

# MV-SC3016M

## 1.6 MP Mono Vision Sensor



### Introduction

With built-in positioning and measurement algorithms, MV-SC3016M 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.

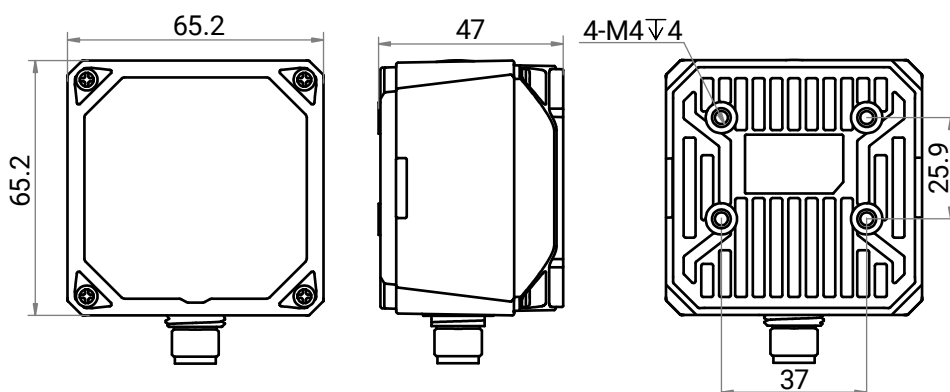
### Available Models

- 6 mm focal length: MV-SC3016M-06M-WBN
- 12 mm focal length: MV-SC3016M-12M-WBN
- 14.8 mm focal length: MV-SC3016M-15M-WBN

### Applicable Industry

Consumer electronics, food and pharmaceutical, and automotive industries.

### Dimension



Unit: mm

### Key Features

- Adopts embedded hardware platform for high-speed image processing.
- Adopts built-in positioning and measurement algorithms to detect 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.

## Specification

Model	MV-SC3016M-06M-WBN	MV-SC3016M-12M-WBN	MV-SC3016M-15M-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 average value, L2L angle, diameter measurement, line angle</li> <li>● Existence: Spot existence, edge existence, contour existence, pattern existence, circle existence, line existence, anomaly judge, presence detection</li> <li>● Count: Spot count, edge count, contour count, pattern count, registered object 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 importing and exporting solutions, 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>	3.45 μm × 3.45 μm		
<b>Sensor size</b>	1/2.9"		
<b>Resolution</b>	1408 × 1024		
<b>Max. frame rate</b>	60 fps		
<b>Gain</b>	0 dB to 15 dB		
<b>Exposure time</b>	35 μs to 1 sec		
<b>Pixel format</b>	Mono 8		
<b>Mono/color</b>	Mono		
<b>Electrical feature</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 × 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		
<b>Power supply</b>	24 VDC		
<b>Power consumption</b>	Avg.: 13.8 W @ 24 VDC (light source enabled) Max.: 42 W @ 24 VDC (light source enabled)		
<b>Mechanical</b>			
<b>Lens mount</b>	M12-mount, mechanical focus supported		
<b>Focal length</b>	6 mm	12 mm	14.8 mm
<b>Lens cap</b>	Transparent lens cap by default. Half-polarized or fully-polarized lens cap is optional.		
<b>Light source</b>	14 LEDs, white light by default. Red, blue or IR is optional.		
<b>Indicator</b>	Power indicator (PWR), network indicator (LNK), status indicator (STS), result indicator (OK/NG)		
<b>Dimension</b>	65.2 mm × 65.2 mm × 47 mm (2.6" × 2.6" × 1.9")		
<b>Weight</b>	Approx. 280 g (0.6 lb.)		
<b>Ingress protection</b>	IP67 (under proper installation of lens and wiring)		

# Specification

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<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-SC3016M (Unit: mm)					
Lens Focal Length	Working Distance	Field of View		Single Pixel Accuracy	Diagram of Field of View
		H	V		
6	25	20	15	0.01	
	100	81	59	0.06	
	200	162	118	0.12	
	300	243	177	0.17	
	600	486	353	0.35	
	1000	810	589	0.58	
	2000	1619	1178	1.15	
12	60	24	18	0.02	
	100	40	29	0.03	
	200	81	59	0.06	
	300	121	88	0.09	
	600	243	177	0.17	
	1000	405	294	0.29	
	2000	810	589	0.58	
14.8	60	20	14	0.01	
	150	49	36	0.03	
	300	98	72	0.07	
	600	197	143	0.14	
	1000	328	239	0.23	
	2000	656	477	0.47	