MV-ID3016PM

1.6 MP Industrial Code Reader



Introduction

MV-ID3016PM industrial code reader can read different types of codes with reading speed up to 84 codes/sec. It adopts Hikrobot's deep learning algorithm to process images with good robustness, and can recognize various complex codes.

Key Features

- Adopts built-in deep learning algorithm to read codes with good robustness.
- Adopts multiple I/O interfaces for input and output signals.
- Supports waterproof debugging button, and manual triggering.
- Adopts ring light on the top for viewing operation status.
- Adopts result indicator on both sides for viewing OK/NG code reading status.
- Adopts modularized light source design and easy to replace.

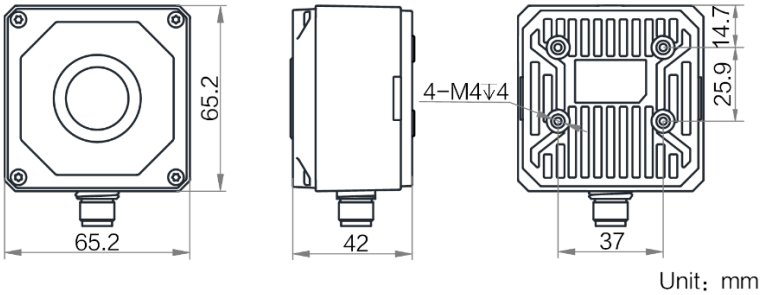
Applicable Industry

Consumer electronics, food and beverage, pharmaceutical, semiconductor, automobile, etc.

Available Model

- 6 mm focal length: MV-ID3016PM-06M-WBN
- 12 mm focal length: MV-ID3016PM-12M-WBN
- 15 mm focal length: MV-ID3016PM-15M-WBN
- 25 mm focal length: MV-ID3016PM-25M-WBN

Dimension

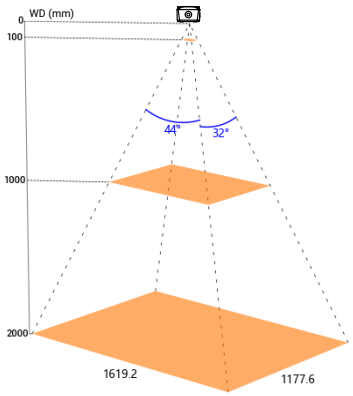
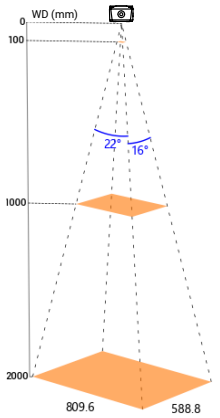
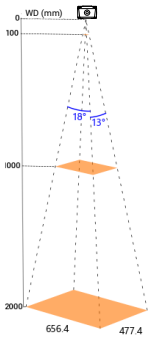


Specification

Model	MV-ID3016PM-06M-WBN V2.0	MV-ID3016PM-12M-WBN V2.0	MV-ID3016PM-15M-WBN V2.0
Performance			
Symbologies	1D codes: Code 39, Code 93, Code 128, CodaBar, EAN 8, EAN 13, UPCA, UPCE, ITF 14, ITF 25, Matrix 25, MSI, China Post, Code 11, Industrial 25, and Pharmacode 2D matrix codes: QR Code (GS1-QR included), Data Matrix (GS1-DM included), MicroQR, AZTEC, HanXin, Maxi code Stacked codes: PDF417, MicroPDF417		
Max. frame rate	60 fps		
Max. reading speed	84 codes/sec		
Sensor type	Global shutter, mono, 1/2.9", 3.45 μm × 3.45 μm		
Resolution	1408 × 1024		
Exposure time	16 μs to 1 sec		
Gain	0 dB to 45 dB		
Electrical feature			
Data interface	Fast Ethernet (100 Mbit/s)		
Communication protocol	SmartSDK, TCP Client, TCP Server, Serial, FTP, Profinet, Ethernet/IP, MELSEC/SLMP, ModBus, UDP, Fins, Modbus RTU, KV		
Digital I/O	17-pin M12 connector provides power and I/O, including non-isolated input (LineIn 0/1/2) × 3, non-isolated output (LineOut 3/4/5) × 3, RS-232 × 1. Supports device triggering via pressing button on top.		
Power supply	24 VDC		
Power consumption	Avg.: 9 W @ 24 VDC (light source enabled) Max.: 48 W @ 24 VDC (light source enabled)		
Mechanical			
Focal length	6 mm	12 mm	15 mm
Field of view	44° (H) × 32° (V)	22° (H) × 16° (V)	18° (H) × 13° (V)
Lens mount	M12-mount, mechanical focus supported		
Lens cap	Transparent lens cap by default. Fully-polarized lens cap is optional.		
Light source	White light by default. Red/blue/IR/UV/ two-color (red/blue) light is optional.		
Indicator	Power indicator (PWR), network indicator (LNK), status indicator (STS), result indicator (OK/NG)		
Shell material	ADC12		
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 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-ID3016PM-06M-WBN V3.0	MV-ID3016PM-12M-WBN V3.0	MV-ID3016PM-15M-WBN V3.0	MV-ID3016PM-25M-WBN V3.0
Performance				
Symbologies	1D codes: Code 39, Code 93, Code 128, CodaBar, EAN 8, EAN 13, UPCA, UPCE, ITF 14, ITF 25, Matrix 25, MSI, China Post, Code 11, Industrial 25, and Pharmacode 2D matrix codes: QR Code (GS1-QR included), Data Matrix (GS1-DM included), MicroQR, AZTEC, HanXin, Maxi code Stacked codes: PDF417, MicroPDF417			
Max. frame rate	60 fps			
Max. reading speed	84 codes/sec			
Sensor type	Global shutter, mono, 1/2.9", 3.45 μm × 3.45 μm			
Resolution	1408 × 1200			
Exposure time	16 μs to 1 sec			
Gain	0 dB to 45 dB			
Electrical feature				
Data interface	Fast Ethernet (100 Mbit/s)			
Communication protocol	SmartSDK, TCP Client, TCP Server, Serial, FTP, Profinet, Ethernet/IP, MELSEC/SLMP, ModBus, UDP, Fins, Modbus RTU, KV			
Digital I/O	17-pin M12 connector provides power and I/O, including isolated input (LineIn 0/1/2) × 3, isolated output (LineOut 3/4/5) × 3, RS-232 × 1. Supports device triggering via pressing button on top.			
Power supply	24 VDC			
Power consumption	Avg.: 9 W @ 24 VDC (light source enabled) Max.: 48 W @ 24 VDC (light source enabled)			
Mechanical				
Focal length	6 mm	12 mm	15 mm	25 mm
Field of view	44° (H) × 38° (V)	22° (H) × 19° (V)	18° (H) × 15° (V)	11° (H) × 9° (V)
Lens mount	M12-mount, mechanical focus supported			
Lens cap	Transparent lens cap by default. Fully-polarized lens cap is optional.			
Light source	White light by default. Red/blue/IR/UV/ two-color (red/blue) light is optional.			
Indicator	Power indicator (PWR), network indicator (LNK), status indicator (STS), result indicator (OK/NG)			
Shell material	ADC12			
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 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			

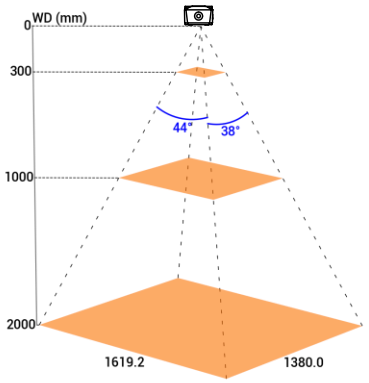
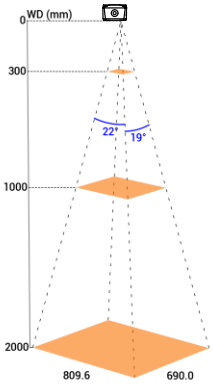
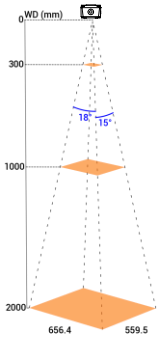
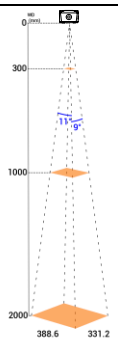
Detection Range

MV-ID3016PM V2.0 (Unit: mm)						
Lens Focal Length	Working Distance	Field of View		1D Min. Resolution*	2D Min. Resolution**	Diagram of Field of View
		H	V			
6	30	24.3	17.7	0.017	0.052	
	100	81.0	58.9	0.058	0.173	
	200	161.9	117.8	0.115	0.345	
	300	242.9	176.6	0.173	0.518	
	600	485.8	353.3	0.345	1.035	
	1000	809.6	588.8	0.575	1.725	
	2000	1619.2	1177.6	1.150	3.450	
12	60	24.3	17.7	0.017	0.052	
	100	40.5	29.4	0.029	0.086	
	200	81	58.9	0.058	0.173	
	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	
	2000	809.6	588.8	0.575	1.725	
15	110	36.1	26.3	0.026	0.077	
	200	65.6	47.7	0.047	0.140	
	300	98.5	71.6	0.070	0.210	
	600	196.9	143.2	0.140	0.420	
	1000	328.2	238.7	0.233	0.699	
	2000	656.4	477.4	0.466	1.399	

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.*

MV-ID3016PM V3.0 (Unit: mm)						
Lens Focal Length	Working Distance	Field of View		1D Min. Resolution*	2D Min. Resolution**	Diagram of Field of View
		H	V			

6	30	24.3	20.7	0.017	0.052	
	100	81.0	69.0	0.058	0.173	
	200	161.9	138.0	0.115	0.345	
	300	242.9	207.0	0.173	0.518	
	600	485.8	414.0	0.345	1.035	
	1000	809.6	690.0	0.575	1.725	
	2000	1619.2	1380.0	1.150	3.450	
12	60	24.3	20.7	0.017	0.052	
	100	40.5	34.5	0.029	0.086	
	200	81.0	69.0	0.058	0.173	
	300	121.4	103.5	0.086	0.259	
	600	242.9	207.0	0.173	0.518	
	1000	404.8	345.0	0.288	0.863	
	2000	809.6	690.0	0.575	1.725	
15	110	36.1	30.8	0.026	0.077	
	200	65.6	55.9	0.047	0.140	
	300	98.5	83.9	0.070	0.210	
	600	196.9	167.8	0.140	0.420	
	1000	328.2	279.7	0.233	0.699	
	2000	656.4	559.5	0.466	1.399	
25	230	230	44.7	38.1	0.032	
	300	300	58.3	49.7	0.041	
	600	600	116.6	99.4	0.083	
	1000	1000	194.3	165.6	0.138	
	2000	2000	388.6	331.2	0.276	

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.*

Accessories

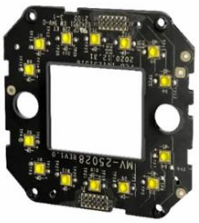
Included

Cable	Bracket	Screws
		

Required

AC Power Cable	Power Adapter
	

Optional

Power Cable	Light Board	Light Board	IO Box
● Cable with male header for static scenes: 3 m/5 m/7 m/10 m/15 m ● Cable with male header for static scenes (angled): 3 m/10 m ● Cable with female header for static scenes (angled): 5 m ● Cable with female header for static scenes: 3 m ● High-flex cable with male header: 3 m/5 m/7 m/10 m/15 m ● High-flex cable with male header (angled): 3 m ● High-flex cable with female header: 3 m ● Super-flex cable with male header: 5 m	Red/white/blue/IR/UV/two-color (red/blue) light	Transparent/fully-polarized lens cap	Use it to provide power supply for devices with V2.0 version.
			

Note:

- Compared with V2.0 devices, V3.0 devices feature isolated I/O interfaces and vary in I/O wiring. Refer to the user manual for I/O wiring details of each version.
- For V2.0 non-isolated devices, it is recommended to use an external power or use an IO box for power supply.
- The power cable is used in static scenes by default, which is unsuitable for dynamic scenes such as drag chains. It must be fixed in place.

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