

MV-ID5050XM

5 MP Industrial Code Reader


RoHS


Introduction

MV-ID5050XM industrial code reader can read different types of codes with reading speed up to 120 codes/sec. It adopts Hikrobot's deep learning algorithm to process images with good robustness, and can recognize various complex codes. The device has a built-in touchscreen to view the statistical data and adjust parameters without accessing to the client. It also supports board selection of accessories, such as multi-color light source or wafer light source, for improving code-reading ability and scene adaptability.

Available Model

- 8 mm focal length, red light source, mechanical focusing: MV-ID5050XM-08M-RBN
- 12 mm focal length, red light source, mechanical focusing: MV-ID5050XM-12M-RBN
- 16 mm focal length, red light source, mechanical focusing: MV-ID5050XM-16M-RBN
- 25 mm focal length, red light source, mechanical focusing: MV-ID5050XM-25M-RBN
- 8 mm focal length, red light source, liquid lens focusing: MV-ID5050XM-08L-RBN
- 12 mm focal length, red light source, liquid lens focusing: MV-ID5050XM-12L-RBN
- 16 mm focal length, red light source, liquid lens focusing: MV-ID5050XM-16L-RBN
- 8 mm focal length, multi-color light source, mechanical focusing: MV-ID5050XM-08M-XBN
- C-mount: MV-ID5050XM-00C-NNN

Key Features

- Adopts built-in deep learning algorithm to read codes with good robustness.
- Adopts a built-in touchscreen to view the statistical data and adjust parameters via pressing on the screen.
- Adopts multiple indicators to show device status from different sides.
- Rotatable cable design for flexible mounting.
- Adopts controllable light source design to provide diversified light according to workpiece material.
- Adopts I/O interfaces for input and output signals.
- Supports high-precision sensors to get the installation position.
- Supports broad selection of accessories, such as multi-color light source or wafer light source, for improving code-reading ability and scene adaptability.
- Supports HDR function to provide high-contrast image.
- Provides multiple lens mounts, such as C-mount lens, mechanical focus lens, or liquid focus lens.
- The device with multi-color light source supports red/green/blue/white light source, and you can switch the light source.

Applicable Industry

PCB, automobile, food and drug, lithium battery, photovoltaic industry, etc.

Model	MV-ID5050XM-**-M-RBN	MV-ID5050XM-**-L-RBN	MV-ID5050XM-00C-NNN
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 matrix codes: QR Code (GS1-QR included), Data Matrix (GS1-DM included), MicroQR, AZTEC, HanXin		
	2D stacked codes: PDF417, MicroPDF417		
Max. frame rate	92 fps		
Max. reading speed	120 codes/sec		
Sensor type	CMOS, global shutter		
Pixel size	3.45 μm × 3.45 μm		
Sensor size	1/1.45"		
Resolution	2432 × 2048		
Exposure time	38 μs to 3 ms		38 μs to 1 s
Gain	0 dB to 37 dB		
Mono/color	Mono		
Electrical feature			
Data interface	Gigabit Ethernet (1000 Mbit/s)		
Communication protocol	SmartSDK, TCP Client, TCP Server, Serial, FTP, Profinet, Ethernet/IP, MELSEC/SLMP, 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, RS-232 input × 1, and RS-232 output × 1. Supports device triggering via pressing on touchscreen.		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 ± 10% VDC		
Power consumption	Avg.: 11 W @ 24 VDC (light source enabled) Max.: 36 W @ 24 VDC (light source enabled)		Avg.: 8 W @ 24 VDC Max.: 14.4 W @ 24 VDC
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	C-mount
Lens cap	Half polarization lens cap by default. Transparent and full polarization caps are optional.		Transparent lens cap
Light source	Red light by default. White/blue/IR light is optional.		No built-in light source
Indicator	Multi-directional device body indicator		Power indicator (PWR), network indicator (LNK), and user-defined indicator (U1/U2)
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")		Straight angle: 112.3 mm × 54 mm × 110 mm (4.4" × 2.1" × 4.3") Right angle: 88.7 mm × 54 mm × 132.4 mm (3.5" × 2.1" × 5.2")
Weight	Approx. 405 g (0.9 lb.)		Approx. 370 g (0.8 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)	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		

Specification

Model	MV-ID5050XM-08M-XBN
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 (one/two-track)
	2D matrix codes: QR Code (GS1-QR included), Data Matrix (GS1-DM included), MicroQR, AZTEC, HanXin
	2D stacked codes: PDF417, MicroPDF417
Max. frame rate	60 fps
Max. reading speed	120 codes/sec
Sensor type	CMOS, global shutter
Pixel size	3.45 μm × 3.45 μm
Sensor size	1/1.45"
Resolution	2432 × 2048
Exposure time	6 μs to 3 ms
Gain	0 dB to 37 dB
Mono/color	Mono
Electrical feature	
Data interface	Gigabit Ethernet (1000 Mbit/s)
Communication protocol	SmartSDK, TCP Client, TCP Server, Serial, FTP, Profinet, Ethernet/IP, MELSEC/SLMP, 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, RS-232 input × 1, and RS-232 output × 1. Supports device triggering via pressing on touchscreen.
Power supply	24 ± 10% VDC
Power consumption	Avg.: 7.5 W @ 24 VDC (multi-color light source enabled) Max.: 36 W @ 24 VDC (multi-color light source enabled)
Mechanical	
Focal length	8 mm
Lens mount	M12-mount, mechanical focus supported
Lens cap	Full polarization lens cap by default. Transparent lens cap is optional.
Light source	Red/green/blue/white multi-color light source is supported, and the light source can be switched.
Indicator	Multi-directional device body indicator
Shell material	Metal

Dimension	Straight angle: 129.9 mm × 98 mm × 70.8 mm (5.1" × 3.9" × 2.8") Right angle: 106.4 mm × 98 mm × 93.1 mm (4.2" × 3.9" × 3.7")
Weight	Approx. 658 g (1.5 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-ID5050XM-08M-XBN (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	26.2	22.1	0.01	0.03	
	100	104.9	88.3	0.04	0.13	
	200	209.8	176.6	0.09	0.26	
	300	314.6	265.0	0.13	0.39	
	400	419.5	353.3	0.17	0.52	
	500	524.4	441.6	0.22	0.65	
	600	629.3	529.9	0.26	0.78	
	1000	1048.8	883.2	0.43	1.29	
	2000	2097.6	1766.4	0.86	2.59	

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-ID5050XM-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	26.2	22.1	0.01	0.03	
	100	104.9	88.3	0.04	0.13	
	200	209.8	176.6	0.09	0.26	
	300	314.6	265.0	0.13	0.39	
	400	419.5	353.3	0.17	0.52	
	500	524.4	441.6	0.22	0.65	
	600	629.3	529.9	0.26	0.78	
	1000	1048.8	883.2	0.43	1.29	
	2000	2097.6	1766.4	0.86	2.59	
12	60	42.0	35.3	0.02	0.05	
	100	69.9	58.9	0.03	0.09	
	200	139.8	117.8	0.06	0.17	
	300	209.8	176.6	0.09	0.26	
	400	279.7	235.5	0.12	0.35	
	500	349.6	294.4	0.14	0.43	
	600	419.5	353.3	0.17	0.52	
	1000	699.2	588.8	0.29	0.86	
	2000	1398.4	1177.6	0.58	1.73	
16	100	52.4	44.1	0.02	0.06	
	200	104.9	88.3	0.04	0.13	
	300	157.3	132.5	0.06	0.19	
	400	209.8	176.6	0.09	0.26	
	500	262.2	220.8	0.11	0.32	
	600	314.6	265.0	0.13	0.39	
	1000	524.4	441.6	0.22	0.65	
	2000	1048.8	883.2	0.43	1.29	
25	230	77.2	65.0	0.03	0.10	
	300	100.7	84.8	0.04	0.12	
	400	134.3	113.1	0.06	0.17	
	500	167.8	141.3	0.07	0.21	
	600	201.4	169.6	0.08	0.25	
	1000	335.6	282.6	0.14	0.41	
	2000	671.2	565.3	0.28	0.83	

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-ID5050XM-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	124.4	104.2	0.05	0.15	
	200	232.1	194.5	0.09	0.28	
	300	339.8	284.9	0.14	0.41	
	400	447.6	375.2	0.18	0.55	
	500	555.3	465.5	0.23	0.68	
	600	663.1	555.9	0.27	0.81	
	1000	1094.2	917.2	0.44	1.33	
	2000	2171.8	1820.4	0.88	2.65	
12	100	81.1	68.0	0.03	0.10	
	200	150.9	126.5	0.06	0.18	
	300	220.8	185.1	0.09	0.27	
	400	290.7	243.7	0.12	0.35	
	500	360.6	302.3	0.15	0.44	
	600	430.5	360.9	0.17	0.52	
	1000	710.2	595.3	0.29	0.87	
	2000	1409.3	1181.4	0.58	1.72	
16	100	58.1	48.7	0.02	0.07	
	200	108.3	90.8	0.04	0.13	
	300	158.4	132.8	0.06	0.19	
	400	208.5	174.8	0.08	0.25	
	500	258.6	216.8	0.10	0.31	
	600	308.7	258.8	0.13	0.38	
	1000	509.3	426.9	0.21	0.62	
	2000	1010.6	847.1	0.41	1.23	

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-ID5050XM-00C-NNN Equipped with MVL-KF12(/16/25/35/50)28M-12MP Lens (Unit: mm)

Lens Focal Length	Working Distance	Field of View		1D Min. Resolution*	2D Min. Resolution**	Diagram of Field of View
		H	V			
12	100	69.9	58.9	0.03	0.09	
	200	139.8	117.8	0.06	0.17	
	500	349.6	294.4	0.14	0.43	
	1000	699.2	588.8	0.29	0.86	
	1500	1048.8	883.2	0.43	1.29	
	2000	1398.4	1177.6	0.58	1.73	
16	100	52.4	44.2	0.02	0.06	
	200	104.9	88.3	0.04	0.13	
	500	262.2	220.8	0.11	0.32	
	1000	524.4	441.6	0.22	0.65	
	1500	786.6	662.4	0.32	0.97	
	2000	1148.8	883.2	0.43	1.29	
25	100	33.6	28.3	0.01	0.04	
	200	67.1	56.5	0.03	0.08	
	500	167.8	141.3	0.07	0.21	
	1000	335.6	282.6	0.14	0.41	
	1500	503.4	423.9	0.21	0.62	
	2000	671.2	565.3	0.28	0.83	
35	200	48.0	40.4	0.02	0.06	
	500	119.9	100.9	0.05	0.15	
	800	191.8	161.5	0.08	0.24	
	1000	239.7	201.9	0.10	0.30	
	1500	359.6	302.8	0.15	0.44	
	2000	479.5	403.8	0.20	0.59	
50	300	50.3	42.4	0.02	0.06	
	500	83.9	70.7	0.03	0.10	
	800	134.3	113.1	0.06	0.17	
	1000	167.8	141.3	0.07	0.21	
	1500	251.7	212.0	0.10	0.31	
	2000	335.6	282.6	0.14	0.41	

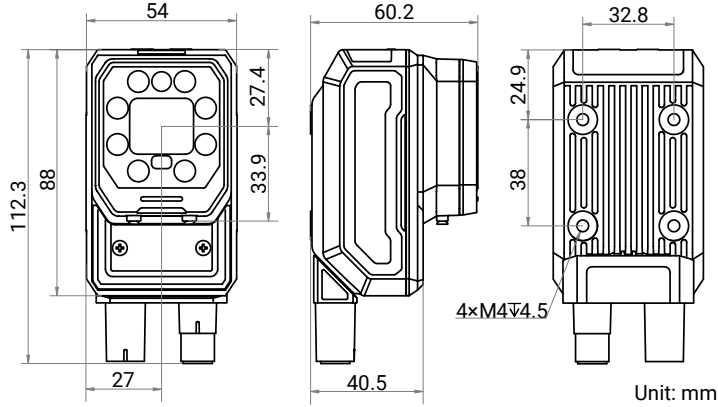
1D Min. Resolution (mm)*: Field of view (long side) / resolution (long side) × 1.

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

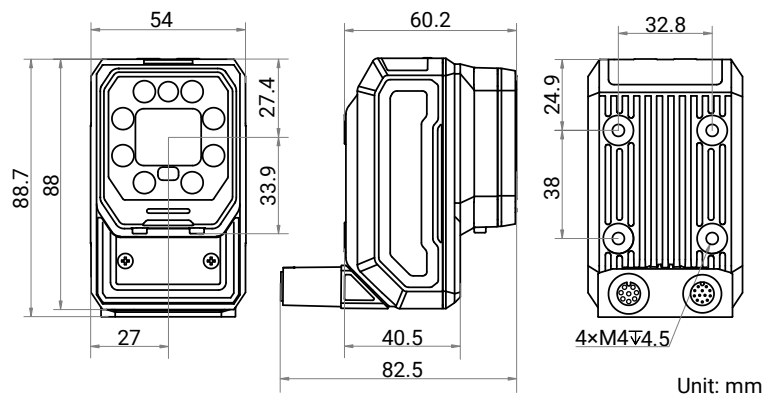
Dimension

MV-ID5050XM-**M/L-RBN

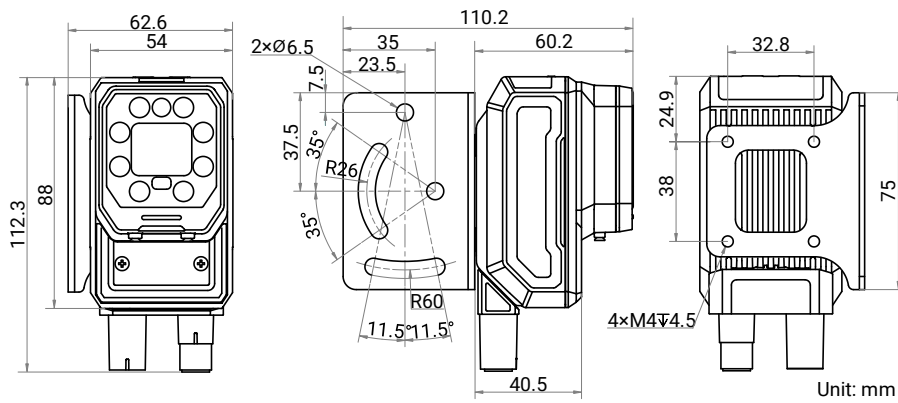
Device (Straight Angle)



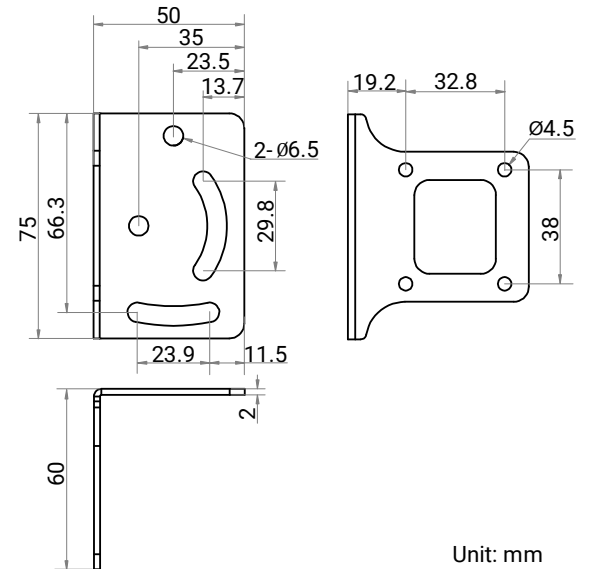
Device (Right Angle)



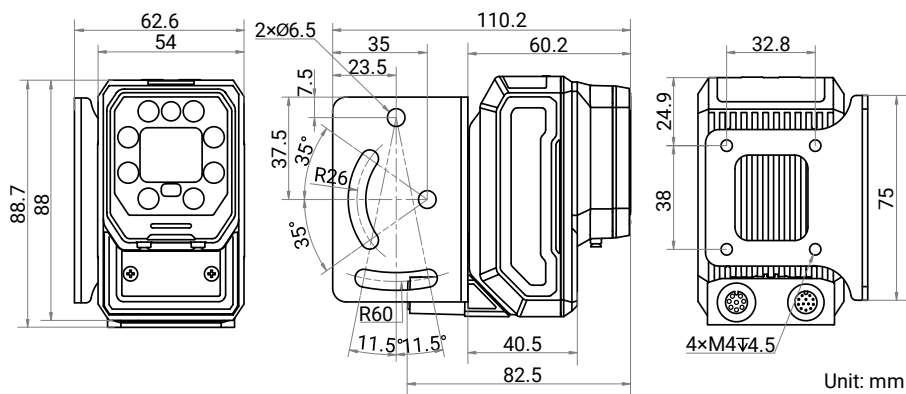
Device and Installation Bracket (Straight Angle)



Installation Bracket



Device and Installation Bracket (Right Angle)



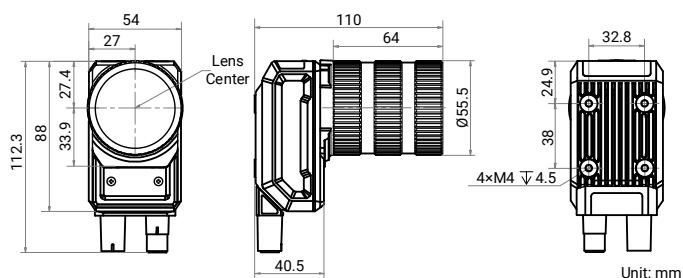
Unit: mm

Dimension

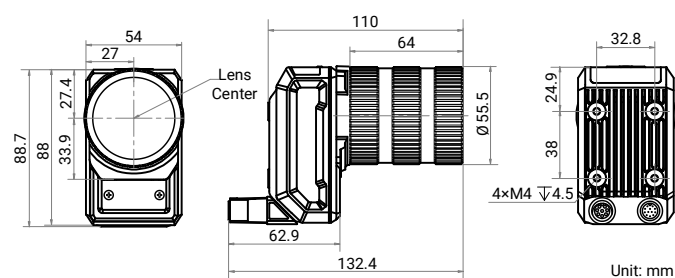
HIKROBOT

MV-ID5050XM-00C-NNN

Device (Straight Angle)

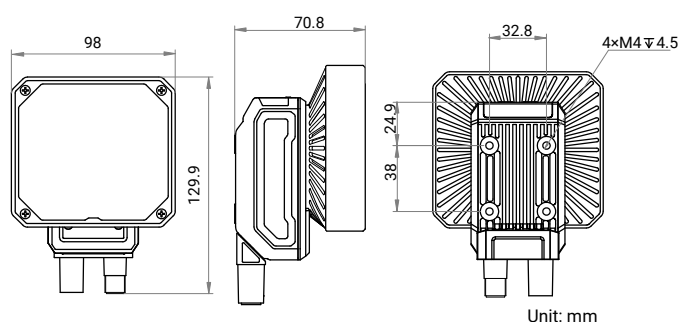


Device (Right Angle)

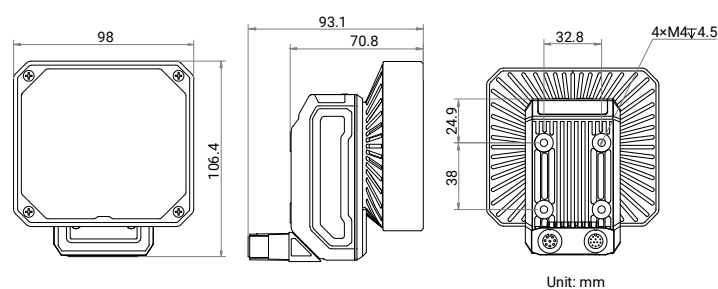


MV-ID5050XM-08M-XBN

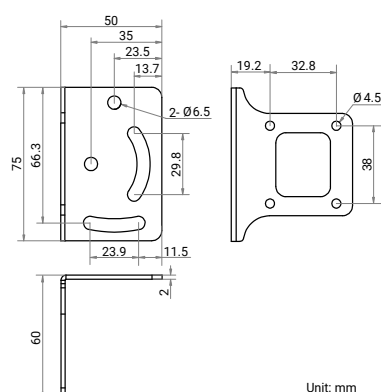
Device (Straight Angle)



Device (Right Angle)



Installation Bracket



Note

The device's package includes the code reader, quick start guide, installation bracket, and screw package, but cables should be purchased separately.