MV-SC3016C

1.6 MP Vision Sensor

Introduction

With built-in positioning and measurement algorithms, MV-SC3016C 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 IO. The vision sensor supports multiple result output methods and customized result text output.

Available Model

- 6 mm focal length: MV-SC3016C-06M-WBN
- 12.4 mm focal length: MV-SC3016C-12M-WBN
- 14.8 mm focal length: MV-SC3016C-15M-WBN

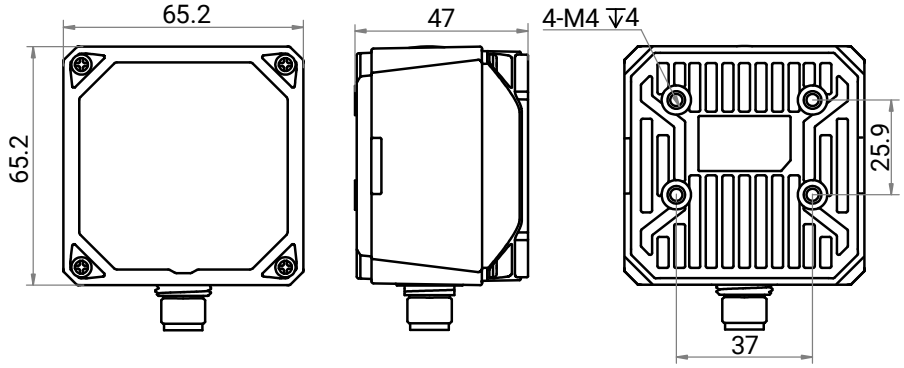
Applicable Industry

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

Key Features

- Adopts embedded hardware platform for high-speed image processing.
- Adopts built-in positioning and measurement algorithms to detect object's existence, quantity, location, 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 RS-232, TCP, UDP, FTP, Profinet, Modbus, and EtherNet/IP.

Dimension



Unit: mm

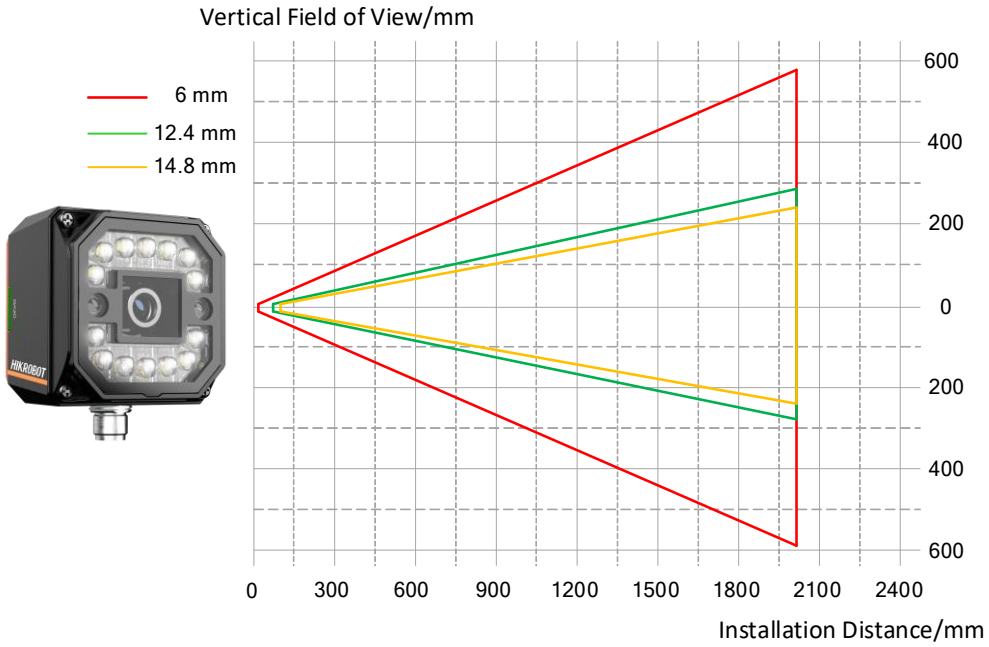
Specification

Model	MV-SC3016C-06M-WBN	MV-SC3016C-12M-WBN	MV-SC3016C-15M-WBN
Tool			
Vision tool	● Measurement: P2P measurement, P2L measurement, contrast measurement, grayscale size, edge width measurement, width measurement, brightness analysis, L2L angle, color measurement, color size, diameter measurement, line angle ● Existence: Spot existence, edge existence, contour existence, pattern existence, circle existence, line existence, anomaly judge, existence detection ● Count: Spot count, edge count, contour count, pattern count, learning-based count, color count ● Recognition: Multi-object count, code recognition, color contrast, color recognition, category recognition, classification registration, object detection registration, OCR ● Logic: Calculator, If module, logic judge, format output, condition judge, character comparison, combination judge ● Location: Calibration convert, single point alignment, point rectify, point grasp, scale transformation, fixture ● Deep learning: DL classification, DL object detection ● Defect detection: Anomaly detection		
Solution capacity	Supports solution importing and exporting, up to 32 solutions 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	3.45 μm × 3.45 μm		
Sensor size	1/2.9"		
Resolution	1408 × 1024		
Max. frame rate	60 fps		
Dynamic range	71.4 dB		
SNR	41 dB		
Gain	0 dB to 15 dB		
Exposure time	16 μs to 1 sec		
Pixel format	RGB 8, Mono 8		
Mono/color	Color		
Electrical feature			
Data interface	Fast Ethernet (100 Mbit/s)		
Digital I/O	17-pin M12 connector provides power, Ethernet, digital I/O, and serial port: Input signal × 2 (Line 0/1), output signal × 3 (Line 5/6/7), bi-directional I/O × 3 (Line 2/3/4), and external button input × 1 Output signal can be set as NPN or PNP		
Power supply	24 VDC		
Max. power consumption	Approx. 48 W @ 24 VDC		
Mechanical			
Lens mount	M12-mount, mechanical autofocus lens		
Focal length	6 mm	12.4 mm	14.8 mm
Lens cap	Transparent lens cap. Polarization or infrared filter lens cap is optional		
Light source	14 LEDs, white light by default. Red or blue is optional		
Indicator	Power indicator (PWR), network indicator (LNK), status indicator (STS), result indicator (OK/NG)		
Dimension	65.2 mm × 65.2 mm × 47 mm (2.6" × 2.6" × 1.9")		
Weight	Approx. 280 g (0.6 lb.)		

Ingress protection	IP67 (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% RH to 95% RH (no condensation)
General	
Client software	SCMVS
Certification	CE, KC

Detection Range

Lens focal length	Installation distance	Field of view	Single pixel accuracy
6 mm	5 mm	4.05 mm × 2.94 mm	0.003 mm
	2000 mm	1619.20 mm × 1177.60 mm	1.150 mm
12.4 mm	70 mm	27.42 mm × 19.94 mm	0.019 mm
	2000 mm	783.48 mm × 569.81 mm	0.556 mm
14.8 mm	80 mm	26.26 mm × 19.10 mm	0.019 mm
	2000 mm	656.43 mm × 477.41 mm	0.466 mm



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