

MV-ID3050XM

5 MP Industrial Code Reader



Introduction

With functions of image acquisition, code recognition and output, MV-ID3050XM industrial code reader can read different types of 1D codes and 2D codes with reading speed up to 90 codes/sec. It adopts Hikrobot's deep learning algorithm to process images with good robustness, and can recognize various complex codes.

Applicable Industry

Consumer electronics, lithium battery, tobacco, medicine, photovoltaics, automobile, PCB, etc.

Available Model

- 8 mm focal length, mechanical focusing:
MV-ID3050XM-08M-RBN
- 12 mm focal length, mechanical focusing:
MV-ID3050XM-12M-RBN
- 16 mm focal length, mechanical focusing:
MV-ID3050XM-16M-RBN
- 25 mm focal length, mechanical focusing:
MV-ID3050XM-25M-RBN
- 8 mm focal length, liquid lens focusing:
MV-ID3050XM-8L-RBN
- 12 mm focal length, liquid lens focusing:
MV-ID3050XM-12L-RBN
- 16 mm focal length, liquid lens focusing:
MV-ID3050XM-16L-RBN

Key Features

- Adopts built-in deep learning algorithm to read codes with good robustness.
- Adopts CMOS sensor to acquire high-quality images.
- Device with liquid lens combined with ToF can achieve fast image settings and real-time focusing.
- Supports one-key auto adjustment and easy to operate.
- Adopts multiple indicators displaying device status from different sides.
- Rotatable cable design for flexible mounting.
- Good environmental compatibility with illuminating system.
- Adopts I/O interfaces for input and output signals.
- Ingress Protection Rating 67.

Note

Looking directly at the device may cause harm to the eyes. Protective measures like wearing protective glasses should be taken in the process of installation, maintenance and debugging.

Specification

Model	MV-ID3050XM-08M-RBN	MV-ID3050XM-12M-RBN	MV-ID3050XM-16M-RBN	MV-ID3050XM-25M-RBN
Performance				
Symbologies	1D codes: Code 39, Code 93, Code 128 (include GS1-128), CodaBar, EAN 8, EAN 13, ITF14, ITF25, UPCA, UPCE, Matrix 25, MSI, Code 11, Industrial 2of5, China Post, Pharmacode (one/two-track)			
	2D matrix codes: QR Code (include GS1-QR), Data Matrix (include GS1-DM), MicroQR, AZTEC, HanXin, Maxi Code			
	Stacked codes: PDF 417, MicroPDF417			
Max. frame rate	60 fps			
Max. reading speed	54 codes/sec			
Sensor type	CMOS, global shutter, mono, 1/1.45", 3.45 μm × 3.45 μm			
Resolution	2432 × 2048			
Exposure time	6 μs to 30000 μs			
Gain	0 dB to 24 dB			
Electrical feature				
Data interface	Fast Ethernet (100 Mbit/s)			
Communication protocol	SmartSDK, TCP Client, TCP Server, Serial, FTP, Profinet, MELSEC/SLMP, Ethernet/IP, ModBus, Fins, UDP			
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, and RS-232 × 1. Triggering the device is supported via pressing the top button.			
Power supply	24 VDC			
Power consumption	Avg.: 6.2 W @ 24 VDC (light source enabled) Max.: 16.8 W @ 24 VDC (light source enabled)			
Mechanical				
Focal length	8 mm	12 mm	16 mm	25 mm
Field of view	54° (H) × 46° (V)	38° (H) × 32° (V)	29° (H) × 24° (V)	19° (H) × 16° (V)
Lens mount	M12-mount, mechanical focus			
Lens cap	Transparent + polarized + diffused lens cap			
Light source	Red point light source + white diffused light source. White/blue/IR/UV point light source is optional.			
Aiming system	Orange LED			
Indicator	Device body indicator, reading result indicator			
Shell material	Metal			
Dimension	Straight angle: 80.1 mm × 43 mm × 44.3 mm (3.2" × 1.7" × 1.7") Right angle: 58.5 mm × 43 mm × 65.4 mm (2.3" × 1.7" × 2.6")			
Weight	Approx. 195 g (0.4 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)			
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			

Model	MV-ID3050XM-08L-RBN	MV-ID3050XM-12L-RBN	MV-ID3050XM-16L-RBN
Performance			
Symbologies	1D codes: Code 39, Code 93, Code 128 (include GS1-128), CodaBar, EAN 8, EAN 13, ITF14, ITF25, UPCA, UPCE, Matrix 25, MSI, Code 11, Industrial 2of5, China Post, Pharmacode (one/two-track)		
	2D matrix codes: QR Code (include GS1-QR), Data Matrix (include GS1-DM), MicroQR, AZTEC, HanXin, Maxi Code		
	Stacked codes: PDF 417, MicroPDF417		
Max. frame rate	60 fps		
Max. reading speed	90 codes/sec		
Sensor type	Global shutter, mono, 1/1.45", 3.45 μm × 3.45 μm		
Resolution	2432 × 2048		
Exposure time	6 μs to 30000 μs		
Gain	0 dB to 24 dB		
Electrical feature			
Data interface	Fast Ethernet (100 Mbit/s)		
Communication protocol	SmartSDK, TCP Client, TCP Server, Serial, FTP, Profinet, MELSEC/SLMP, Ethernet/IP, ModBus, Fins, UDP		
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, and RS-232 × 1. Triggering the device is supported via pressing the top button.		
Power supply	24 VDC		
Power consumption	Avg.: 6.2 W @ 24 VDC (light source enabled) Max.: 16.8 W @ 24 VDC (light source enabled)		
Mechanical			
Focal length	8 mm	12 mm	16 mm
Field of view	55° (H) × 47° (V)	38° (H) × 32° (V)	29° (H) × 24° (V)
Lens mount	D14-mount, liquid lens focus		
Lens cap	Transparent + polarized + diffused lens cap		
Light source	Red point light source + white diffused light source. White/blue/IR/UV point light source is optional.		
Aiming system	Orange LED		
Indicator	Device body indicator, reading result indicator		
Shell material	Metal		
Dimension	Straight angle: 80.1 mm × 43 mm × 44.3 mm (3.2" × 1.7" × 1.7") Right angle: 58.5 mm × 43 mm × 65.4 mm (2.3" × 1.7" × 2.6")		
Weight	Approx. 195 g (0.4 lb.)		
Ingress protection	IP67 (under proper installation of waterproof lens cap)		
Temperature	Working temperature: 0 °C to 45 °C (32 °F to 113 °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		

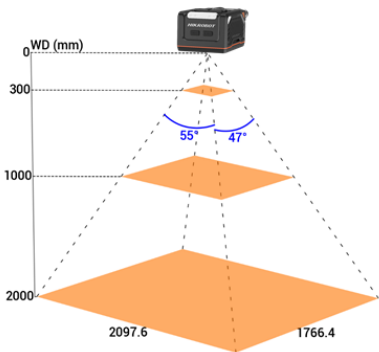
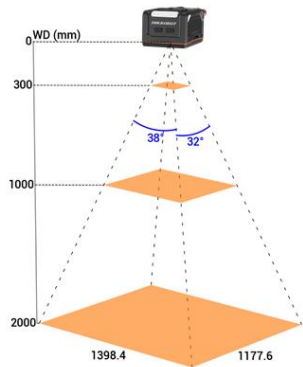
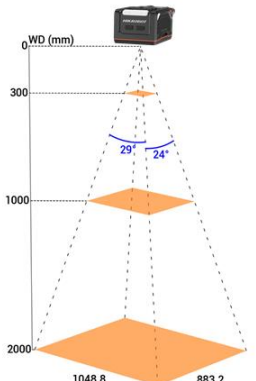
Detection Range

MV-ID3050XM-**M-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	30	30.8	26.0	0.013	0.038	
	100	102.8	86.6	0.042	0.127	
	300	308.5	259.8	0.127	0.381	
	600	616.9	519.5	0.254	0.761	
	1000	1028.2	865.9	0.423	1.268	
	2000	2056.5	1731.8	0.846	2.537	
12	60	42.0	35.3	0.017	0.052	
	100	69.9	58.9	0.029	0.086	
	300	209.8	176.6	0.086	0.259	
	600	419.5	353.3	0.173	0.518	
	1000	699.2	588.8	0.288	0.863	
	2000	1398.4	1177.6	0.575	1.725	
16	110	57.7	48.6	0.024	0.071	
	200	104.9	88.3	0.043	0.129	
	300	157.3	132.5	0.065	0.194	
	600	314.6	265.0	0.129	0.388	
	1000	524.4	441.6	0.216	0.647	
	2000	1048.8	883.2	0.431	1.294	
25	230	77.2	65.0	0.032	0.095	
	300	100.7	84.8	0.041	0.124	
	600	201.4	169.6	0.083	0.248	
	1000	335.6	282.6	0.138	0.414	
	2000	671.2	565.2	0.276	0.828	

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-ID3050XM-**-L-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	50	52.4	44.2	0.022	0.065	
	100	104.9	88.3	0.043	0.129	
	300	314.6	265.0	0.129	0.388	
	600	629.3	529.9	0.259	0.776	
	1000	1048.8	883.2	0.431	1.294	
	1500	1573.2	1324.8	0.647	1.941	
	2000	2097.6	1766.4	0.863	2.588	
12	80	55.9	47.1	0.023	0.069	
	100	69.9	58.9	0.029	0.086	
	300	209.8	176.6	0.086	0.259	
	600	419.5	353.3	0.173	0.518	
	1000	699.2	588.8	0.288	0.863	
	1500	1048.8	883.2	0.431	1.294	
	2000	1398.4	1177.6	0.575	1.725	
16	100	52.4	44.2	0.022	0.065	
	200	104.9	88.3	0.043	0.129	
	300	157.3	132.5	0.065	0.194	
	600	314.6	265.0	0.129	0.388	
	1000	524.4	441.6	0.216	0.647	
	1500	786.6	662.4	0.323	0.970	
	2000	1048.8	883.2	0.431	1.294	

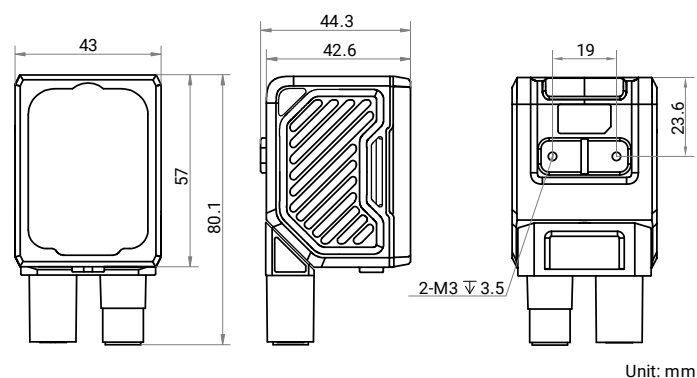
1D Min. Resolution (mm)*: Field of view (long side) / resolution (long side) × 1).

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

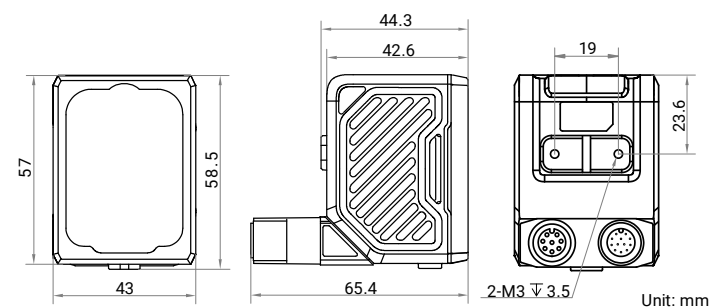
Min. working distance for device with liquid lens combined with ToF: 100 mm.

Dimension

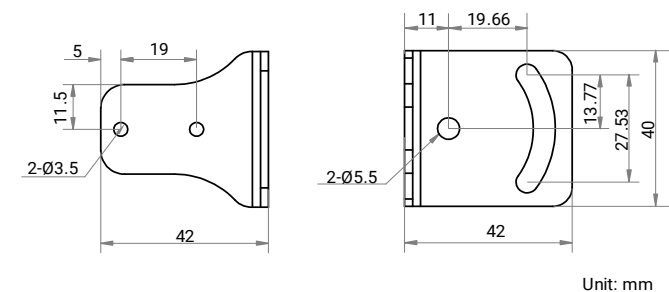
Device (Straight Angle):



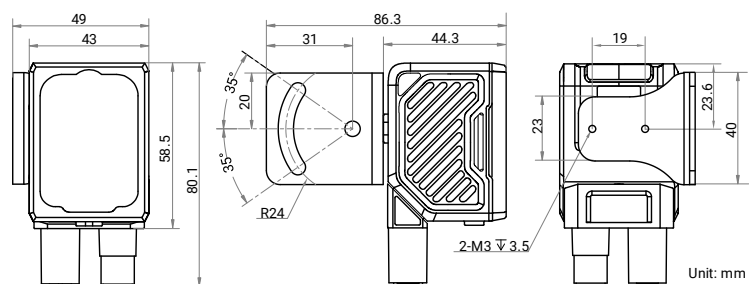
Device (Right Angle):



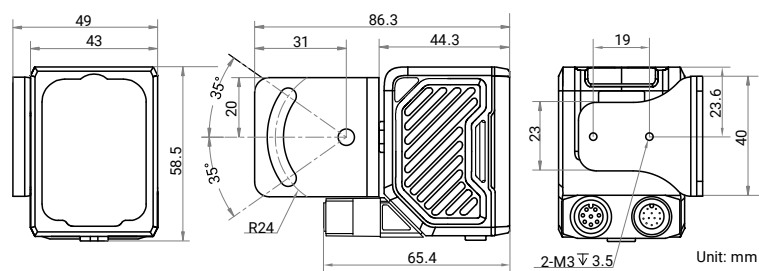
Installation Bracket:



Device and Installation Bracket (Straight Angle):



Device and Installation Bracket (Right Angle):



Included

Power and I/O Cable 3 m (for Static Scenes)	Network Cable 3 m (for Static Scenes)	Bracket	Screws
			-

Required

Power Cable for Adapter	Power Adapter
	

Optional

Power and I/O Cable	Network Cable	Light Board	Lens Cap
● 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 ● High-flex cable with DB header: 3 m/5 m/7 m/10 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	Red/white/blue/IR/UV light	Transparent/fully-polarized/half-polarized lens cap
		-	
External Accessories Ultra-small code accessory, YAG protective cover, ESD protective cap, light uniforming cover			
			