

MV-SC3004M

0.4 MP 1/2.9" Vision Sensor



Introduction

With built-in positioning and measurement algorithms, MV-SC3004M vision sensor can detect object's existence, quantity, location, etc. It can be monitored and operated via the SCMVS client. It can output results via RS-232 and Ethernet, and cooperate with other processes via IO. The vision sensor supports multiple result output methods and customized result text output.

Key Features

- Adopts embedded hardware platform for high-speed image processing.
- Adopts built-in positioning and measurement algorithms to detect object's existence, quantity, location, etc.
- Multiple IO interfaces for input and output signals.
- Multiple indicators for displaying device status.
- Adopts light source to ensure uniform brightness in the illuminated area.
- Supports multiple communication protocols, including Serial Port, TCP, UDP, FTP, Profinet, Modbus, etc.

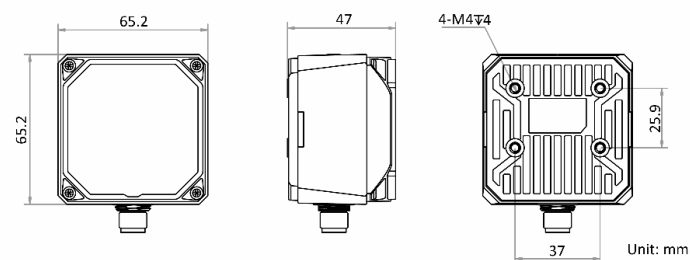
Available Model

- 6 mm focal length: MV-SC3004M-06M-WBN
- 12.4 mm focal length: MV-SC3004M-12M-WBN
- 14.8 mm focal length: MV-SC3004M-15M-WBN

Applicable Industry

Consumer electronics, food and medical industry, automobile, etc.

Dimension



Specification

| Model | MV-SC3004M-06M-WBN | MV-SC3004M-12M-WBN | MV-SC3004M-15M-WBN |
|------------------------|--|--------------------|--------------------|
| Tool | | | |
| Vision tool | <ul style="list-style-type: none">● Count: Pattern count, spot count, edge count● Defect detection: Exception detection● Existence: Pattern existence, spot existence, edge existence, circle existence, line existence● Location: Match location, match calibration● Logic tool: If module, condition judge, logic judge, combination judge, character comparison, calculator● Measurement: L2L angle, diameter measurement, brightness average value, contrast measurement, width measurement, P2L measurement, greyscale size, line angle, edge width measurement● Recognition: OCR, code recognition | | |
| Solution capacity | Supports solution importing and exporting, up to 32 solutions and 40 modules can be stored. | | |
| Communication protocol | Serial Port, TCP, UDP, FTP, Profinet, Modbus, Ethernet/IP | | |
| Camera | | | |
| Sensor type | CMOS, global shutter | | |
| Pixel size | 6.9 μm × 6.9 μm | | |
| Sensor size | 1/2.9" | | |
| Resolution | 704 × 540 | | |
| Max. frame rate | 100 fps | | |
| Dynamic range | 74 dB | | |
| SNR | 41 dB | | |
| Gain | 0 dB to 15 dB | | |
| Exposure time | 16 μs to 1 sec | | |
| Pixel format | Mono 8 | | |
| Mono/color | Mono | | |
| Electrical features | | | |
| Data interface | Fast Ethernet | | |
| Digital I/O | 17-pin M12 connector provides power, Ethernet, digital I/O, and serial port: Input signal × 2 (Line 0/1), output signal × 3 (Line 5/6/7), bi-directional I/O × 3 (Line 2/3/4), and external button input × 1. Output signal can be set as NPN or PNP. | | |
| Power supply | 24 VDC | | |
| Max. power consumption | Approx. 48 W@24 VDC | | |
| Mechanical | | | |
| Lens mount | M12-mount, mechanical autofocus lens | | |
| Focal length | 6 mm (0.2") | 12.4 mm (0.5") | 14.8 mm (0.6") |
| Lens cap | Transparent lens cap. Polarization or infrared filter lens cap is optional. | | |
| Light source | White light by default. Red/blue/near-infrared is optional. | | |
| Indicator | Power indicator (PWR), network indicator (LNK), status indicator (STS), result indicator (OK/NG) | | |
| Dimension | 65.2 mm × 65.2 mm × 47 mm (2.6" × 2.6" × 1.9") | | |
| Weight | Approx. 280 g (0.6 lb.) | | |
| Ingress protection | IP67 (under proper installation of lens and wiring) | | |
| 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, FCC, KC |

Detection Range

| Lens focal length | Installation distance | Field of view | Single pixel accuracy |
|-------------------|-----------------------|--|-----------------------|
| 6 mm (0.2") | 5 mm (0.2") | 4.05 mm × 3.11 mm (0.2" × 0.1") | 0.006 mm |
| | 2000 mm (78.7") | 1619.20 mm × 1242 mm (63.7" × 48.9") | 2.300 mm |
| 12.4 mm (0.5") | 70 mm (2.8") | 27.42 mm × 21.03 mm (1.1" × 0.8") | 0.039 mm |
| | 2000 mm (78.7") | 783.48 mm × 600.97 mm (30.8" × 23.7") | 1.113 mm |
| 14.8 mm (0.6") | 80 mm (3.1") | 26.26 mm × 20.14 mm (1.0" × 0.8") | 0.037 mm |
| | 2000 mm (78.7") | 656.43 mm × 503.51 mm (25.8" × 19.8") | 0.932 mm |

