MV-SC2004EC

0.4 MP 1/2.9" Vision Sensor

CE   KC

Introduction

With built-in positioning and measurement algorithms, MV-SC2004EC vision sensor can detect object's existence, count patterns and spots, 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 detect object's existence, count patterns and spots, 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 Serial Port, TCP, UDP, FTP, Profinet, Modbus, Ethernet/IP, etc.
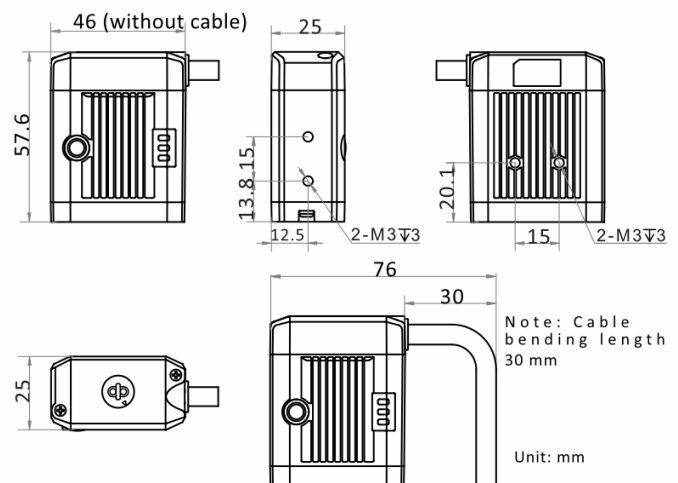
Available Model

- 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

Applicable Industry

Consumer electronics, food and medical industry, automobile, etc.
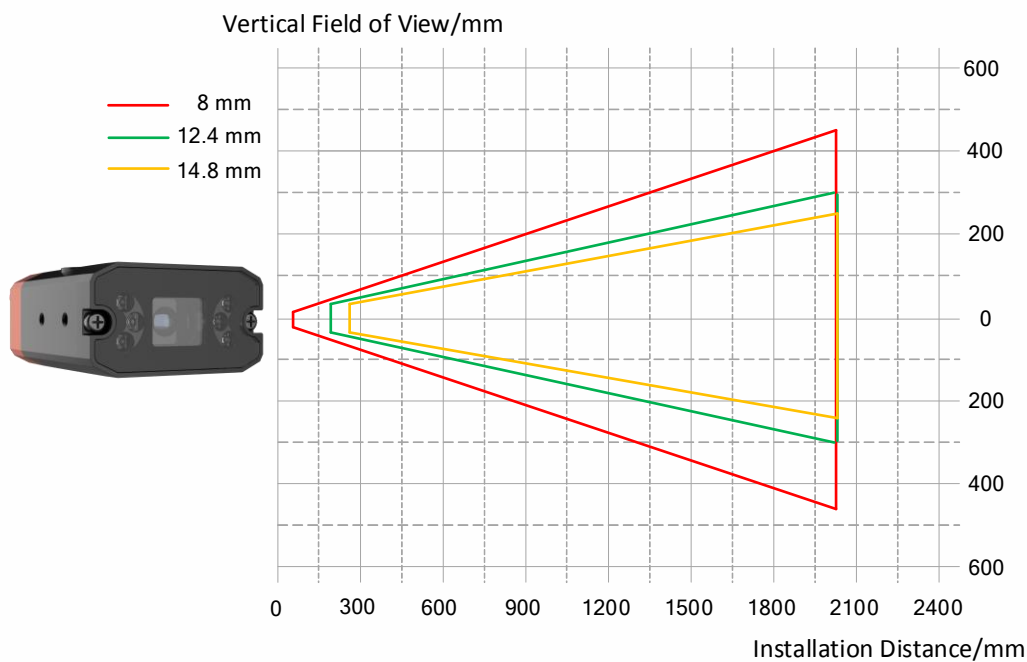
Dimension

46 (without cable)   25   57.6   13.8   15   12.5   2-M3▽3   20.1   15   2-M3▽3   76   30   25

Note: Cable bending length 30 mm

Unit: mm

Specification

Model	MV-SC2004EC-08S-WBN	MV-SC2004EC-12S-WBN	MV-SC2004EC-15S-WBN
Tool			
Vision tool	- Count: Pattern count, edge count, and spot count - Existence: Circle existence, line existence, spot existence, edge existence, and pattern existence - Location: Fixture - Logic tool: Condition judge, character comparison, logic judge, and calculator - Measurement: L2L angle, diameter measurement, brightness average value, contrast measurement, width measurement, P2L measurement, greyscale size, line angle, edge width measurement, and color size - Recognition: OCR, color contrast, and classification registration		
Solution capacity	Supports solution importing and exporting, up to 8 solutions and 40 modules can be stored.		
Communication protocol	Serial Port, TCP, UDP, FTP, Profinet, Modbus, Ethernet/IP		
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		
Dynamic range	74 dB		
SNR	41 dB		
Gain	0 dB to 15 dB		
Exposure time	16 µs to 1 sec		
Pixel format	Mono 8, RGB 8		
Mono/color	Color		
Electrical features			
Data interface	Fast Ethernet		
Digital I/O	17-pin M12 connector provides power, Ethernet, serial port, digital I/O, including configurable I/O × 2 (Line 0/1), input signal × 1 (Line 2), output signal × 1 (Line 3), and RS-232× 1. Device trigger via pressing button supported.		
Power supply	12 VDC to 24 VDC		
Max. power consumption	Approx. 22 W@24 VDC		
Mechanical			
Lens mount	M12-mount, adjusting focus manually supported		
Focal length	8 mm (0.3")	12.4 mm (0.5")	14.8 mm (0.6")
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 (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% to 95% RH, non-condensing		
General			
Client software	SCMVS		
Certification	CE, KC		

Detection Range

Lens focal length	Installation distance	Field of view	Single pixel accuracy
8 mm (0.3")	80 mm (3.1")	47.62 mm × 36.53 mm (1.9" × 1.4")	0.068 mm
	2000 mm (78.7")	1190.59 mm × 913.24 mm (46.9" × 36.0")	1.691 mm
12.4 mm (0.5")	200 mm (7.9")	78.35 mm × 60.10 mm (3.1" × 2.4")	0.111 mm
	2000 mm (78.7")	783.48 mm × 600.97 mm (30.8" × 23.7")	1.113 mm
14.8 mm (0.6")	270 mm (10.6")	88.62 mm × 67.97 mm (3.5" × 2.7")	0.126 mm
	2000 mm (78.7")	656.43 mm × 503.51 mm (25.8" × 19.8")	0.932 mm