

MV-SC1003M

0.3 MP Mono Vision Sensor

With built-in positioning and measurement algorithms, MV-SC1003M 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 I/O. The vision sensor supports multiple result output methods and customized result text output.



Key Features

- Adopts small-size design for all types of machines and compact workstations.
- Adopts embedded hardware platform for high-speed image processing.
- Adopts built-in positioning and measurement algorithms to detect object's existence, quantity, location, etc.
- Integrated LED aimer to allow the field-of-view to be clearly.
- Provides multiple indicators for displaying device status.
- Supports multiple communication protocols, including Modbus, EtherNet/IP, PROFINET, FTP, UDP, TCP, and Serial Port.

Available Models

- Standard distance: MV-SC1003M-03S-WBN-SR
- Near distance: MV-SC1003M-03S-WBN-NR

Typical Application

- Consumer electronics
- Food and pharmaceutical
- Automotive

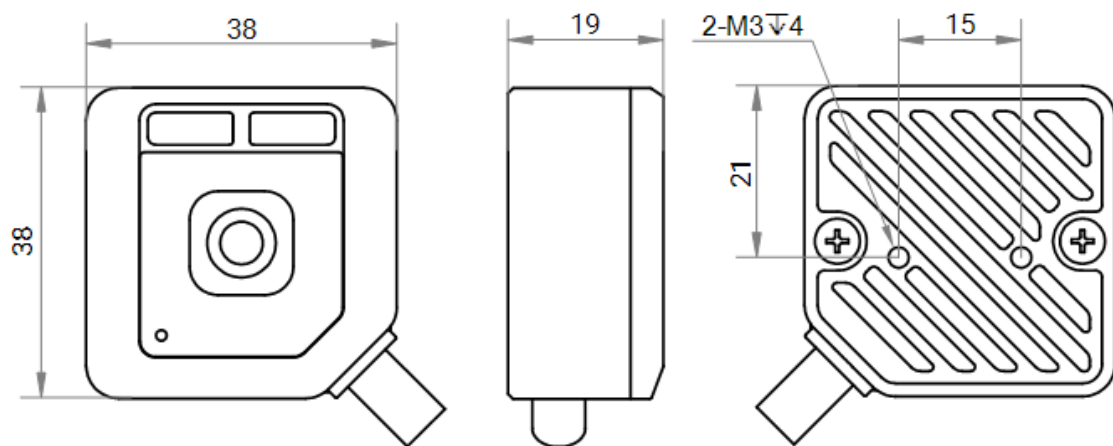


Specification

Model	MV-SC1003M-03S-WBN-SR	MV-SC1003M-03S-WBN-NR
Tool		
Vision tool	● Measurement: P2L measurement, contrast measurement, grayscale size, edge width measurement, width measurement, brightness analysis, L2L angle, diameter measurement, and line angle ● Existence: Anomaly judge, spot existence, edge existence, contour existence, circle existence, and line existence ● Count: Spot count, edge count, and contour count ● Recognition: Category recognition, and classification registration ● Logic: Calculator, logic judge, condition judge, combination judge, and format output ● Location: Fixture	
Solution capacity	Supports solution importing and exporting, and up to 8 solutions and 40 modules can be stored.	
Communication protocol	Modbus, EtherNet/IP, PROFINET, FTP, UDP, TCP client, TCP server, Serial Port, MELSEC/SLMP, FINS, Keyence KV	
Camera		
Sensor type	CMOS, global shutter	
Pixel size	3.74 μm × 3.74 μm	
Sensor size	1/6"	
Resolution	640 × 480	
Max. frame rate	15 fps	
Gain	1 dB to 23 dB	
Exposure time	60 μs to 7000 μs	
Pixel format	Mono 8	
Mono/color	Mono	
Electrical feature		
Data interface	Fast Ethernet (100 Mbit/s)	
Digital I/O	Green terminal provides power, digital I/O, and serial port, including input signal × 1 (Line 0), output signal × 1 (Line 1), and RS-232 × 1. Supports triggering device via pressing top trigger button.	
Power supply	12 VDC to 24 VDC	
Power consumption	Avg. 1.5 W @ 12 VDC Max. 3 W @ 12 VDC	
Mechanical		
Lens mount	M5.8-mount	
Focal length	3.1 mm	
Working distance	240 mm	120 mm
Lens cap	Transparent lens cap	
Light source	White LED	
Aiming system	1 LED	

Indicator	Power indicator (PWR), result indicator (OK/NG)
Dimension	38 mm × 38 mm × 19 mm (1.5" × 1.5" × 0.7")
Weight	Approx. 40 g (0.09 lb.) without cable
Ingress protection	IP54
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



(Cable bending length 30 mm)

Unit: mm

Detection Range

MV-SC1003M (Unit: mm)						
Model	Lens Focal Length	Working Distance	Field of View		Single Pixel Accuracy	Diagram of Field of View
			H	V		
MV-SC1003M-03S-WBN-NR	3.128	80	61	46	0.10	
		100	77	57	0.12	
		120	92	69	0.14	
		140	107	80	0.17	
		160	123	92	0.19	
MV-SC1003M-03S-WBN-SR	3.128	200	153	115	0.24	
		220	169	126	0.26	
		240	184	138	0.29	
		260	199	149	0.31	
		280	214	161	0.34	