HIKROBOT

MV-ID5120RM

12 MP Industrial Code Reader

MV-ID5120RM industrial code reader can read different types of codes with reading speed up to 30 codes/sec. It adopts a 12 MP ultra-high resolution rolling shutter sensor and supports mechanical focusing and liquid lens focusing to achieve ultra-wide field of view and depth of field for code reading.

CE RoHS KC

Key Features

- Adopts a 12 MP high-performance rolling shutter sensor for high-speed image acquisition and high image quality.
- Adopts built-in deep learning algorithm to read codes with good robustness.
- Supports code score and quality evaluation for code printing.
- Supports communication protocols including TCP, Serial, FTP, Profinet, Melsec/SLMP, Ethernet/IP, ModBus, ModBus RTU, UDP, and FINS.
- Supports ingress protection IP67.

Typical Application

- PCB
- Automobile
- Food and drug
- New energy
- Consumer electronics

Specification

Model	MV-ID5120RM-**M-RBN	MV-ID5120RM-**L-RBN
Performance		
Symbologies	1D codes: Code 39, Code 93, Code 128 (GS1-128 included), CodaBar, EAN 8, EAN 13, UPCA, UPCE, ITF 14, ITF 25, Matrix 25, MSI, China Post, Code 11, Industrial 2of5, and Pharmacode 2D codes: QR Code (GS1-QR included), Data Matrix (GS1-DM included), MicroQR, AZTEC, HanXin Stacked codes: PDF417, MicroPDF417	
Max. frame rate	30 fps	
Max. reading speed	30 codes/sec	
Sensor type	CMOS, rolling shutter	
Pixel size	2 μm × 2 μm	
Sensor size	1/1.57”	
Resolution	4096 × 3024	
Exposure time	33 μs to 1 sec	
Gain	0 dB to 34 dB	
Mono/color	Mono	
Communication protocol	SmartSDK, TCP Client, Serial, FTP, TCP Server, Profinet, MELSEC/SLMP, Ethernet/IP, ModBus, ModBus RTU, UDP, Fins	
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 (LineIn 0/1/2) × 3, opto-isolated output (LineOut 3/4/5) × 3, RS-232 input × 1, and RS-232 output × 1. Supports device triggering via pressing button on device and smart tune.	
Power supply	24 VDC	
Power consumption	Avg.: 15.5 W @ 24 VDC (light source enabled) Max.: 36 W @ 24 VDC (light source enabled)	
Mechanical		
Focal length	8 mm / 12 mm / 16 mm / 25 mm	8 mm / 12 mm / 16 mm
Lens mount	M12-mount, mechanical focus supported	D14-mount, liquid lens focus supported
Lens cap	Half polarization lens cap by default. Transparent and full polarization caps are optional.	
Light source	Red light by default. White/blue/IR light is optional.	
Indicator	Multi-directional device body indicator	
Shell material	Metal	
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. 405 g (0.9 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	Device only: 10 Hz to 55 Hz, 1.5 mm full amplitude, 2 hours per axis (X/Y/Z) (IEC 60068-2-6:2007\GB/T 2423.10-2019)	
Shock resistance	Device only, 30 g / 11 ms, half-sine wave, 500 shocks per axis (6 directions) (IEC 60068-2-27\GB/T 2423.5-2019)	
General		
Client software	IDMVS	
Certification	CE, RoHS, KC	

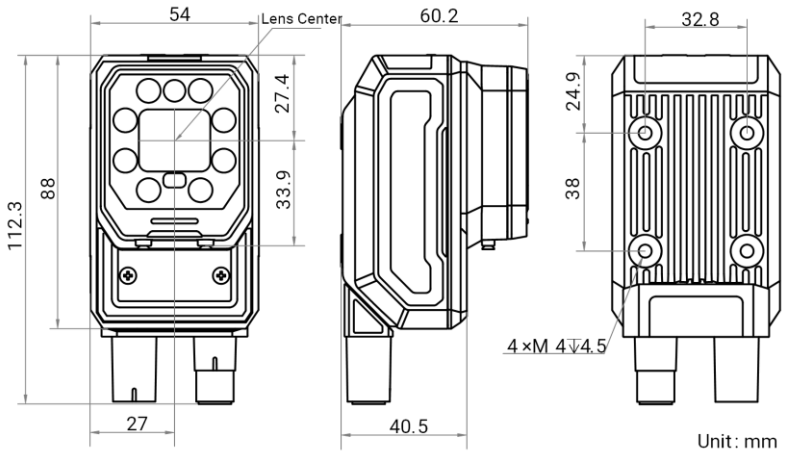
Available Model

- 8 mm focal length, mechanical focusing: MV-ID5120RM-08M-RBN
- 12 mm focal length, mechanical focusing: MV-ID5120RM-12M-RBN
- 16 mm focal length, mechanical focusing: MV-ID5120RM-16M-RBN
- 25 mm focal length, mechanical focusing: MV-ID5120RM-25M-RBN
- 8 mm focal length, liquid lens focusing: MV-ID5120RM-08L-RBN
- 12 mm focal length, liquid lens focusing: MV-ID5120RM-12L-RBN
- 16 mm focal length, liquid lens focusing: MV-ID5120RM-16L-RBN

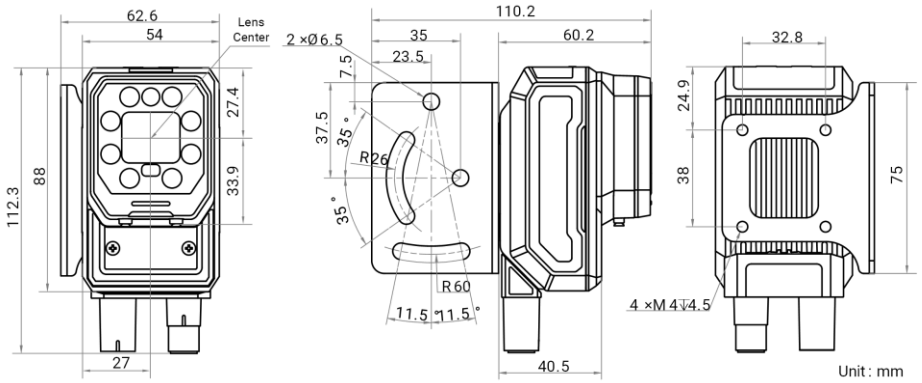
Dimension

MV-ID5120RM-**M/L-RBN

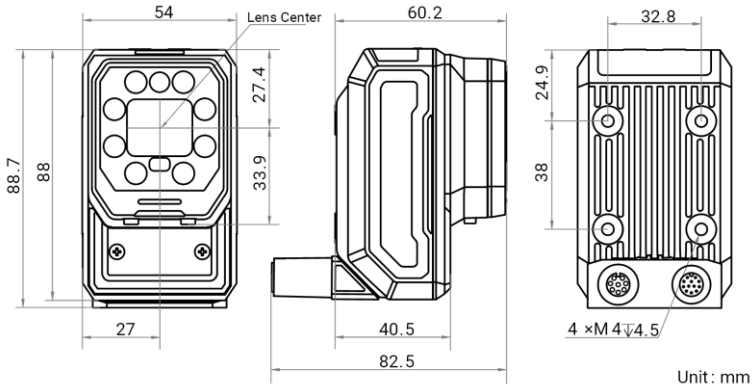
Device (Straight Angle)



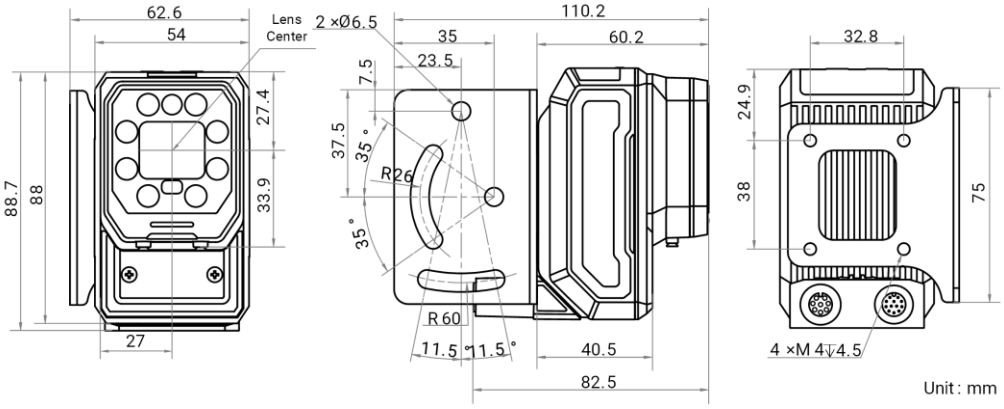
Device with Installation Bracket (Straight Angle)



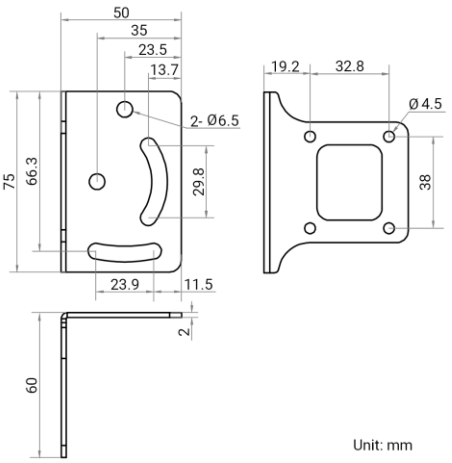
Device (Right Angle)



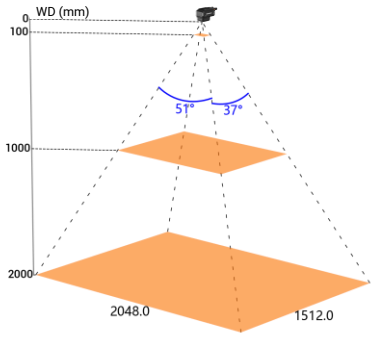
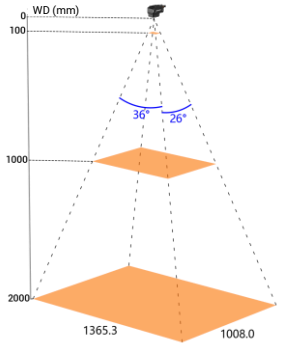
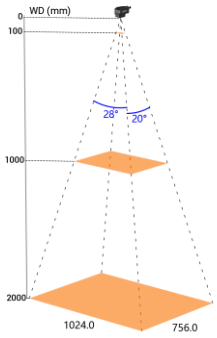
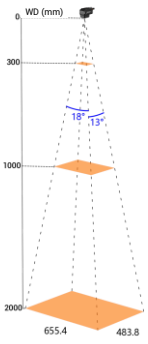
Device with Installation Bracket (Right Angle)



Installation Bracket



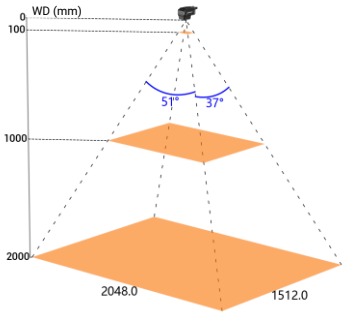
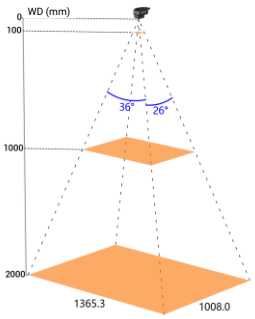
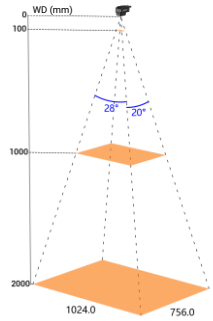
Detection Range

MV-ID5120RM-08/12/16/25M-RBN (Unit: mm)						
Lens Focal Length	Working Distance	Field of View		1D Min. Resolution*	2D Min. Resolution**	Diagram of Field of View
		H	V			
8	25	25.6	18.9	0.006	0.019	
	100	102.4	75.6	0.025	0.075	
	300	307.2	226.8	0.075	0.225	
	500	512.0	378.0	0.125	0.375	
	1000	1024.0	756.0	0.250	0.750	
	1500	1536.0	1134.0	0.375	1.125	
	2000	2048.0	1512.0	0.500	1.500	
12	60	41.0	30.2	0.010	0.030	
	100	68.3	50.4	0.017	0.050	
	300	204.8	151.2	0.050	0.150	
	500	341.3	252.0	0.083	0.250	
	1000	682.7	504.0	0.167	0.500	
	1500	1024.0	756.0	0.250	0.750	
	2000	1365.3	1008.0	0.333	1.000	
16	100	51.2	37.8	0.013	0.038	
	200	102.4	75.6	0.025	0.075	
	300	153.6	113.4	0.038	0.113	
	500	256.0	189.0	0.063	0.188	
	1000	512.0	378.0	0.125	0.375	
	1500	768.0	567.0	0.188	0.563	
	2000	1024.0	756.0	0.250	0.750	
25	230	75.4	55.6	0.018	0.055	
	300	98.3	72.6	0.024	0.072	
	500	163.8	121.0	0.040	0.120	
	800	262.1	193.5	0.064	0.192	
	1000	327.7	241.9	0.080	0.240	
	1500	491.5	362.9	0.120	0.360	
	2000	655.4	483.8	0.160	0.480	

1D Min. Resolution (mm): Field of view (long side) / resolution (long side) × 1.*

*2D Min. Resolution (mm)**: Field of view (long side) / resolution (long side) × 3.*

Detection Range

MV-ID5120RM-08/12/16L-RBN (Unit: mm)						
Lens Focal Length	Working Distance	Field of View		1D Min. Resolution*	2D Min. Resolution**	Diagram of Field of View
		H	V			
8	100	102.4	75.6	0.025	0.075	
	200	204.8	151.2	0.050	0.150	
	300	307.2	226.8	0.075	0.225	
	500	512.0	378.0	0.125	0.375	
	1000	1024.0	756.0	0.250	0.750	
	1500	1536.0	1134.0	0.375	1.125	
	2000	2048.0	1512.0	0.500	1.500	
12	100	68.3	50.4	0.017	0.050	
	200	136.5	100.8	0.033	0.100	
	300	204.8	151.2	0.050	0.150	
	500	341.3	252.0	0.083	0.250	
	1000	682.7	504.0	0.167	0.500	
	1500	1024.0	756.0	0.250	0.750	
	2000	1365.3	1008.0	0.333	1.000	
16	100	51.2	37.8	0.013	0.038	
	200	102.4	75.6	0.025	0.075	
	300	153.6	113.4	0.038	0.113	
	500	256.0	189.0	0.063	0.188	
	1000	512.0	378.0	0.125	0.375	
	1500	768.0	567.0	0.188	0.563	
	2000	1024.0	756.0	0.250	0.750	

1D Min. Resolution (mm): Field of view (long side) / resolution (long side) × 1.*

*2D Min. Resolution (mm)**: Field of view (long side) / resolution (long side) × 3.*

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