

MV-SC3013XC

1.3 MP Color Vision Sensor



Introduction

With built-in high-precision vision algorithms, MV-SC3013XC vision sensor can realize counting, existence, measurement, recognition and other functions. It can be easily configured and operated via the SCMVS client software, and it uses RS-232 and Ethernet to output vision tool results and customized results.

Applicable Industry

Consumer electronics, food and pharmaceutical, automobile, etc.

Available Model

- 8 mm focal length: MV-SC3013XC-08M-WBN
- 12 mm focal length: MV-SC3013XC-12M-WBN
- 16 mm focal length: MV-SC3013XC-16M-WBN

Key Feature

- Adopts embedded hardware platform to realize high-speed image processing.

- Built-in high-precision positioning, measurement and recognition algorithms for counting, defects, existence, positioning and other functions.
- Supports RS-232, TCP, UDP, FTP, ModBus, PROFINET, EtherNet/IP and other communication modes.
- Adopts multiple IO interfaces for input and output signals.
- Supports viewing the device's status in real time via 360° visual indicator, convenient for debugging and maintenance.
- Rotatable cable tail design, suitable for narrow space.
- Adopts polarized, diffused, and full-transparent multiple optical lighting with good environmental adaptability.
- IP67 protection without fear of harsh industrial application environments.

Specification

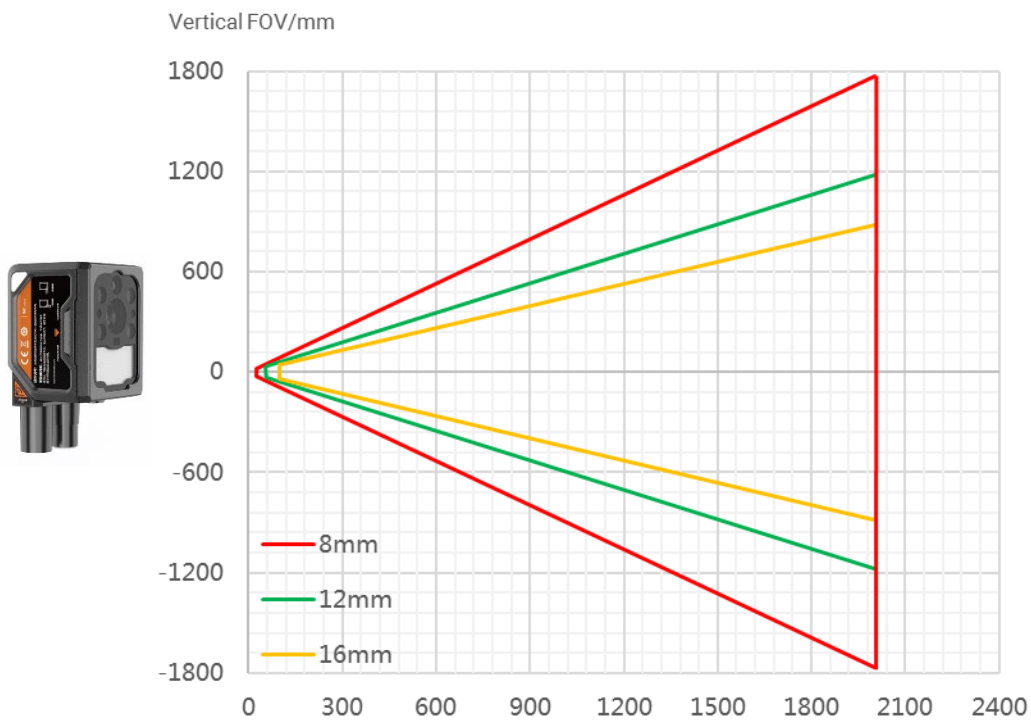
| Model | MV-SC3013XC-08M-WBN | MV-SC3013XC-12M-WBN | MV-SC3013XC-16M-WBN |
|-------------------------------|---|---------------------|---------------------|
| Tool | | | |
| Vision tool | <ul style="list-style-type: none"> ● Count: Spot count, edge count, pattern count, contour count, color count ● Defect detection: Exception detection ● Existence: Circle existence, line existence, spot existence, edge existence, pattern existence, contour existence ● Location: Match calibration, match location, position fixture ● Logic tool: If module, condition judge, logic judge, combination judge, string comparison, calculator ● Measurement: Color size, L2L angle, diameter measurement, brightness analysis, contrast measurement, width measurement, P2L measurement, greyscale size, line angle, edge width measurement ● Recognition: OCR, code recognition, color contrast, color recognition, classification registration, object detection registration ● Deep learning: DL object detection, DL classification | | |
| Solution capacity | Supports importing and exporting project, up to 32 projects can be stored. | | |
| Communication protocol | RS-232, TCP, UDP, FTP, PROFINET, ModBus, EtherNet/IP, MELSEC/SLMP, FINS, Keyence KV | | |
| Camera | | | |
| Sensor type | CMOS, global shutter | | |
| Pixel size | 6.9 μm × 6.9 μm | | |
| Sensor size | 1/1.45" | | |
| Resolution | 1216 × 1024 | | |
| Max. frame rate | 60 fps | | |
| Dynamic range | 77.8 dB | | |
| SNR | 43 dB | | |
| Gain | 0 dB to 15 dB | | |
| Exposure time | 6 μs to 1 sec | | |
| Pixel format | RGB 8, Mono 8 | | |
| Mono/color | Color | | |
| Electrical feature | | | |
| Data interface | Fast Ethernet (100 Mbit/s) | | |
| Digital I/O | 12-pin M12 connector provides power and I/O, including opto-isolated input (LINE 0/1/2) × 3, opto-isolated output (LINE 3/4/5) × 3, and RS-232 × 1 Supports triggering device via pressing top trigger button | | |
| Power supply | 24 VDC | | |
| Power consumption | Approx. 6.5 W@24 VDC | | |
| Mechanical | | | |
| Lens mount | M12-mount, mechanical autofocus supported | | |
| Focal length | 8 mm (0.3") | 12 mm (0.5") | 16 mm (0.6") |
| Lens cap | Polarized + diffused + full-transparent lens cap | | |
| Light source | White spot light source. Red/blue/IR point light source is optional | | |
| Aiming system | Orange LED | | |
| Indicator | 360° visual indicator | | |
| Dimension | Straight angle: 80.1 mm × 43 mm × 44.3 mm (3.2" × 1.7" × 1.7") Right angle: 58.5 mm × 43 mm × 65.4 mm (2.3" × 1.7" × 2.6") | | |
| Weight | Approx. 190 g (0.4 lb.) | | |

Specification

| | | | |
|---------------------------|---|----------------------------|----------------------------|
| Model | MV-SC3013XC-08M-WBN | MV-SC3013XC-12M-WBN | MV-SC3013XC-16M-WBN |
| Ingress protection | IP67 (under proper installation of waterproof lens cap) | | |
| Temperature | Working temperature: 0 °C to 50 °C (32 °F to 122 °F) Storage temperature: -30 °C to 70 °C (-22 °F to 158 °F) | | |
| Humidity | 20% to 95% RH, non-condensing | | |
| General | | | |
| Client software | SCMVS | | |
| Certification | CE, KC | | |

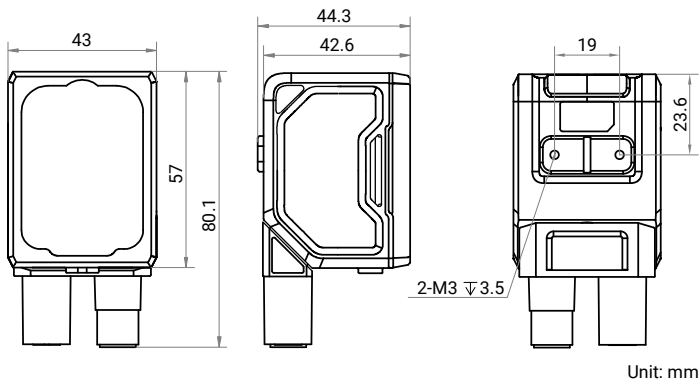
Detection Range

| Lens focal length | Installation distance | Field of View | Single Pixel Accuracy |
|-------------------|-----------------------|-----------------------|-----------------------|
| 8 mm | 25 mm | 26.22 mm × 22.08 mm | 0.0215625 mm |
| | 2000 mm | 2097.6 mm × 1766.4 mm | 1.725 mm |
| 12 mm | 60 mm | 41.952 mm × 35.328 mm | 0.0345 mm |
| | 2000 mm | 1398.4 mm × 1177.6 mm | 1.15 mm |
| 16 mm | 100 mm | 52.44 mm × 44.16 mm | 0.043125 mm |
| | 2000 mm | 1048.8 mm × 883.2 mm | 0.8625 mm |

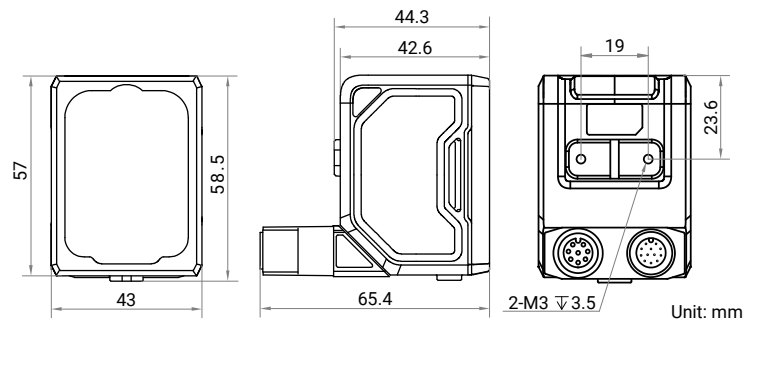


Dimension

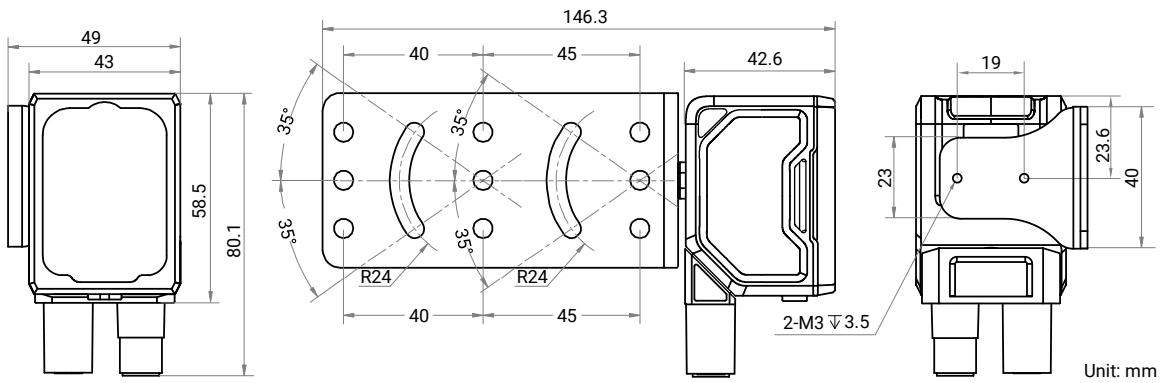
Device (Straight Angle):



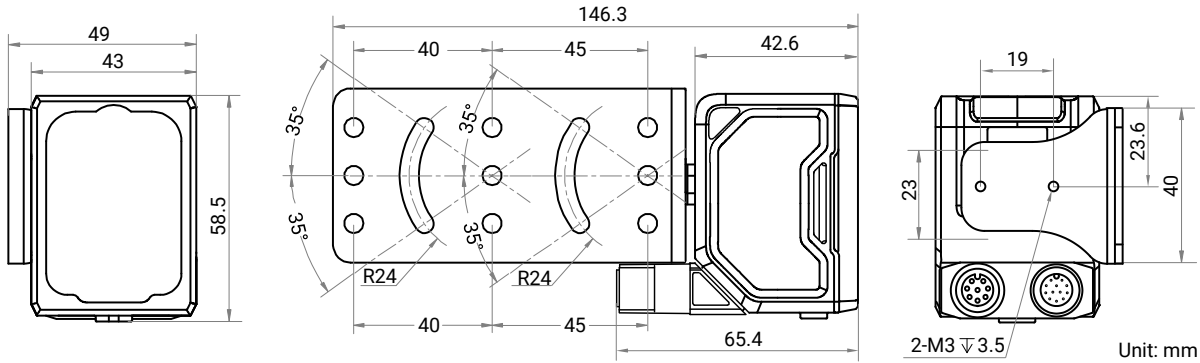
Device (Right Angle):



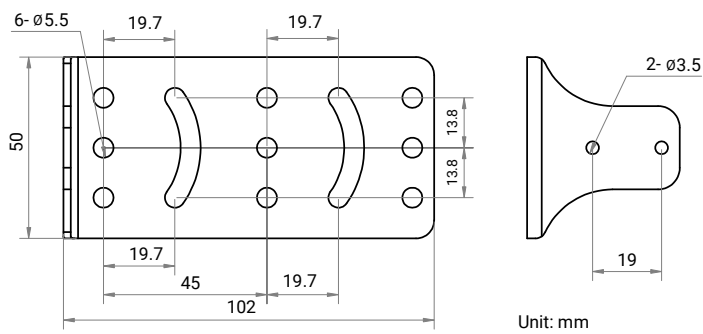
Device and Installation Bracket (Straight Angle):



Device and Installation Bracket (Right Angle):



Installation Bracket:



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