

MV-SC3050M

5 MP Vision Sensor

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.



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.

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

Typical Application

- Consumer electronics
- Food and pharmaceuticals
- Automotive

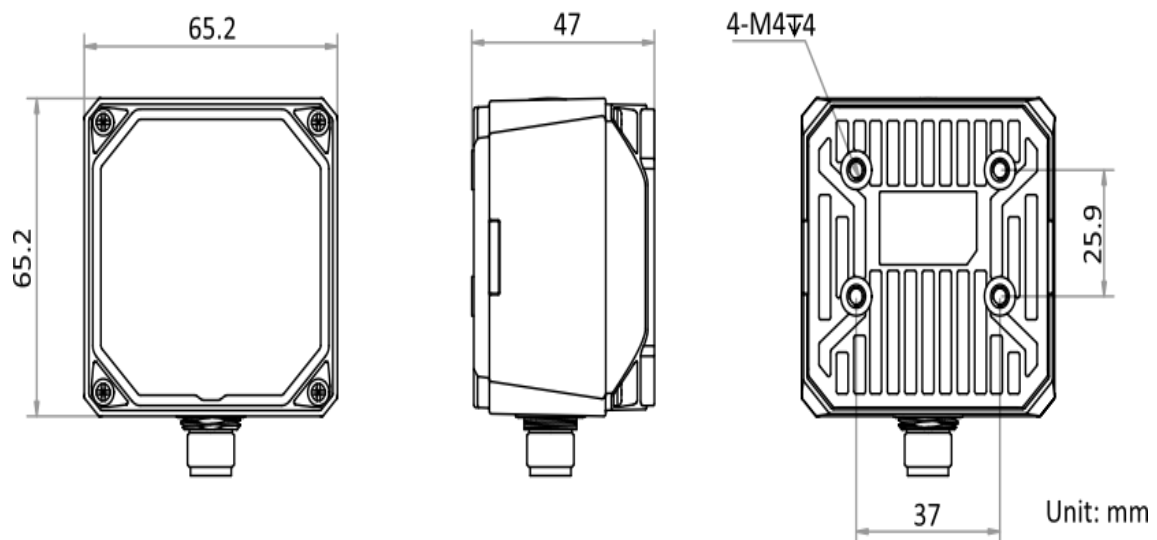


Specification

Model	MV-SC3050M-08M-WBN	MV-SC3050M-12M-WBN	MV-SC3050M-16M-WBN
Tool			
Vision tool	● Measurement: P2P measurement, P2L measurement, contrast measurement, grayscale size, edge width measurement, width measurement, brightness average value, L2L angle, diameter measurement, line angle ● Existence: Spot existence, edge existence, contour existence, pattern existence, circle existence, line existence, anomaly judge, existence detection ● Count: Spot count, edge count, contour count, pattern count, learning-based count ● Recognition: Multi-object count, code recognition, category recognition, classification registration, object registration, OCR, learning-based OCR, character horizontal stripe detection ● Logic: Calculator, if module, logic judge, format output, condition judge, character comparison, combination judge ● Location: Calibration convert, single point alignment, point rectify, point grasp, scale transformation, fixture ● Deep learning: DL classification, DL object detection ● Defect detection: Anomaly detection ● Industry tools: OCR and defect detection		
Solution capacity	Supports importing and exporting project, up to 32 projects 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	3.4 μm × 3.4 μm		
Sensor size	2/3"		
Resolution	2432 × 2048		
Max. frame rate	50 fps		
Gain	0 dB to 24 dB		
Exposure time	60 μs to 1 sec		
Pixel format	Mono 8		
Mono/color	Mono		
Electrical feature			
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	Avg. 9.6 W @ 24 VDC Max. 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)
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)
Vibration resistance	Meets standard IEC 60068-2-6:2007. Device only (without installation bracket): 10 Hz to 55 Hz, 1.5 mm peak-to-peak amplitude, 2 hours per axis (X, Y, Z)
Shock resistance	Meets standard IEC 60068-2-27:2008. Device only (without installation bracket): 30 g / 11 ms, half-sine wave, 500 shocks per axis (6 directions)
General	
Client software	SCMVS
Certification	CE, KC

Dimension



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	30	30	26	0.01	
	100	101	85	0.04	
	200	203	171	0.08	
	300	304	256	0.13	
	600	608	512	0.25	
	1000	1013	853	0.42	
	2000	2027	1707	0.83	
12	60	41	35	0.02	
	100	69	58	0.03	
	200	138	116	0.06	
	300	207	174	0.09	
	600	413	348	0.17	
	1000	689	580	0.28	
	2000	1378	1161	0.57	
16	110	57	48	0.02	
	200	103	87	0.04	
	300	155	131	0.06	
	600	310	261	0.13	
	1000	517	435	0.21	
	2000	1034	870	0.43	