SC3016M

1.6 MP 1/2.9" Vision Sensor

Introduction

With built-in positioning and measurement algorithms, SC3016M vision sensor can detect object's existence, position, dimension, 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, position, dimension, 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 Client, TCP Server, Profinet, Modbus, etc.
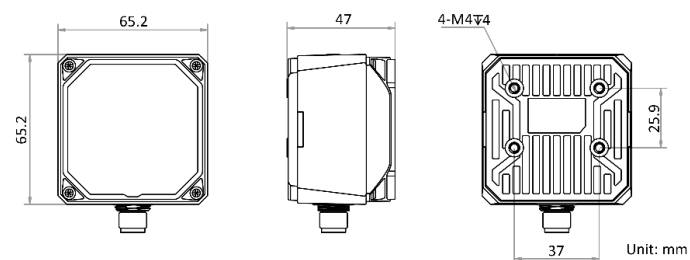
Available Model

- 6 mm focal length: SC3016M-06M-WBN
- 12.4 mm focal length: SC3016M-12M-WBN
- 14.8 mm focal length: SC3016M-15M-WBN

Applicable Industry

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

Dimension

Specification

Model	SC3016M-06M-WBN	SC3016M-12M-WBN	SC3016M-15M-WBN
Tool			
Vision tool	● Existence: Pattern existence, spot existence, edge existence, circle existence, line existence ● Count: Pattern count, spot count, edge count ● Measurement: Brightness analysis, contrast measurement, greyscale size, diameter measurement, width measurement, line angle, line to line angle, point to line measurement ● Recognition: OCR, barcode recognition		
Solution capacity*	Supports solution importing and exporting, up to 32 solutions and 40 modules can be stored.		
Communication protocol	Serial Port, TCP Client, TCP Server, UDP Server, FTP, Profinet, Modbus, Ethernet/IP		
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	Mono 8		
Mono/color	Mono		
Electrical features			
Data interface	17-pin M12 connector provides power, Ethernet, digital I/O, and serial port		
Ethernet	Fast Ethernet		
Digital I/O	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 (0.2")	12.4 mm (0.5")	14.8 mm (0.6")
Lens cap	Transparent lens cap. Polarization or infrared filter lens cap is optional.		
Light source	White light by default. Red/blue/near-infrared 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% to 95% RH, non-condensing		
General			
Client software	SCMVS		
Certification	CE, FCC, KC		

Single solution supports up to 4 pattern count modules, or 4 existence modules.

Detection Range

Lens focal length	Installation distance	Field of view	Single pixel accuracy
6 mm (0.2")	5 mm (0.2")	4.05 mm × 2.94 mm (0.2" × 0.1")	0.003 mm
	2000 mm (78.7")	1619.20 mm × 1177.60 mm (63.7" × 46.4")	1.150 mm
12.4 mm (0.5")	70 mm (2.8")	27.42 mm × 19.94 mm (1.1" × 0.8")	0.019 mm
	2000 mm (78.7")	783.48 mm × 569.81 mm (30.8" × 22.4")	0.556 mm
14.8 mm (0.6")	80 mm (3.1")	26.26 mm × 19.10 mm (1.0" × 0.8")	0.019 mm
	2000 mm (78.7")	656.43 mm × 477.41 mm (25.8" × 18.8")	0.466 mm