MV-SC1003C

0.3 MP 1/6" Vision Sensor

Introduction

With built-in positioning and measurement algorithms, MV-SC1003C 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.

Available Model

- Standard distance:
  MV-SC1003C-03S-WBN-SR
- Near distance:
  MV-SC1003C-03S-WBN-NR

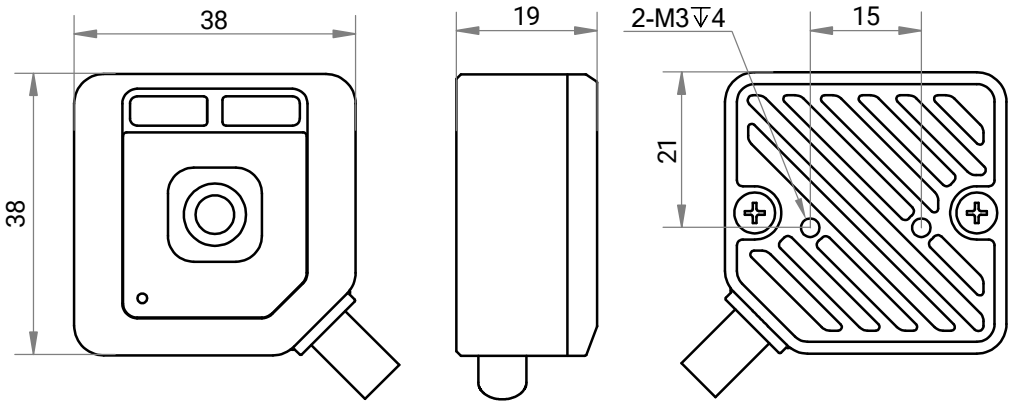
Applicable Industry

Consumer electronics, food and pharmaceuticals, and automotive industries.

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.

Dimension



(Cable bending length 30 mm)

Unit: mm

Specification

Model	MV-SC1003C-03S-WBN-SR	MV-SC1003C-03S-WBN-NR
Tool		
Vision tool	● Measurement tool: P2L measurement, contrast measurement, grayscale size, edge width measurement, width measurement, brightness analysis, L2L angle, diameter measurement, line angle, color measurement, color size ● Existence tool: Spot existence, edge existence, contour existence, circle existence, line existence ● Counting tool: Spot count, edge count, contour count, color count ● Recognition tool: Classification registration, color contrast ● Logic tool: Calculator, logic judge, condition judge, combination judge ● Locating tool: Fixture	
Solution capacity	Supports solution importing and exporting, and up to 8 solutions and 40 modules can be stored.	
Communication protocol	Modbus, EtherNet/IP, PROFINETS, 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	
Dynamic range	60 dB	
SNR	40 dB	
Gain	1 dB to 23 dB	
Exposure time	60 μs to 7000 μs	
Pixel format	Mono 8, RGB 8	
Mono/color	Color	
Electrical features		
Data interface	Fast Ethernet (100 Mbit/s)	
Digital I/O	Green terminal provides power, digital I/O, and serial port, including input signal × 1 (LINE0), output signal × 1 (LINE1), and RS-232 × 1. Supports triggering device via pressing top trigger button.	
Power supply	12 VDC to 24 VDC	
Max. power consumption	Approx. 3 W @12 VDC	
Mechanical		
Lens mount	M5.5-mount	
Focal length	3.1 mm	
Working distance	240 mm	120 mm
Lens cap	Transparent lens cap	
Light source	White LED	
Aiming system	Orange 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 (0.1 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)
General	
Client software	SCMVS
Certification	CE, KC

Detection Range

Device Model	Installation Distance	Field of View	Single Pixel Accuracy
MV-SC1003C-03S-WBN-NR	80 mm	61.28 mm × 45.96 mm	0.096 mm
	120 mm	91.92 mm × 68.94 mm	0.144 mm
	160 mm	122.57 mm × 91.92 mm	0.192 mm
MV-SC1003C-03S-WBN-SR	200 mm	153.21 mm × 114.91 mm	0.239 mm
	240 mm	183.85 mm × 137.89 mm	0.287 mm
	280 mm	214.49 mm × 160.87 mm	0.335 mm