

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.

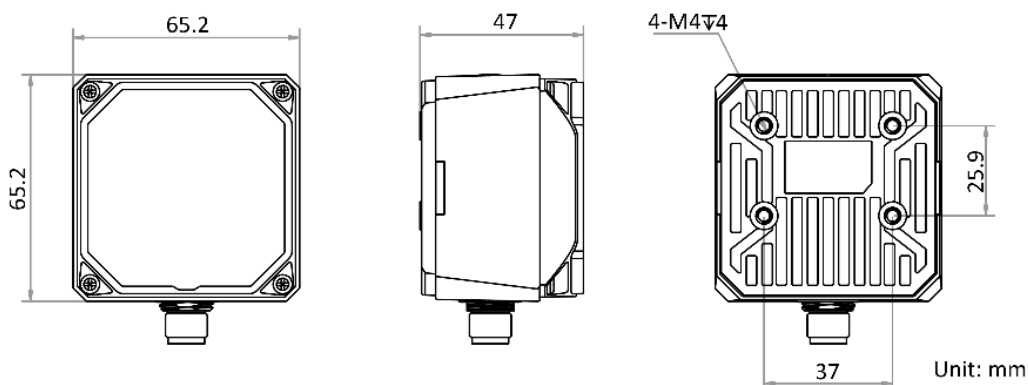
Available Models

- 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



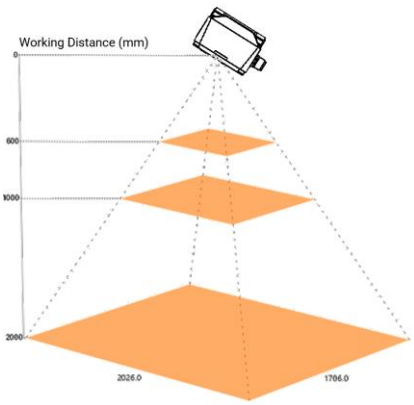
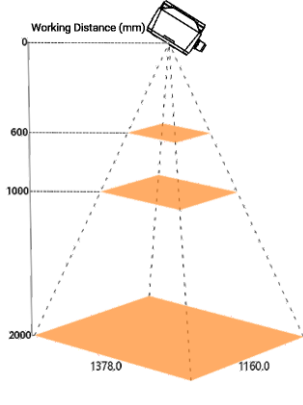
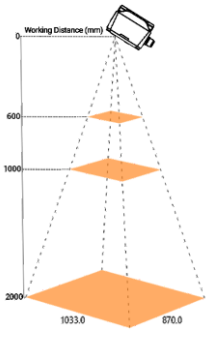
Key Features

- 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
Tool			
Vision tool	<ul style="list-style-type: none">● Measurement: P2P measurement, P2L measurement, contrast measurement, grayscale size, edge width measurement, width measurement, brightness analysis, L2L angle, diameter measurement, and line angle● Existence: Spot existence, edge existence, contour existence, pattern existence, circle existence, line existence, anomaly judge, and existence detection● Count: Spot count, edge count, contour count, pattern count, and learning-based count● Recognition: Multi-object count, code recognition, category recognition, classification registration, object detection registration, and OCR● Logic: Calculator, If module, logic judge, format output, condition judge, character comparison, and combination judge● Location: Calibration convert, single point alignment, point rectify, point grasp, scale transformation, and fixture● Deep learning: DL classification and DL object detection● Defect detection: Anomaly detection		
Solution capacity	Supports solution importing and exporting, up to 32 solutions 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	3.2 μm × 3.2 μm		
Sensor size	1/1.7"		
Resolution	2368 × 1760		
Max. frame rate	30 fps		
Gain	0 dB to 15 dB		
Exposure time	60 μs to 1 sec		
Pixel format	Mono 8		
Mono/color	Mono		
Electrical features			
Data interface	Fast Ethernet (100 Mbit/s)		
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		
Power consumption	Approx. 48 W @ 24 VDC		
Mechanical			
Lens mount	M12-mount, mechanical autofocus lens		
Focal length	8 mm	12 mm	16 mm
Lens cap	Transparent lens cap by default. Half-polarized and fully-polarized caps are optional		
Light source	14 LED lamps, white light by default. Red, blue, and near infrared lights are 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)		

Model	MV-SC3050M-08M-WBN	MV-SC3050M-12M-WBN	MV-SC3050M-16M-WBN
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% RH to 95% RH (no condensation)		
General			
Client software	SCMVS		
Certification	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	