

MV-SC2004M

0.4 MP Vision Sensor



Introduction

With built-in positioning and measurement algorithm, MV-SC2004M vision sensor can detect object's presence, position, dimension, etc. It can be monitored and operated via web based interface. The vision sensor can output detection results via RS-232 and Ethernet, and cooperate with other processes via IO. It supports multiple result output methods and customized result text output.

Key Feature

- Adopts embedded hardware platform for high-speed image processing.
- Adopts built-in positioning and measurement algorithm to detect object's presence, position, etc.
- Multiple IO interfaces for input and output signals.
- Multiple indicators for displaying device status.
- Adopts light cup to ensure uniform brightness in the illuminated area.
- Supports multiple communication protocols, including Fast Ethernet, serial port, TCP, UDP, FTP, etc.

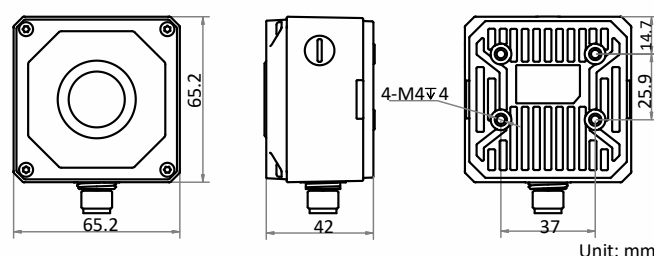
Available Model

- Vision sensor with 6 mm focal length: MV-SC2004M-06S-WBN
- Vision sensor with 12.4 mm focal length: MV-SC2004M-12S-WBN
- Vision sensor with 14.8 mm focal length: MV-SC2004M-16S-WBN

Applicable Industry

Consumer electronics, food and beverage, pharmaceutical, automobile, etc.

Dimension



Specification

| Model | MV-SC2004M-06S-WBN | MV-SC2004M-12S-WBN | MV-SC2004M-16S-WBN |
|------------------------|--|--------------------|--------------------|
| Tool | | | |
| Vision tool | Feature matching, Blob, fixture, find line, find circle, detect distance, measure brightness, measure line to line | | |
| Solution capacity | Supports solution importing and exporting, up to 16 solutions and 40 modules can be stored. | | |
| Communication protocol | RS-232, TCP, UDP, FTP | | |
| Camera | | | |
| Sensor type | CMOS, global shutter | | |
| Pixel size | 6.9 μm × 6.9 μm | | |
| Sensor size | 1/2.9" | | |
| Resolution | 720 × 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 | 17-pin M12 connector provides power, Ethernet, digital IO, and serial port | | |
| Ethernet | Fast Ethernet | | |
| Digital I/O | Input signal × 2 (Line 0/1), output signal × 3 (Line 5/6/7), bi-directional I/O × 3 (Line 2/3/4), and button input × 1. Output signal can be set as NPN or PNP | | |
| Power supply | 12 VDC to 24 VDC | | |
| Power consumption | Approx. 5.4 W@12 VDC | | |
| Mechanical | | | |
| Lens mount | M12-mount, manual focus supported | | |
| Focal length | 6 mm (0.2") | 12.4 mm (0.5") | 14.8 mm (0.6") |
| Lens cap | Transparent lens cap. Polarization lens cap is optional | | |
| Light source | Spotlight white light. Spotlight red/blue, and wide-angle white/red/blue light is optional | | |
| Indicator | Power indicator (PWR), network indicator (LNK), status indicator (STS), result indicator (OK/NG) | | |
| Dimension | 65.2 mm × 65.2 mm × 42 mm (2.6" × 2.6" × 1.7") | | |
| Weight | Approx. 240 g (0.5 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 | Via web based interface | | |
| Certification | CE, FCC, KC | | |

Detection Range

| Lens focal length | Installation distance | Field of view | Single pixel accuracy |
|-------------------|-----------------------|---|-----------------------|
| 6 mm (0.2") | 20 mm (0.8") | 16.56 mm × 12.42 mm (0.7" × 0.5") | 0.023 mm |
| | 300 mm (11.8") | 248.4 mm × 186.3 mm (9.8" × 7.3") | 0.345 mm |
| 12.4 mm (0.5") | 80 mm (3.1") | 33.12 mm × 24.84 mm (1.3" × 1.0") | 0.046 mm |
| | 600 mm (23.6") | 248 mm × 186.3 mm (9.8" × 7.3") | 0.345 mm |
| 14.8 mm (0.6") | 100 mm (3.9") | 33.12 mm × 24.84 mm (1.3" × 1.0") | 0.046 mm |
| | 800 mm (31.5") | 264.96 mm × 198.72 mm (10.4" × 7.8") | 0.368 mm |

