frame rate | Mono/Color | Interface     | Power consumption | Power supply | Lens Mount | EFL        | Lens cap                                            | Light source   |
|---------|-------------|------------|-------------|-----------------|------------|---------------|-------------------|--------------|------------|------------|-----------------------------------------------------|----------------|
| SC3004M | 1/2.9"      | 6.9 μm     | 704 × 540   | 100 fps         | Mono       | Fast Ethernet | 48 W@24 VDC       | 24 VDC       | M12-Mount  | 6/12/15 mm | Transparent;<br>Half/ full polarization is optional | White/Red/Blue |
| SC3004C | 1/2.9"      | 6.9 μm     | 704 × 540   | 100 fps         | Color      | Fast Ethernet | 48 W@24 VDC       | 24 VDC       | M12-Mount  | 6/12/15 mm | Transparent;<br>Half/ full polarization is optional | White/Red/Blue |
| SC3016M | 1/2.9"      | 3.45 μm    | 1408 × 1024 | 60 fps          | Mono       | Fast Ethernet | 48 W@24 VDC       | 24 VDC       | M12-Mount  | 6/12/15 mm | Transparent;<br>Half/ full polarization is optional | White/Red/Blue |
| SC3016C | 1/2.9"      | 3.45 μm    | 1408 × 1024 | 60 fps          | Color      | Fast Ethernet | 48 W@24 VDC       | 24 VDC       | M12-Mount  | 6/12/15 mm | Transparent;<br>Half/ full polarization is optional | White/Red/Blue |
| SC3050M | 1/1.7"      | 3.2 μm     | 2368 × 1670 | 30 fps          | Mono       | Fast Ethernet | 48 W@24 VDC       | 24 VDC       | M12-Mount  | 8/12/16 mm | Transparent;<br>Half/ full polarization is optional | White/Red/Blue |

## Available Vision Tools



### Existence

Pattern existence  
Spot existence  
Edge existence  
Circle existence  
Line existence



### Recognition

OCR  
Barcode recognition  
Color comparison (For color model only)



### Count

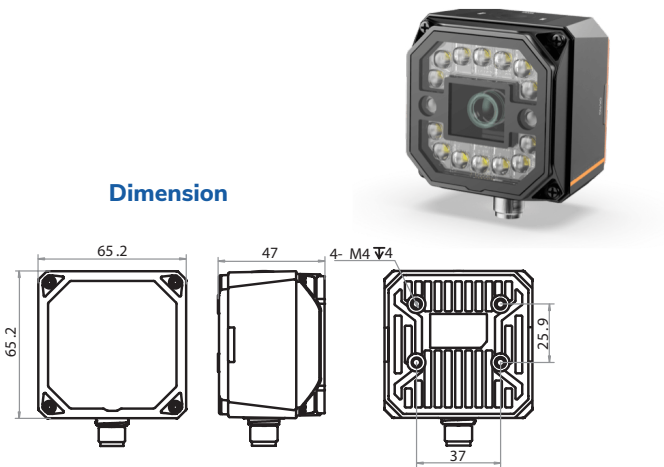
Pattern count  
Spot count  
Edge count



### Measurement

Brightness analysis  
Contrast measurement  
Greyscale size  
Diameter measurement  
Width measurement  
Line angle  
Line to line angle  
Point to line measurement

## Dimension



# SC5000 Vision Sensors

SC5000 smart camera has maintaining a high degree of hardware integration, algorithms such as positioning, measurement, calibration conversion, logic control, defect detection, OCR and code reading.

| Model           | Sensor size | Pixel size   | Resolution         | Max. frame rate | Mono/Color | Interface | Power consumption | Power supply | Lens Mount | EFL        | Lens cap                                            | Light source       | Dimension |
|-----------------|-------------|--------------|--------------------|-----------------|------------|-----------|-------------------|--------------|------------|------------|-----------------------------------------------------|--------------------|-----------|
| SC5016M         | 1/2.9"      | 3.45 $\mu$ m | 1408 $\times$ 1024 | 60 fps          | Mono       | GigE      | 60 W@24 VDC       | 12~24 VDC    | M12-Mount  | 8/12/16 mm | Transparent;<br>Half/ full polarization is optional | White/Red/Blue/NIR | A         |
| SC5016C         | 1/2.9"      | 3.45 $\mu$ m | 1408 $\times$ 1024 | 60 fps          | Color      | GigE      | 60 W@24 VDC       | 12~24 VDC    | M12-Mount  | 8/12/16 mm | Transparent;<br>Half/ full polarization is optional | White/Red/Blue/NIR | A         |
| SC5050M         | 1/1.7"      | 3.2 $\mu$ m  | 2368 $\times$ 1760 | 40 fps          | Mono       | GigE      | 60 W@24 VDC       | 12~24 VDC    | M12-Mount  | 8/12/16 mm | Transparent;<br>Half/ full polarization is optional | White/Red/Blue/NIR | A         |
| SC5060M         | 1/1.8"      | 2.4 $\mu$ m  | 3072 $\times$ 2048 | 30 fps          | Mono       | GigE      | 60 W@24 VDC       | 12~24 VDC    | M12-Mount  | 8/12/16 mm | Transparent;<br>Half/ full polarization is optional | White/Red/Blue/NIR | A         |
| SC5060M-00C-NNN | 1/1.8"      | 2.4 $\mu$ m  | 3072 $\times$ 2048 | 30 fps          | Mono       | GigE      | 12 W@24 VDC       | 12~24 VDC    | C-Mount    | /          | Transparent                                         | No light           | B         |
| SC5120M-00C-NNN | 1"          | 3.2 $\mu$ m  | 4096 $\times$ 3072 | 30 fps          | Mono       | GigE      | 12 W@24 VDC       | 12~24 VDC    | C-Mount    | /          | Transparent                                         | No light           | B         |
| SC5200M-00C-NNN | 1"          | 2.4 $\mu$ m  | 5440 $\times$ 3648 | 20 fps          | Mono       | GigE      | 12 W@24 VDC       | 12~24 VDC    | C-Mount    | /          | Transparent                                         | No light           | B         |

## Available Vision Tools



### Existence

Pattern existence, spot existence, edge existence, circle existence, line existence



### Count

Pattern count, spot count, edge count



### Defect detection

Exception detection



### Recognition

OCR, code recognition  
For color model only: Color recognition, color contrast



### Location

Match location, match calibration



### Measurement

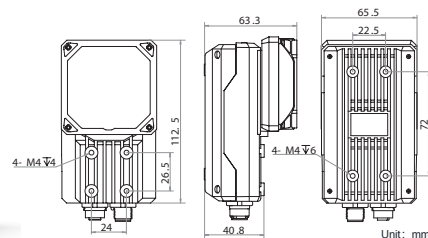
L2L angle, diameter measurement, brightness analysis, contrast measurement, width measurement, P2L measurement, greyscale size, line angle, edge width measurement



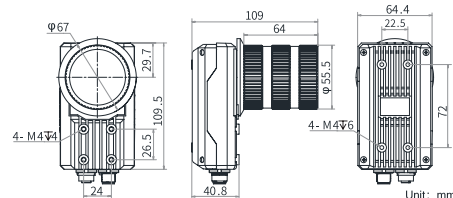
### Logic tool

If module, condition judge, logic judge, combination judge, character comparison, calculator

## Dimension



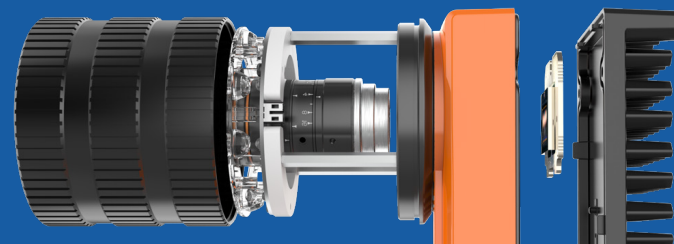
A



B

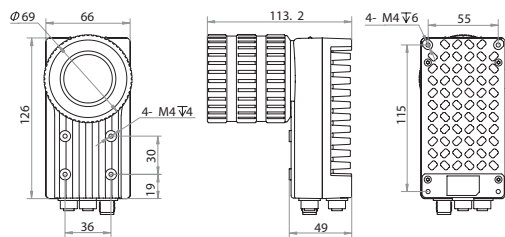
# X86 Open Platform

With a built-in high-performance X86 structural chip and pre-installed Windows system, X86 Open Platform is compatible with applications based on Windows system and supports user-defined visual detection processes and software.



| Model      | Sensor     | Pixel size | Sensor size | Resolution  | Max. frame rate | Mono/Color | Interface | Power consumption | Power supply | Lens Mount | Lens cap    | Light source | CPU          | Operating system |
|------------|------------|------------|-------------|-------------|-----------------|------------|-----------|-------------------|--------------|------------|-------------|--------------|--------------|------------------|
| SI608-38GM | PYTHON1300 | 4.8 μm     | 1/2"        | 1280 × 1024 | 80 fps          | Mono       | GigE      | 34 W@24 VDC       | 12~24 VDC    | C-Mount    | Transparent | White        | Intel® E3845 | Win10 64bit      |
| SI608-38GC | PYTHON1300 | 4.8 μm     | 1/2"        | 1280 × 1024 | 80 fps          | Color      | GigE      | 34 W@24 VDC       | 12~24 VDC    | C-Mount    | Transparent | White        | Intel® E3845 | Win10 64bit      |
| SI618-08GM | PYTHON2000 | 4.8 μm     | 2/3"        | 1920 × 1200 | 50 fps          | Mono       | GigE      | 34 W@24 VDC       | 12~24 VDC    | C-Mount    | Transparent | White        | Intel® E3845 | Win10 64bit      |
| SI628-38GM | PYTHON5000 | 4.8 μm     | 1"          | 2592 × 2048 | 30 fps          | Mono       | GigE      | 34 W@24 VDC       | 12~24 VDC    | C-Mount    | Transparent | White        | Intel® E3845 | Win10 64bit      |
| SI628-38GC | PYTHON5000 | 4.8 μm     | 1"          | 2592 × 2048 | 30 fps          | Color      | GigE      | 34 W@24 VDC       | 12~24 VDC    | C-Mount    | Transparent | White        | Intel® E3845 | Win10 64bit      |
| SI638-08GM | IMX178     | 2.4 μm     | 1/1.8"      | 3072 × 2048 | 30 fps          | Mono       | GigE      | 34 W@24 VDC       | 12~24 VDC    | C-Mount    | Transparent | White        | Intel® E3845 | Win10 64bit      |
| SI638-08GC | IMX178     | 2.4 μm     | 1/1.8"      | 3072 × 2048 | 30 fps          | Color      | GigE      | 34 W@24 VDC       | 12~24 VDC    | C-Mount    | Transparent | White        | Intel® E3845 | Win10 64bit      |
| SI648-08GM | IMX267     | 3.45 μm    | 1"          | 4096 × 2160 | 14 fps          | Mono       | GigE      | 34 W@24 VDC       | 12~24 VDC    | C-Mount    | Transparent | White        | Intel® E3845 | Win10 64bit      |
| SI668-07GM | IMX183     | 2.4 μm     | 1"          | 5427 × 3648 | 10 fps          | Mono       | GigE      | 24 W@24 VDC       | 12~24 VDC    | C-Mount    | No          | No           | Intel® E3845 | Win10 64bit      |
| SI668-08GM | IMX183     | 2.4 μm     | 1"          | 5427 × 3648 | 10 fps          | Mono       | GigE      | 34 W@24 VDC       | 12~24 VDC    | C-Mount    | Transparent | White        | Intel® E3845 | Win10 64bit      |

## Dimension



**GigE**  
VISION

**GEN*i*CAM**

