

# MV-SC3050M

## 5 MP 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.

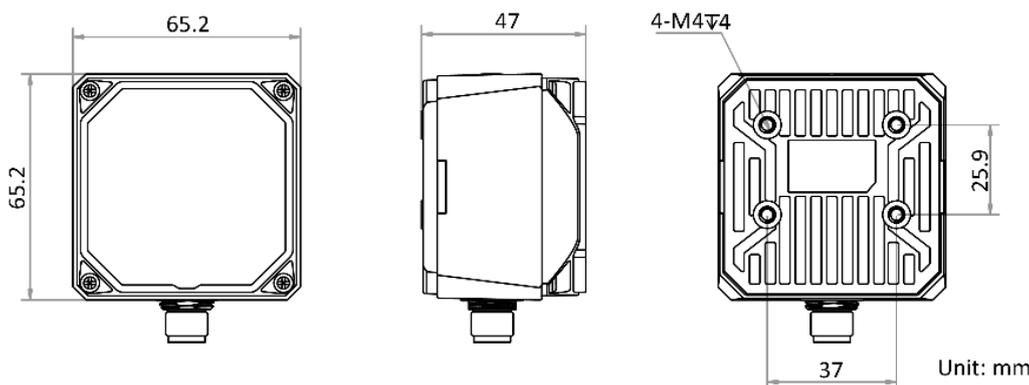
### Available Model

- 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, line angle</li> <li>● Existence: Spot existence, edge existence, contour existence, pattern existence, circle existence, line existence, anomaly judge, existence detection</li> <li>● Count: Spot count, edge count, contour count, pattern count, learning-based count</li> <li>● Recognition: Multi-object count, code recognition, category recognition, classification registration, object detection registration, OCR</li> <li>● Logic: Calculator, If module, logic judge, format output, condition judge, character comparison, combination judge</li> <li>● Location: Calibration convert, single point alignment, point rectify, point grasp, scale transformation, fixture</li> <li>● Deep learning: DL classification, 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 122 °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

MV-SC3050M (Unit: mm)					
Lens Focal Length	Working Distance	Field of View		Single Pixel Accuracy	Diagram of Field of View
		H	V		
8	25	25	21	0.01	
	100	101	85	0.04	
	200	202	170	0.08	
	300	304	256	0.13	
	600	608	512	0.25	
	1000	1013	853	0.42	
	2000	2026	1706	0.83	
12	60	41	34	0.02	
	100	68	58	0.03	
	200	137	116	0.06	
	300	206	174	0.09	
	600	413	348	0.17	
	1000	689	580	0.28	
	2000	1378	1160	0.57	
16	60	31	26	0.01	
	150	77	65	0.03	
	300	155	130	0.06	
	600	310	261	0.13	
	1000	516	435	0.21	
	2000	1033	870	0.43	