

# MV-SC3050M

## 5 MP Mono Vision Sensor



### Introduction

With built-in positioning and measurement algorithms, MV-SC3050M 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.

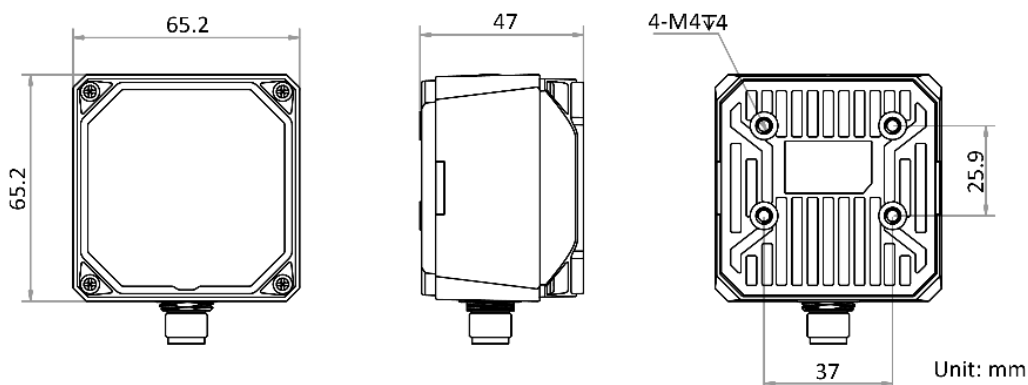
### Available Models

- 8 mm focal length: MV-SC3050M-08M-WBN
- 12 mm focal length: MV-SC3050M-12M-WBN
- 16 mm focal length: MV-SC3050M-16M-WBN

### Applicable Industry

Consumer electronics, food and pharmaceuticals, and automotive industries.

### Dimension



### Key Features

- Adopts embedded hardware platform for high-speed image processing.
- Adopts built-in positioning and measurement algorithms to 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 RS-232, TCP, UDP, FTP, PROFINET, Modbus, and EtherNet/IP.

Model	MV-SC3050M-08M-WBN	MV-SC3050M-12M-WBN	MV-SC3050M-16M-WBN
<b>Tool</b>			
<b>Vision tool</b>	<ul style="list-style-type: none"> <li>● Measurement: P2P measurement, P2L measurement, contrast measurement, grayscale size, edge width measurement, width measurement, brightness analysis, L2L angle, diameter measurement, and line angle</li> <li>● Existence: Spot existence, edge existence, contour existence, pattern existence, circle existence, line existence, anomaly judge, and existence detection</li> <li>● Count: Spot count, edge count, contour count, pattern count, and learning-based count</li> <li>● Recognition: Multi-object count, code recognition, category recognition, classification registration, object detection registration, and OCR</li> <li>● Logic: Calculator, If module, logic judge, format output, condition judge, character comparison, and combination judge</li> <li>● Location: Calibration convert, single point alignment, point rectify, point grasp, scale transformation, and fixture</li> <li>● Deep learning: DL classification and DL object detection</li> <li>● Defect detection: Anomaly detection</li> </ul>		
<b>Solution capacity</b>	Supports solution importing and exporting, up to 32 solutions can be stored		
<b>Communication protocol</b>	RS-232, TCP, UDP, FTP, PROFINET, Modbus, EtherNet/IP, MELSEC/SLMP, FINS, Keyence KV		
<b>Camera</b>			
<b>Sensor type</b>	CMOS, global shutter		
<b>Pixel size</b>	3.2 $\mu\text{m}$ $\times$ 3.2 $\mu\text{m}$		
<b>Sensor size</b>	1/1.7"		
<b>Resolution</b>	2368 $\times$ 1760		
<b>Max. frame rate</b>	30 fps		
<b>Gain</b>	0 dB to 15 dB		
<b>Exposure time</b>	60 $\mu\text{s}$ to 1 sec		
<b>Pixel format</b>	Mono 8		
<b>Mono/color</b>	Mono		
<b>Electrical features</b>			
<b>Data interface</b>	Fast Ethernet (100 Mbit/s)		
<b>Digital I/O</b>	17-pin M12 connector provides power, Ethernet, digital I/O, and serial port: Input signal $\times$ 2 (Line 0/1), output signal $\times$ 3 (Line 5/6/7), bi-directional I/O $\times$ 3 (Line 2/3/4), and external button input $\times$ 1 Output signal can be set as NPN or PNP		
<b>Power supply</b>	24 VDC		
<b>Power consumption</b>	Max. 48 W @ 24 VDC		
<b>Mechanical</b>			
<b>Lens mount</b>	M12-mount, mechanical autofocus lens		
<b>Focal length</b>	8 mm	12 mm	16 mm
<b>Lens cap</b>	Transparent lens cap by default. Half-polarized and fully-polarized caps are optional		
<b>Light source</b>	14 LED lamps, white light by default. Red, blue, and near infrared lights are optional		
<b>Indicator</b>	Power indicator (PWR), network indicator (LNK), status indicator (STS), result indicator (OK/NG)		
<b>Dimension</b>	65.2 mm $\times$ 65.2 mm $\times$ 47 mm (2.6" $\times$ 2.6" $\times$ 1.9")		
<b>Weight</b>	Approx. 280 g (0.6 lb.)		
<b>Ingress protection</b>	IP67 (under proper installation of lens and wiring)		

<b>Model</b>	<b>MV-SC3050M-08M-WBN</b>	<b>MV-SC3050M-12M-WBN</b>	<b>MV-SC3050M-16M-WBN</b>
<b>Temperature</b>	Working temperature: 0 °C to 50 °C (32 °F to 122s °F) Storage temperature: -30 °C to 70 °C (-22 °F to 158 °F)		
<b>Humidity</b>	20% RH to 95% RH (no condensation)		
<b>General</b>			
<b>Client software</b>	SCMVS		
<b>Certification</b>	CE, KC		

## Detection Range

Lens focal length	Installation distance	Field of view	Single pixel accuracy
8 mm	25 mm	23.68 mm × 17.6 mm	0.01 mm
	3000 mm	2841.6 mm × 2112 mm	1.2 mm
12 mm	60 mm	37.89 mm × 28.16 mm	0.016 mm
	3000 mm	1894.4 mm × 1408 mm	0.8 mm
16 mm	90 mm	42.62 mm × 31.68 mm	0.018 mm
	2000 mm	947.2 mm × 704 mm	0.4 mm

Horizontal Field of View/mm

