

MV-ID2013EMI

1.3 MP Industrial Code Reader


RoHS


Introduction

MV-ID2013EMI industrial code reader can read different types of 1D and 2D codes, and its max. reading speed reaches 30 codes/sec. It adopts deep learning algorithm to process images with good robustness, and can recognize various codes.

Applicable Industry

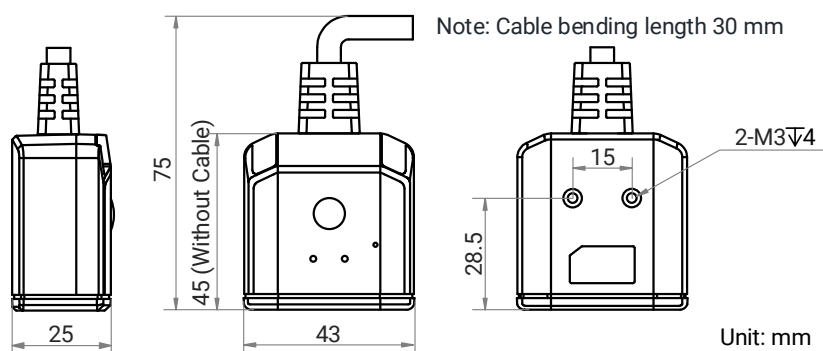
Manual or semi-automated workstation in low-speed and static scenarios, etc.

Key Features

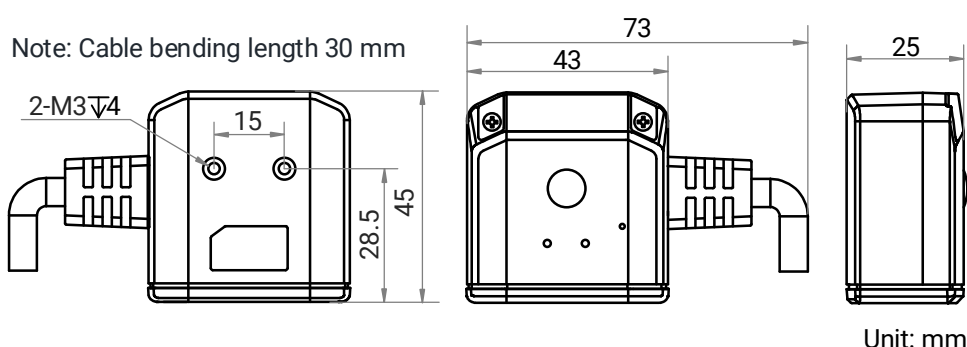
- Compact design and small in size.
- Adopts multiple I/O interfaces and plug-in power interface.
- Adopts LED aiming light to help aim codes.
- Adopts buzzer and indicator for indicating device status.
- Supports one-click parameter adjustment for convenient operation.
- Supports light source control for flexible configuration.

Dimension

Cable on the bottom



Cable on the side



Model	MV-ID2013EMI-05-RBN(-U/-S/-SU)	MV-ID2013EMI-05-RBP(-U/-S/-SU)	MV-ID2013EMI-05-WBN(-U/-S/-SU)	MV-ID2013EMI-05-WBP(-U/-S/-SU)
Performance				
Symbologies	1D codes: Code 39, Code 93, Code 128, EAN8, EAN13, ITF 14, ITF 25, CodaBar, UPCA, UPCE 2D codes: QR Code, Data Matrix, MicroQR, AZTEC, HanXin Stacked codes: PDF417			
Max. frame rate	50 fps			
Max. reading speed	30 codes/sec			
Sensor type	CMOS, global shutter, mono, 1/4", 2.7 μm × 2.7 μm			
Resolution	1280 × 1024			
Exposure time	60 μs to 6000 μs			
Gain	1 dB to 28 dB			
Depth of field*	Code 39 (5 mil): 75 mm to 215 mm; Code 128 (10 mil): 50 mm to 400 mm EAN 13 (13 mil): 60 mm to 420 mm; QR Code (15 mil): 40 mm to 290 mm Data Matrix (10 mil): 50 mm to 240 mm			
Electrical feature				
Data interface	Network interface: Fast Ethernet (100 Mbit/s), RS-232, DC terminal; USB interface: USB 2.0			
Communication protocol	Network interface: SmartSDK, TCP Client, Serial, FTP, TCP Server, UDP, Profinet, Ethernet/IP USB interface: SmartSDK, USB (HID, CDC)			
Digital I/O	Network interface: DB15 connector provides power and I/O, including opto-isolated input × 2 (Line 0/1), opto-isolated output × 2 (Line 3/4), RS-232 × 1 USB interface: DB15 connector provides data transmission. Supports device triggering and factory reset via pressing button on side.			
Power supply	Network interface: 12 VDC to 24 VDC USB interface: 5 VDC (Recommended: USB 3.0 provides power supply)			
Power consumption	Network interface: avg.: 2.5 W @ 12 VDC to 24 VDC; max.: 5 W @ 12 VDC to 24 VDC USB interface: avg.: 2.5 W @ 5 VDC; max.: 5 W @ 5 VDC			
Mechanical				
Focal length	4.63 mm			
Focus distance	120 mm			
Field of view	40°(H) × 33°(V)			
Lens mount	M5.8-mount			
Ambient illumination	0 lux to 10000 lux			
Light source	Red	Red (polarized)	White	White (polarized)
Aiming system	Green LED			
Indicator	Power indicator (POWER), status indicator (OK/NG)			
Shell material	PVC			
Dimension	45 mm × 43 mm × 25 mm (1.8" × 1.7" × 1.0")			
Weight	Approx. 68.5 g (0.2 lb.)			
Ingress protection	IP54			
Temperature	Working temperature: 0 °C to 50 °C; storage temperature: −30 °C to 70 °C			
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-ID2013EMI-05H-RBN(-U/-S/-SU)	MV-ID2013EMI-05H-RBP	MV-ID2013EMI-05N-RBN(-U/-S/-SU)	MV-ID2013EMI-05N-RBP
Performance				
Symbologies	1D codes: Code 39, Code 93, Code 128, EAN8, EAN13, ITF 14, ITF 25, CodaBar, UPCA, UPCE 2D codes: QR Code, Data Matrix, MicroQR, AZTEC, HanXin Stacked codes: PDF417			
Max. frame rate	50 fps			
Max. reading speed	30 codes/sec			
Sensor type	CMOS, global shutter, mono, 1/4", 2.7 μm × 2.7 μm			
Resolution	1280 × 1024			
Exposure time	60 μs to 6000 μs			
Gain	1 dB to 28 dB			
Depth of field*	Code 39 (3 mil): 35 mm to 65 mm Code 39 (5 mil): 30 mm to 75 mm EAN 13 (13 mil): 55 mm to 105 mm Data Matrix (5 mil): 30 mm to 65 mm Data Matrix (10 mil): 25 mm to 90 mm Code 128 (10 mil): 25 mm to 105 mm QR Code (10 mil): 25 mm to 95 mm		Code 39 (3 mil): 45 mm to 90 mm Code 39 (5 mil): 35 mm to 105 mm EAN 13 (13 mil): 50 mm to 125 mm Data Matrix (5 mil): 40 mm to 80 mm Data Matrix (10 mil): 25 mm to 125 mm Code 128 (10 mil): 40 mm to 140 mm QR Code (10 mil): 30 mm to 120 mm	
Electrical feature				
Data interface	Network interface: Fast Ethernet (100 Mbit/s), RS-232, DC terminal; USB interface: USB 2.0			
Communication protocol	Network interface: SmartSDK, TCP Client, Serial, FTP, TCP Server, UDP, Profinet, Ethernet/IP USB interface: SmartSDK, USB (HID, CDC)			
Digital I/O	Network interface: DB15 connector provides power and I/O, including opto-isolated input × 2 (Line 0/1), opto-isolated output × 2 (Line 3/4), RS-232 × 1; USB interface: DB15 connector provides data transmission. Supports device triggering and factory reset via pressing button on side.			
Power supply	Network interface: 12 VDC to 24 VDC USB interface: 5 VDC (Recommended: USB 3.0 provides power supply)			
Power consumption	Network interface: avg.: 2.5 W @ 12 VDC to 24 VDC; max.: 5 W @ 12 VDC to 24 VDC USB interface: avg.: 2.5 W @ 5 VDC; max.: 5 W @ 5 VDC			
Mechanical				
Focal length	4.63 mm			
Focus distance	40 mm		70 mm	
Field of view	40°(H) × 33°(V)			
Lens mount	M5.8-mount			
Ambient illumination	0 lux to 10000 lux			
Light source	Red	Red (polarized)	Red	Red (polarized)
Aiming system	Green LED			
Indicator	Power indicator (POWER), status indicator (OK/NG)			
Shell material	PVC			
Dimension	45 mm × 43 mm × 25 mm (1.8" × 1.7" × 1.0")			
Weight	Approx. 68.5 g (0.2 lb.)			
Ingress protection	IP54			
Temperature	Working temperature: 0 °C to 50 °C; storage temperature: -30 °C to 70 °C			
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

Specification

Model	MV-ID2013EMI-03N-RBN	MV-ID2013EMI-03N-RBP(-S)	MV-ID2013EMI-03N-WBP-S
Performance			
Symbologies	1D codes: Code 39, Code 93, Code 128, EAN8, EAN13, ITF 14, ITF 25, CodaBar, UPCA, UPCE 2D codes: QR Code, Data Matrix, MicroQR, AZTEC, HanXin Stacked codes: PDF417		
Max. frame rate	50 fps		
Max. reading speed	30 codes/sec		
Sensor type	CMOS, global shutter, mono, 1/4", 2.7 μm × 2.7 μm		
Resolution	1280 × 1024		
Exposure time	60 μs to 6000 μs		
Gain	1 dB to 28 dB		
Depth of field*	Code 39 (5 mil): 40 mm to 120 mm Code 128 (10 mil): 15 mm to 250 mm EAN 13 (13 mil): 30 mm to 280 mm QR Code (10 mil): 35 mm to 155 mm QR Code (15 mil): 15 mm to 215 mm QR Code (20 mil): 15 mm to 270 mm		
Electrical feature			
Data interface	Fast Ethernet (100 Mbit/s), RS-232, DC terminal		
Communication protocol	SmartSDK, TCP Client, Serial, FTP, TCP Server, UDP, Profinet, Ethernet/IP		
Digital I/O	DB15 connector provides power and I/O, including opto-isolated input × 2 (Line 0/1), opto-isolated output × 2 (Line 3/4), RS-232 × 1. Supports device triggering and factory reset via pressing button on side.		
Power supply	12 VDC to 24 VDC		
Power consumption	Avg.: 2.5 W @ 12 VDC to 24 VDC; max.: 5 W @ 12 VDC to 24 VDC		
Mechanical			
Focal length	2.48 mm		
Focus distance	70 mm		
Field of view	70°(H) × 58°(V)		
Lens mount	M5.5-mount		
Ambient illumination	0 lux to 10000 lux		
Light source	Red	Red (polarized)	White (polarized)
Aiming system	Green LED		
Indicator	Power indicator (POWER), status indicator (OK/NG)		
Shell material	PVC		
Dimension	45 mm × 43 mm × 25 mm (1.8" × 1.7" × 1.0")		
Weight	Approx. 68.5 g (0.2 lb.)		
Ingress protection	IP54		
Temperature	Working temperature: 0 °C to 50 °C; storage temperature: −30 °C to 70 °C		
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

**Test condition: Environment temperature=25 °C (77 °F), ambient illumination=250 lux filament lamp, sample symbolologies are used.*

Available Model

- 4.63 mm focal length, standard distance, red light, network interface: MV-ID2013EMI-05-RBN
- 4.63 mm focal length, standard distance, red light (polarized), network interface: MV-ID2013EMI-05-RBP
- 4.63 mm focal length, standard distance, white light, network interface: MV-ID2013EMI-05-WBN
- 4.63 mm focal length, standard distance, white light (polarized), network interface: MV-ID2013EMI-05-WBP
- 4.63 mm focal length, standard distance, red light, USB interface: MV-ID2013EMI-05-RBN-U
- 4.63 mm focal length, standard distance, red light (polarized), USB interface: MV-ID2013EMI-05-RBP-U
- 4.63 mm focal length, standard distance, white light, USB interface: MV-ID2013EMI-05-WBN-U
- 4.63 mm focal length, standard distance, white light (polarized), USB interface: MV-ID2013EMI-05-WBP-U
- 4.63 mm focal length, high density, red light, network interface: MV-ID2013EMI-05H-RBN
- 4.63 mm focal length, high density, red light (polarized), network interface: MV-ID2013EMI-05H-RBP
- 4.63 mm focal length, high density, red light, USB interface: MV-ID2013EMI-05H-RBN-U
- 4.63 mm focal length, near distance, red light, network interface: MV-ID2013EMI-05N-RBN
- 4.63 mm focal length, near distance, red light (polarized), network interface: MV-ID2013EMI-05N-RBP
- 4.63 mm focal length, near distance, red light, USB interface: MV-ID2013EMI-05N-RBN-U
- 4.63 mm focal length, standard distance, red light, side cable, network interface: MV-ID2013EMI-05-RBN-S
- 4.63 mm focal length, standard distance, red light (polarized), side cable, network interface: MV-ID2013EMI-05-RBP-S
- 4.63mm focal length, standard distance, red light, side cable, USB interface: MV-ID2013EMI-05-RBN-SU
- 4.63 mm focal length, standard distance, red light (polarized), side cable, USB interface: MV-ID2013EMI-05-RBP-SU
- 4.63 mm focal length, high density, red light, side cable, network interface: MV-ID2013EMI-05H-RBN-S
- 4.63 mm focal length, high density, red light, side cable, USB interface: MV-ID2013EMI-05H-RBN-SU
- 4.63 mm focal length, near distance, red light, side cable, network interface: MV-ID2013EMI-05N-RBN-S
- 4.63 mm focal length, near distance, red light, side cable, USB interface: MV-ID2013EMI-05N-RBN-SU
- 2.48 mm focal length, near distance, red light, network interface: MV-ID2013EMI-03N-RBN
- 2.48 mm focal length, near distance, red light (polarized), network interface: MV-ID2013EMI-03N-RBP
- 2.48 mm focal length, near distance, red light (polarized), side cable, network interface: MV-ID2013EMI-03N-RBP-S
- 2.48 mm focal length, near distance, white light (polarized), side cable, network interface: MV-ID2013EMI-03N-WBP-S

Detection Range

Device Model	Lens Focal Length	Working Distance	Field of View		1D Min. Resolution*	2D Min. Resolution**	Diagram of Field of View
			H	V			
MV-ID2013E MI-05-*	4.63	30	22.4	17.9	-	-	
		50	37.3	29.8	-	-	
		100	74.6	59.7	-	-	
		120	89.6	71.7	0.07	0.21	
		150	111.9	89.5	-	-	
MV-ID2013E MI-05N-*	4.63	30	22.4	17.9	-	-	
		50	37.3	29.8	-	-	
		70	59.7	49.8	0.04	0.12	
		100	74.6	59.7	-	-	
		150	111.9	89.5	-	-	
		300	223.9	179.1	-	-	
MV-ID2013E MI-05H-*	4.63	20	14.9	11.9	-	-	
		40	29.9	23.9	0.02	0.07	
		50	37.3	29.8	-	-	
		70	59.7	49.8	-	-	
		120	89.6	71.7	-	-	
		150	111.9	89.5	-	-	
		300	223.9	179.1	-	-	
MV-ID2013E MI-03N-*	2.48	30	41.8	33.4	-	-	
		40	55.7	44.6	-	-	
		70	97.5	78.0	0.08	0.23	
		120	139.4	111.5	-	-	
		300	418.1	334.5	-	-	

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.

The values of 1D Min. Resolution and 2D Min. Resolution are valid in the condition of focus distance. For other working distances, the code reading capability is related to the depth of field.

Included

Cable with Network/USB Interfaces	Screws
	-

Required

AC Power Cables	Power Adapter
	

Optional

Cable with Network Interface	Cable with USB Interface	Mounting Plate
● Cable with male header for static scenes: 3 m/5 m/7 m/10 m ● High-flex cable with male header: 5 m/7 m/10 m	● Cable with single USB interface for static scenes: 2 m ● Integrated cable for static scenes: 2 m	-
		

Note

The integrated cable of the device is a high flexible cable by default that can be used in moving scene, such as drag chain. The cable chain can achieve over 5 million sliding cycles, and it is recommended to fix it during installation.