

MV-SC5100XC

10 MP Color Smart Camera

MV-SC5100XC smart camera is developed based on high-performance embedded platform with strong calculation performance. It integrates VM functions and AI deep learning algorithm, and can use more than 140 algorithms. It adopts multiple interfaces for supporting display, keyboard, mouse, etc.



Key Features

- Adopts AI deep learning algorithm to achieve OCR, object recognition, defect detection, etc.
- Integrates VM functions, and supports more than 140 algorithms.
- Adopts multiple I/O interfaces, such as multiple input/output signals.
- Supports multiple communication protocols.
- Supports indicators displaying device status for easy debugging and maintenance.
- Supports ingress protection IP67.

Available Models

- Mechanical focusing, 8 mm focal length: MV-SC5100XC-08M-WBN
- Mechanical focusing, 12 mm focal length: MV-SC5100XC-12M-WBN
- Mechanical focusing, 16 mm focal length: MV-SC5100XC-16M-WBN
- Liquid lens focusing, 8 mm focal length: MV-SC5100XC-08L-WBN
- Liquid lens focusing, 12 mm focal length: MV-SC5100XC-12L-WBN
- Liquid lens focusing, 16 mm focal length: MV-SC5100XC-16L-WBN

Typical Application

- Consumer electronics
- Food and pharmaceutical
- Packaging



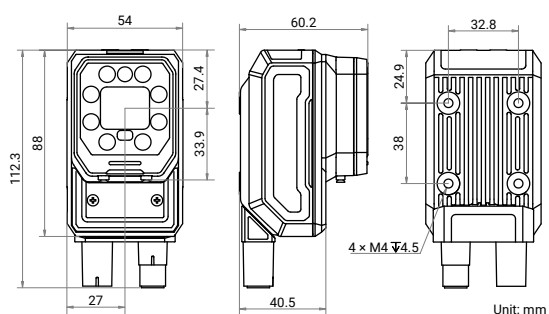
Specification

Model	MV-SC5100XC-**M-WBN	MV-SC5100XC-**L-WBN
Tool		
Function module	Vision Master Platform (include deep learning module)	
Communication protocol	TCP, UDP, Modbus, Serial Port, PROFINET, EtherNet/IP, Fins, MC, FTP, etc.	
Camera		
Sensor type	CMOS, rolling shutter	
Pixel size	2 μm × 2 μm	
Sensor size	1/1.8"	
Resolution	4096 × 2816	
Max. frame rate	10 fps	
Gain	0 dB to 37 dB	
Exposure time	33 μs to 150 ms	
Pixel format	Mono 8, RGB 8	
Mono/color	Color	
Platform		
Memory	8 GB	
Storage	64 GB	
Electrical feature		
Data interface	Gigabit Ethernet (1000 Mbit/s)	
Digital I/O	12-pin M12 connector provides power and I/O, including opto-isolated input × 3 (Line 0/1/2), opto-isolated output × 3 (Line 3/4/5), RS-232 × 1	
Power supply	24 VDC	
Power consumption	Avg. 12.3 W @ 24 VDC (with included light source on) Max. 48 W @ 24 VDC (with included light source on)	
Mechanical		
Lens mount	M12-mount, mechanical focusing	D14-mount, liquid lens focusing
Focal length	8 mm / 12 mm / 16 mm	8 mm / 12 mm / 16 mm
Lens cap	Half polarization lens cap by default. Transparent or full polarization lens cap is optional.	
Light source	White light source by default. Red, blue, or IR light source is optional.	
Indicator	Power indicator (PWR), network indicator (LNK), and user-defined indicator (U1/U2)	
Dimension	Straight angle: 112.3 mm × 54 mm × 60.2 mm (4.4" × 2.1" × 2.4") Right angle: 88.7 mm × 54 mm × 82.5 mm (3.5" × 2.1" × 3.2")	
Weight	Approx. 370 g (0.8 lb.)	
Ingress protection	IP67 (under proper installation of waterproof lens cap)	
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)	Working temperature: 0 °C to 40 °C (32 °F to 104 °F) Storage temperature: −30 °C to 70 °C (−22 °F to 158 °F)
Humidity	20% RH to 95% RH (no condensation)	

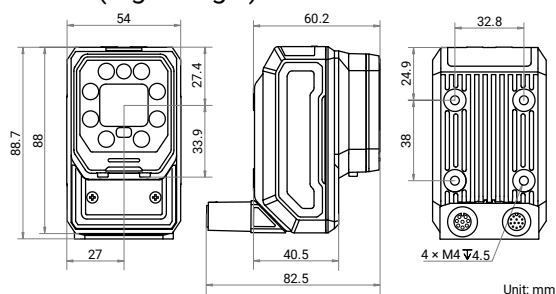
Vibration resistance	Meets standard IEC 60068-2-6:2007. Device only (without installation bracket): 10 Hz to 55 Hz, 1.5 mm peak-to-peak amplitude, 2 hours per axis (X, Y, Z)
Shock resistance	Meets standard IEC 60068-2-27:2008. Device only (without installation bracket): 30 g / 11 ms, half-sine wave, 500 shocks per axis (6 directions)
General	
Certification	CE, KC

Dimension

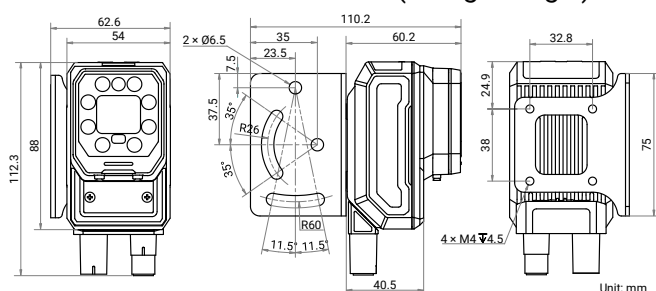
Device (Straight Angle):



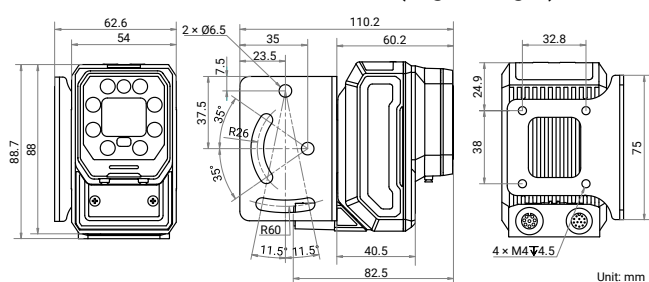
Device (Right Angle):



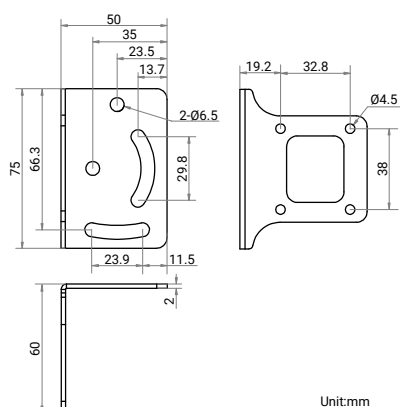
Device and Installation Bracket (Straight Angle):



Device and Installation Bracket (Right Angle):



Installation Bracket:



Detection Range

MV-SC5100XC-08/12/16M-WBN (Unit: mm)					
Lens Focal Length	Working Distance	Field of View		Single Pixel Accuracy	Field of View Diagram
		H	V		
8	25	25	17	0.01	
	100	100	69	0.02	
	200	201	138	0.05	
	300	301	207	0.07	
	600	602	414	0.15	
	1000	1003	690	0.24	
	2000	2006	1379	0.49	
12	60	41	28	0.01	
	100	68	46	0.02	
	200	135	93	0.03	
	300	203	139	0.05	
	600	406	279	0.10	
	1000	676	465	0.17	
	2000	1353	930	0.33	
16	100	51	35	0.01	
	150	77	53	0.02	
	300	153	105	0.04	
	400	205	141	0.05	
	600	307	211	0.07	
	1000	511	352	0.12	
	2000	1023	703	0.25	

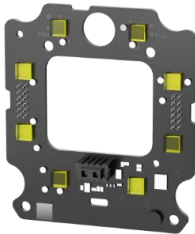
Detection Range

MV-SC5100XC-08/12/16L-WBN (Unit: mm)					
Lens Focal Length	Working Distance	Field of View		Single Pixel Accuracy	Field of View Diagram
		H	V		
8	100	102	70	0.02	
	200	205	141	0.05	
	300	307	211	0.07	
	500	511	352	0.12	
	1000	1023	703	0.25	
	1500	1534	1055	0.37	
	2000	2046	1407	0.50	
12	100	68	47	0.02	
	200	136	94	0.03	
	300	205	141	0.05	
	500	341	234	0.08	
	1000	682	469	0.17	
	1500	1023	703	0.25	
	2000	1364	938	0.33	
16	100	51	35	0.01	
	200	102	70	0.02	
	300	153	105	0.04	
	500	256	176	0.06	
	1000	511	352	0.12	
	1500	767	527	0.19	
	2000	1023	703	0.25	

Note: For liquid lens models, the minimum working distance in Fast Focus (ToF autofocus) mode is 100 mm.

Accessories

Included

Bracket	Half-Polarized Lens Cap	White Light Board	Screws
			-

Required

24V Power Supply	24V Power Adapter	AC Power Cables	Type-C Adapter Cable
			
12-Pin M12 to Open Power & I/O Cable		8-Pin M12 to RJ45 Gigabit Ethernet Cable	
● Cable for static scenes: 3 m/5 m/7 m/10 m/15 m/30 m ● High-flex cable: 3 m/5 m/10 m/ 20 m		● Cable for static scenes: 3 m/5 m/7 m/10 m/15 m/30 m ● High-flex cable: 3 m/5 m/10 m/ 20 m	
			

Optional

Transparent/Fully-Polarized/ESD Protective Caps	Red/Blue/IR Light Board	Flash Light Source
	