

MV-SC2004EC

0.4 MP Color Vision Sensor

With built-in positioning and measurement algorithms, MV-SC2004EC vision sensor can realize counting, existence, measurement detection, and recognition. 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 I/O. 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 for counting, existence, measurement detection, and recognition.
- 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, Ethernet/IP, etc.

Typical Application

- Consumer electronics
- Food and pharmaceutical
- Automotive industry



Specification

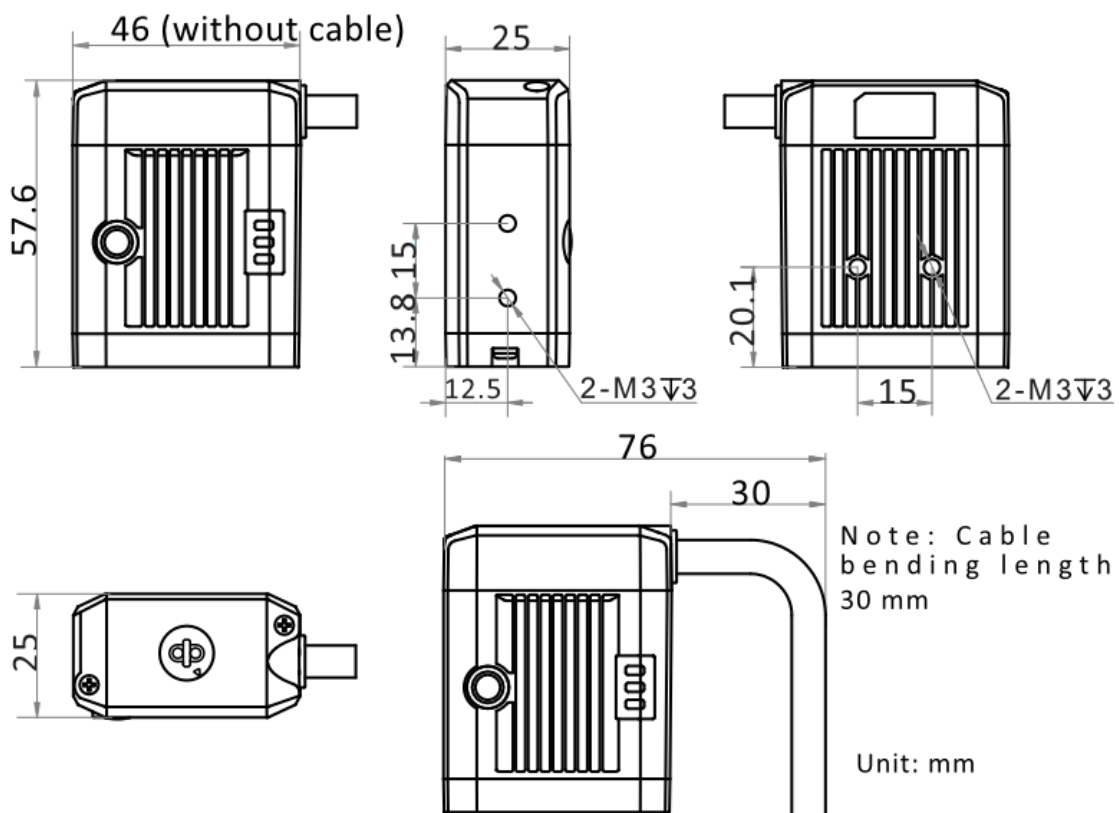
Model	MV-SC2004EC-08S-WBN	MV-SC2004EC-12S-WBN	MV-SC2004EC-15S-WBN
Tool			
Vision tool	● Measurement: P2P measurement, P2L measurement, contrast measurement, greyscale size, edge width measurement, width measurement, brightness average value, L2L angle, color measurement, color size, diameter measurement, and line angle ● Existence: Anomaly judge, spot existence, edge existence, contour existence, pattern existence, circle existence, and line existence ● Count: Spot count, edge count, contour count, color count, and pattern count ● Recognition: Category recognition, color contrast, classification registration, color recognition, and OCR ● Logic: Calculator, logic judge, condition judge, combination judge, format output, If module, and character comparison ● Location: Fixture		
Solution capacity	Supports solution importing and exporting, up to 8 solutions and 40 modules 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	6.9 μm × 6.9 μm		
Sensor size	1/2.9"		
Resolution	704 × 540		
Max. frame rate	60 fps		
Gain	0 dB to 15 dB		
Exposure time	16 μs to 1 sec		
Pixel format	Mono 8, RGB 8		
Mono/color	Color		
Electrical feature			
Data interface	Fast Ethernet (100 Mbit/s)		
Digital I/O	17-pin M12 connector provides power, Ethernet, serial port, and digital I/O, including non-isolated input × 1 (Line 2), non-isolated output × 1 (Line 3), configurable non-isolated I/O × 2 (Line 0/1), RS-232 × 1, and external button input × 1 (BUTTON)		
Power supply	12 VDC to 24 VDC		
Power consumption	Avg. 6 W @ 24 VDC Max. 22 W @ 24 VDC		
Mechanical			
Lens mount	M12-mount, adjusting focus manually supported		
Focal length	8 mm	12.4 mm	14.8 mm
Lens cap	Transparent lens cap		
Light source	White LED lamp		

Indicator	Power indicator (PWR), network indicator (LNK), and status indicator (STS)
Dimension	46 mm × 57.6 mm × 25 mm (1.8" × 2.3" × 1.0")
Weight	Approx. 220 g (0.5 lb.)
Ingress protection	IP65
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

Available Model

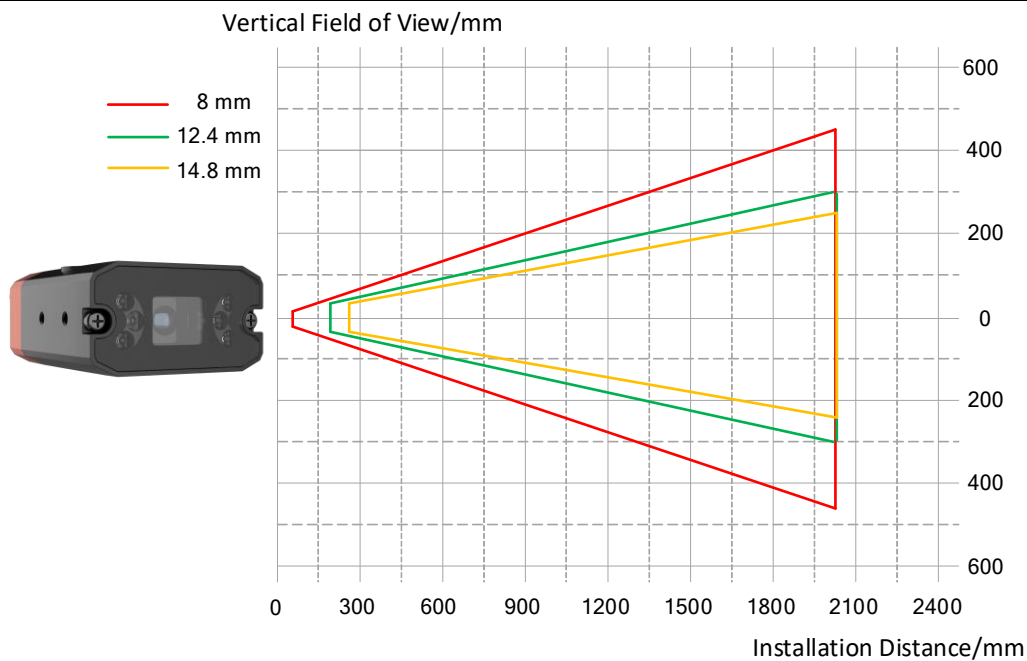
- 8 mm focal length: MV-SC2004EC-08S-WBN
- 12.4 mm focal length: MV-SC2004EC-12S-WBN
- 14.8 mm focal length: MV-SC2004EC-15S-WBN

Dimension



Detection Range

Focal Length	Installation Distance	Field of View	Single Pixel Accuracy
8 mm	80 mm	47.62 mm × 36.53 mm	0.068 mm
	2000 mm	1190.59 mm × 913.24 mm	1.691 mm
12.4 mm	200 mm	78.35 mm × 60.10 mm	0.111 mm
	2000 mm	783.48 mm × 600.97 mm	1.113 mm
14.8 mm	270 mm	88.62 mm × 67.97 mm	0.126 mm
	2000 mm	656.43 mm × 503.51 mm	0.932 mm



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