MV-ID3016XM

1.6 MP Industrial Code Reader

Introduction

With functions of image acquisition, code recognition and output, MV-ID3016XM industrial code reader can read different types of 1D codes and 2D codes with reading speed up to 110 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-ID3016XM-08M-RBN
- 12 mm focal length, mechanical focusing: MV-ID3016XM-12M-RBN
- 16 mm focal length, mechanical focusing: MV-ID3016XM-16M-RBN
- 25 mm focal length, mechanical focusing: MV-ID3016XM-25M-RBN
- 8 mm focal length, liquid lens focusing: MV-ID3016XM-8L-RBN
- 12 mm focal length, liquid lens focusing: MV-ID3016XM-12L-RBN
- 16 mm focal length, liquid lens focusing: MV-ID3016XM-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

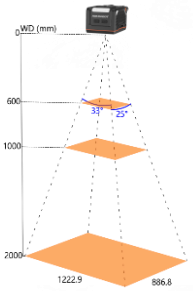
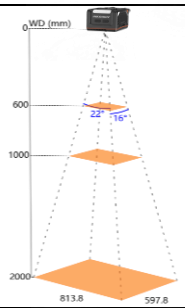
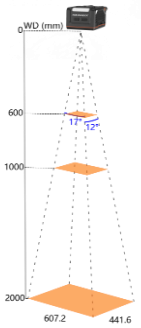
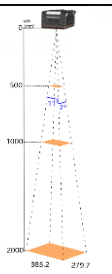
Looking directly at the device may cause harm to the eyes. Protective measures like wearing protective glasses should be taken in the process of installation, maintenance and debugging.

Specification

Model	MV-ID3016XM-**M-RBN	MV-ID3016XM-**L-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	110 codes/sec	
Sensor type	CMOS, global shutter	
Pixel size	3.45 μm × 3.45 μm	
Sensor size	1/2.53"	
Resolution	1408 × 1200	
Exposure time	25 μs to 30000 μs	
Gain	0 dB to 24 dB	
Mono/color	Mono	
Communication protocol	SmartSDK, TCP Client, TCP Server, Serial, FTP, Profinet, MELSEC/SLMP, Ethernet/IP, ModBus, Fins, UDP	
Electrical feature		
Data interface	Fast Ethernet (100 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, 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	8 mm / 12 mm / 16 mm
Lens mount	M12-mount, mechanical focus	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 50 °C (32 °F to 122 °F); storage temperature: –30 °C to 70 °C (–22 °F to 158 °F)	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

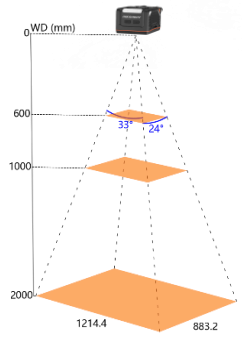
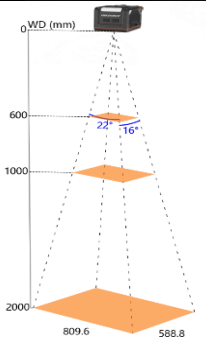
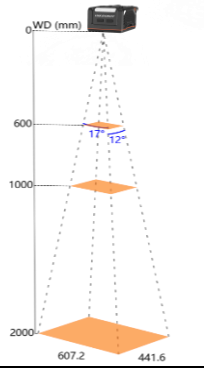
Detection Range

MV-ID3016XM-**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	25	15.3	11.1	0.011	0.032	
	100	61.1	44.3	0.043	0.130	
	300	183.4	133	0.130	0.390	
	600	366.9	266	0.261	0.779	
	1000	611.5	443.4	0.400	1.300	
	2000	1222.9	886.8	0.900	2.600	
12	60	24.4	17.9	0.017	0.053	
	100	40.7	29.9	0.029	0.088	
	300	122.1	89.7	0.087	0.263	
	600	244.1	179.3	0.173	0.525	
	1000	406.9	298.9	0.300	0.900	
	2000	813.8	597.8	0.600	1.800	
16	110	33.4	24.3	0.024	0.071	
	200	60.7	44.2	0.043	0.129	
	300	91.1	66.2	0.065	0.194	
	600	182.2	132.5	0.129	0.388	
	1000	303.6	220.8	0.216	0.647	
	1500	455.4	331.2	0.323	0.970	
	2000	607.2	441.6	0.431	1.294	
25	230	44.3	32.2	0.031	0.094	
	300	57.8	42	0.041	0.123	
	500	96.3	69.9	0.068	0.205	
	1000	192.6	139.9	0.100	0.400	
	2000	385.2	279.7	0.300	0.800	

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

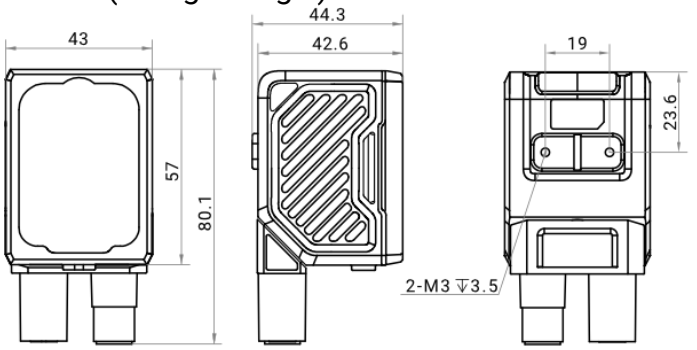
MV-ID3016XM-**L-RBN (Unit: mm)						
Lens Focal Length	Working Distance	Field of View		1D Min. Resolution*	2D Min. Resolution**	Diagram of Field of View
		H	V			
8L	50	30.4	22.1	0.022	0.065	
	100	60.7	44.2	0.043	0.129	
	300	182.2	132.5	0.129	0.388	
	600	364.3	265.0	0.259	0.776	
	1000	607.2	441.6	0.431	1.294	
	1500	910.8	662.4	0.647	1.941	
	2000	1214.4	883.2	0.863	2.588	
12L	70	28.3	20.6	0.020	0.060	
	100	40.5	29.4	0.029	0.086	
	300	121.4	88.3	0.086	0.259	
	600	242.9	176.6	0.173	0.518	
	1000	404.8	294.4	0.288	0.863	
	1500	607.2	441.6	0.431	1.294	
	2000	809.6	588.8	0.575	1.725	
16L	80	24.3	17.7	0.017	0.052	
	100	30.4	22.1	0.022	0.065	
	300	91.1	66.2	0.065	0.194	
	600	182.2	132.5	0.129	0.388	
	1000	303.6	220.8	0.216	0.647	
	1500	455.4	331.2	0.323	0.970	
	2000	607.2	441.6	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).*

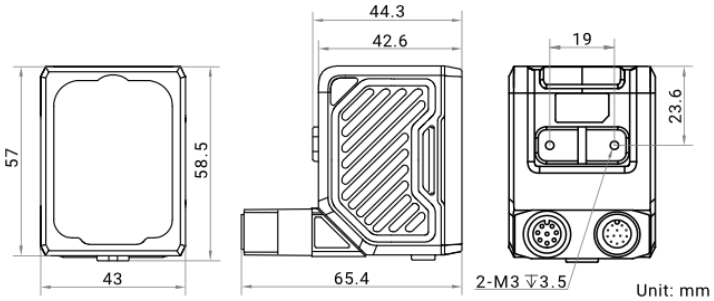
Dimension

Device (Straight Angle):



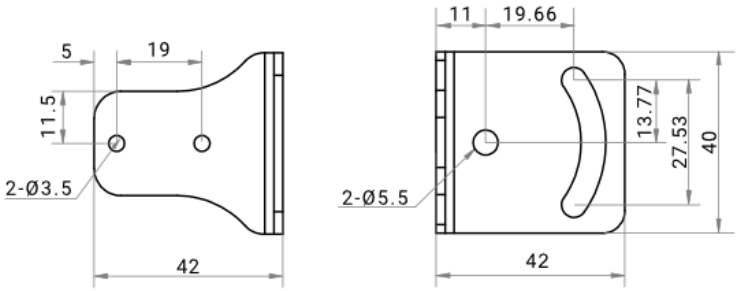
Unit: mm

Device (Right Angle):



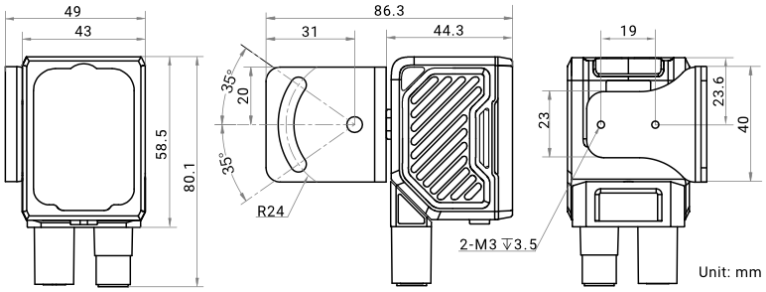
Unit: mm

Installation Bracket:



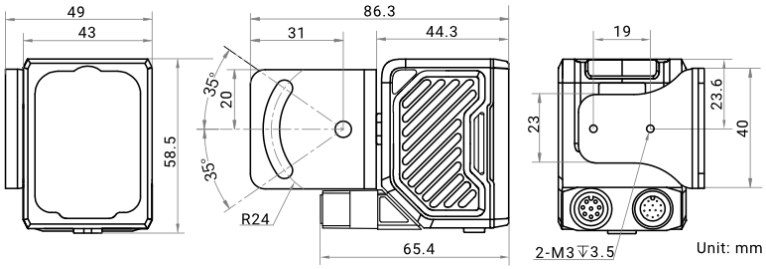
Unit: mm

Device and Installation Bracket (Straight Angle):



Unit: mm

Device and Installation Bracket (Right Angle):



Unit: mm

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