

# MV-SC2004PM

## 0.4 MP Vision Sensor



### Introduction

With built-in position and measurement algorithm, MV-SC2004PM vision sensor can detect object's presence, position, dimension, etc. It can be monitored and operated via web based interface. The vision sensor can output detection results via RS-232, Ethernet, etc., and cooperate with devices via IO. It supports multiple result output methods and customized result text output.

### Key Feature

- Adopts embedded hardware platform for high-speed image processing.
- Adopts built-in position and measurement algorithm to detect object's presence, position, dimension, etc.
- Multiple IO interfaces for input and output signals.
- Multiple indicators for displaying device status.
- Adopts light cup to ensure uniform brightness in the illuminated area.
- Supports multiple communication protocols, including TCP, UDP, Serial, IO, Modbus, PROFINET, Ethernet/IP, FTP, etc.

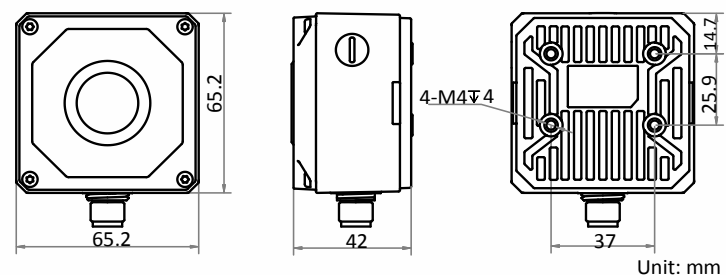
### Available Model

- 6 mm focal length vision sensor: MV-SC2004PM-06S-WBN
- 12.4 mm focal length vision sensor: MV-SC2004PM-12S-WBN
- 14.8 mm focal length vision sensor: MV-SC2004PM-15S-WBN

### Applicable Industry

Consumer electronics, food and beverage, pharmaceutical, automobile, etc.

### Dimension



Unit: mm

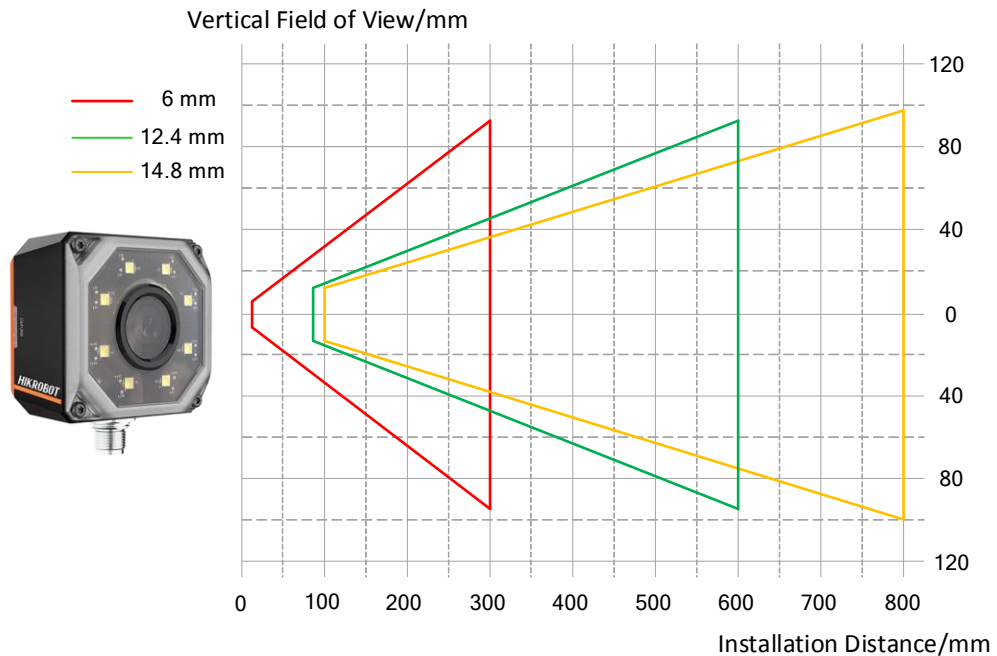


## Specification

Model	MV-SC2004PM-06S-WBN	MV-SC2004PM-12S-WBN	MV-SC2004PM-15S-WBN
<b>Tools</b>			
Vision tools	Feature matching, fixture, find line, find circle, measure brightness, blob, detect distance, measure line to line, measure point and line, N point calibration, coordinate conversion, etc.		
Solution management	Supports solution importing and exporting, up to 32 solutions and 40 modules can be stored.		
<b>Camera</b>			
Sensor type	CMOS, global shutter		
Pixel size	6.9 $\mu\text{m}$ $\times$ 6.9 $\mu\text{m}$		
Sensor size	1/2.9"		
Resolution	704 $\times$ 540		
Max. frame rate	100 fps		
Dynamic range	74 dB		
SNR	41 dB		
Gain	0 dB to 40 dB		
Exposure time	16 $\mu\text{s}$ to 1 s		
Mono/color	Mono		
<b>Electrical feature</b>			
Interface	17-pin M12 connector provides power, Ethernet, digital IO, and serial port		
Ethernet	Fast Ethernet		
Communication protocol	TCP, UDP, serial port, IO, Modbus, PROFINET, Ethernet/IP, FTP, etc.		
Digital IO	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 button input $\times$ 1. Output signal can be set as NPN or PNP		
Power supply	12 VDC to 24 VDC		
Power consumption	8.6 W@24 VDC		
<b>Structure</b>			
Lens mount	M12-mount, manual focus supported		
Lens focal length	6 mm (0.2")	12.4 mm (0.5")	14.8 mm (0.6")
Lens cap	Transparent lens cap. Polarization or infrared filter lens cap is optional		
Lighting	Spotlight white light. Spotlight red/blue/NIR, and wide-angle white/red/blue light is optional		
Indicator	Power indicator (PWR), network indicator (LNK), status indicator (STS), and result indicator (OK/NG)		
Dimension	65.2 mm $\times$ 65.2 mm $\times$ 42 mm (2.6" $\times$ 2.6" $\times$ 1.7")		
Weight	Approx. 250 g (0.6 lb.)		
Ingress protection	IP67 (under proper installation of lens and wiring)		
Temperature	Working temperature: 0 $^{\circ}\text{C}$ to 50 $^{\circ}\text{C}$ (32 $^{\circ}\text{F}$ to 122 $^{\circ}\text{F}$ ) Storage temperature: -30 $^{\circ}\text{C}$ to 70 $^{\circ}\text{C}$ (-22 $^{\circ}\text{F}$ to 158 $^{\circ}\text{F}$ )		
Humidity	20% to 95% RH, non-condensing		
<b>General</b>			
Operating method	Via web based interface		
Certifications	CE, FCC, KC		

## Detection Range

Lens focal length	Installation distance	Field of view	Single pixel accuracy
6 mm (0.2")	20 mm (0.8")	16.56 mm × 12.42 mm (0.7" × 0.5")	0.023 mm
	300 mm (11.8")	248.4 mm × 186.3 mm (9.8" × 7.3")	0.345 mm
12.4 mm (0.5")	80 mm (3.1")	33.12 mm × 24.84 mm (1.3" × 1.0")	0.046 mm
	600 mm (23.6")	248 mm × 186.3 mm (9.8" × 7.3")	0.345 mm
14.8 mm (0.6")	100 mm (3.9")	33.12 mm × 24.84 mm (1.3" × 1.0")	0.046 mm
	800 mm (31.5")	264.96 mm × 198.72 mm (10.4" × 7.8")	0.368 mm



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