



# Technical Specifications

## **MOBOTIX MOVE 2MP Bullet Camera**

A performant 2MP, Full HD/1080p resolution camera for the daily security and surveillance needs. The camera easily adapts to different indoor and outdoor scenes.

- 2.8 to 12 mm Manual Vari-Focal Lens
- Wide Dynamic Range (WDR) max. 130 dB
- Light Sensitivity: Color 0.08 lux, B/W 0.008 lux
- PoE power support (IEEE802.3af)
- Integrated IR LEDs up to 50 m/164 ft distance
- Outdoor suitable (IP66, IP67)
- ONVIF Profile S/G/T/M support
- Temperature Range -30 to 60 °C/-22 to 140 °F



BeyondHumanVision

**MOBOTIX** MOVE

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Product Information

Product Name	2MP Bullet Camera
Order Code	Mx-BC2A-2-IR

Hardware Design

Processor	Ambarella S6L22m (Quad-core ARM® Cortex®-A53, 600 MHz)
Memory	RAM: 512 MB FLASH: 256 MB
Image Sensor	5MP, 1/2.7" Progressive CMOS OS05A20 (OmniVision)
Effective (Used) Pixels	1920x1080 (2MP)

Lens

Minimum Illumination	Color: 0.08 lux B/W: 0.008 lux
Lens Characteristics	Manual Vari-Focal Lens Focal Length: 2.8 to 12 mm Aperture: F1.4 to F2.8 Horizontal Field of View: 96.76° (Wide), 34.13° (Tele) Vertical Field of View: 52.21° (Wide), 19.24° (Tele)

Camera

Day/Night	Automatic mechanically switchable IR-cut filter
Shutter Speed	<b>Manual mode:</b> WDR: 1/17550 s Linear: 30 fps, 1/37440 s <b>Automatic Mode:</b> 1 to 1/10000 s
Frame Rate (maximum)	<b>WDR on:</b> H.265/H.264: 1920x1080@30fps + 720x480@30fps

	MJPEG: 1080p@30fps <b>WDR off:</b> H.265/H.264: 1920x1080@30fps + 720x480@30fps MJPEG: 1080p@30fps
Auto Gain	Min. gain: 3 dB, max. gain: 48 dB, step size: 3
WDR	Up to 130 dB Multi Exposure WDR & HDR Engine support
Zoom	Optical: 4.29x, Digital: 10x
Image settings	Color, Brightness, Sharpness, Contrast, White Balance, Exposure Control, 2DNR, 3DNR, NR by Motion, Masking, Text Overlay
Corridor Mode	90°, 180°, 270° Rotation

## Video Codec

Compression/Encoding	H.265/H.264/MJPEG
Streaming	Up to 4 individually configurable streams in H.264/H.265/MJPEG; configurable resolution, frame rate, bandwidth LBR/VBR/CBR in H.265/H.264.

## Cyber Security Features

Password Protection	Yes (including “forced” password change during initial setup)
IP address filtering	Yes (to restrict unauthorized access based on IP addresses)
IEEE 802.1X network access control	Yes (for advanced network security and authentication)
Digest authentication	Yes (for secure user authentication)
Secure Boot	Yes (support of fixed IP setting and automatic DHCP IP configuration according to individual MAC address)
AES encryption for password protection	Yes (to ensure strong encryption for password storage)
HTTPS/SSL (using TLS)	Yes (TLS 1.2 default, TLS 1.0/1.1 optional selectable)
User and Group Management	Yes (for fine-grained access control)
VPN	Yes (to establish secure network connections)

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Digitally signed firmware	Yes (to prevent firmware file tampering)
RSA encryption	Yes (to support stronger ciphers; supported: RSA (2048 bits), AES-128, AES-256, SHA-256, SHA-384)

Network

Interface	10/100 Mbps Ethernet
Supported Protocols	ARP, PPPoE, IPv4/v6, ICMP, IGMP, QoS, TCP, UDP, DHCP, UPnP, SNMP, SMTP, RTP, RTSP, HTTP, HTTPS, FTP, NTP, DDNS, SMBv2
ONVIF conformance	Supports profiles S/G/T/M
Supported Browsers	All current browsers are supported.

System Integration

Base Video Analytics	<ul style="list-style-type: none"><li>■ Motion Detection</li><li>■ Tampering</li></ul>
Event Triggers	<ul style="list-style-type: none"><li>■ Analytics</li><li>■ Network failure detection</li><li>■ Periodical event</li><li>■ Manual trigger</li></ul>
Event Actions	<ul style="list-style-type: none"><li>■ Video recording to edge storage</li><li>■ File upload: FTP, network share and email</li><li>■ Notification: HTTP, FTP, email</li></ul>

General

Housing Material	Metal
Housing Color	RAL 9003
Power Requirements	PoE IEEE802.3af, class 0, max 6.78 W
PoE Modes Supported	Mode A or Mode B
Connectors	RJ45

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IR Illumination	850 nm; up to 50 m/164 ft distance depending on reflection of scenery
Video Storage	Micro SD/SDHC/SDXC card support up to 1 TB, Support for recording to NAS, MOBOTIX HUB, MOBOTIX MOVE NVR
Environmental Protection Class	IP66, IP67
Operating Temperature	–30 to 60 °C/–22 to 140 °F
Cold Start Temperature	–20 °C/–4 °F
Relative Humidity	90 % non-condensing
Storage Conditions	–20 to 70 °C/–4 to 158 °F
Approvals	EMC: CE/FCC, Safety: LVD, Environmental: IP66, IP67
MTBF	95,000 hours
Warranty	5 years
Dimensions	ø 86 x 162 mm
Weight	385 g

**NOTE!** Observe the [MOBOTIX MOVE Installation Hints](#) document to ensure optimum performance of the camera features.

# DORI Specifications

In the video surveillance context, “DORI” stands for Detection, Observation, Recognition and Identification and was originally based on IEC EN62676-4: 2015. The current DORI standard IEC EN62676-4: 2024 defines the levels listed below.

## DORI Levels According to IEC EN62676-4: 2024

These levels define the minimum pixels that a face of a person must have to provide proper identification, for example.

1. **Overview:** To display moving objects at far distances, a minimum of 20 pixels per meter (PPM) is required. This allows for basic perimeter detection and border control applications.
2. **Outline:** For outlining moving objects and their direction, at least 40 PPM is necessary. This is useful for tracking object movements.
3. **Discern:** To discern targets or crowds at a distance, more than 80 PPM is required. This level of detail helps in identifying movements of people, vehicles, or animals.
4. **Perceive:** To perceive targets or crowds, a minimum of 125 PPM is required. Although people cannot be differentiated by gender, their movements can be tracked.
5. **Characterize:** Characterizing people and vehicles requires more than 250 PPM. This level allows for identifying person type, gait, behavior, and vehicle category.
6. **Validate:** For validating known persons or reading vehicle license plates, over 500 PPM is necessary. This is also sufficient for most automatic face recognition software.

7. **Scrutinize:** To scrutinize people, capturing at least 1500 PPM is essential. This ensures high certainty in identifying individuals and recognizing vehicle details like model and year of manufacture. The value for Scrutinize is equivalent to the passport photo size of a person.

## DORI Distances

DORI Level Camera	Overview		Outline		Discern		Perceive		Characterize		Validate		Scrutinize	
	Wide-Angle ↔/⤴	Tele ↔/⤴	Wide-Angle ↔/⤴	Tele ↔/⤴	Wide-Angle ↔/⤴	Tele ↔/⤴	Wide-Angle ↔/⤴	Tele ↔/⤴	Wide-Angle ↔/⤴	Tele ↔/⤴	Wide-Angle ↔/⤴	Tele ↔/⤴	Wide-Angle ↔/⤴	Tele ↔/⤴
Mx-BC2A-2-IR	44 m/40 m 144.36 ft/131.23 f-	157 m/124 m 515.09 ft/406.82 f-	22 m/20 m 72.18 ft/65.62 f-	79 m/62 m 259.19 ft/203.41 f-	11 m/10 m 36.09 ft/32.81 f-	39 m/31 m 127.95 ft/101.71 f-	7 m/6 m 22.97 ft/19.69 f-	25 m/20 m 82.02 ft/65.62 f-	4 m/3 m 13.12 ft/9.84 f-	13 m/10 m 42.65 ft/32.81 f-	2 m/2 m 6.56 ft/6.56 f-	6 m/5 m 19.69 ft/16.40 f-	1 m/1 m 3.28 ft/3.28 f-	2 m/2 m 6.56 ft/6.56 f-
	t	t	t	t	t	t	t	t	t	t	t	t	t	t

# Dimensions

**NOTE!** Download the drilling template from the section or on the MOBOTIX website: [www.mobotix.com](http://www.mobotix.com) > [Support](#) > [Download Center](#) > [Marketing & Documentation](#) > [Drilling Templates](#).

**CAUTION!** Always print or copy the drilling template at 100% of the original size!

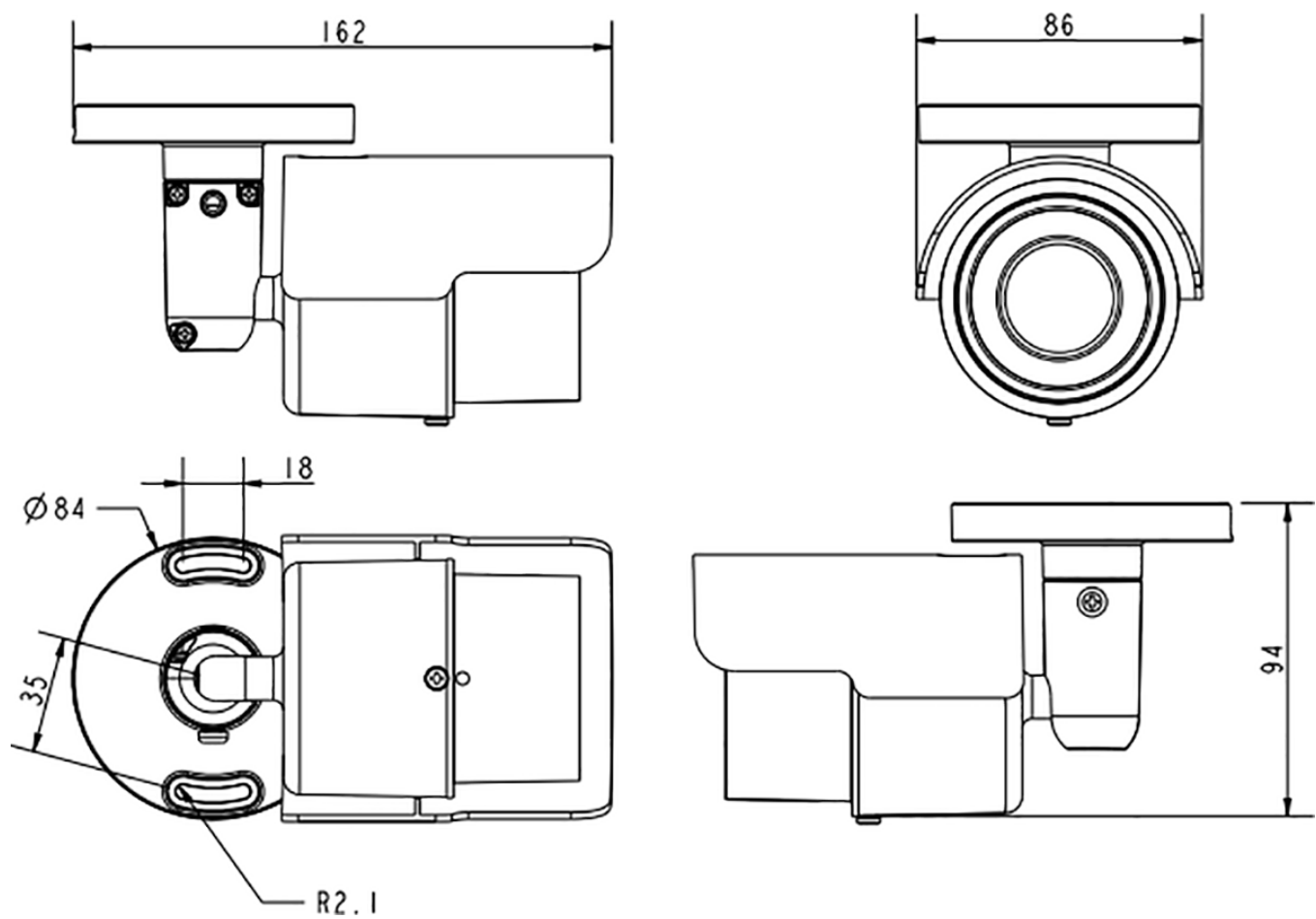


Fig. 1: Mx-BC2A-2-IR: All measurements in mm





## Accessories for Bullet Cameras

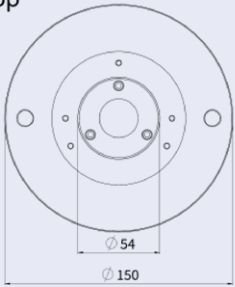
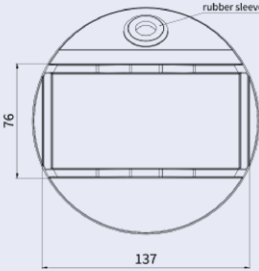
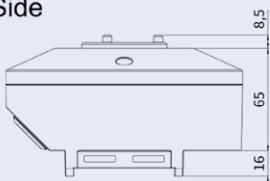
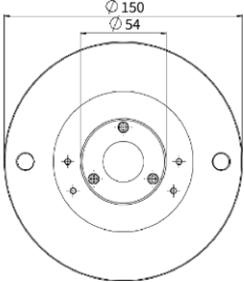
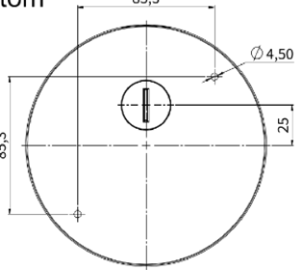
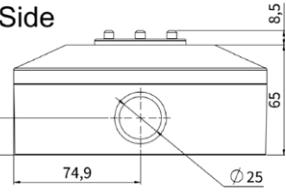
Picture/ Order Code	Description	Compatible Products	Material/ Color	Weight
 <p>Mx-M-BC-P</p>	Weatherproof pole mount for MOVE Bullet cameras (IP66, IP67).	All MOVE Bullet cameras except Mx-BC1A-2-IR.	Die-cast ADC12 aluminium alloy, hammer blow-painted RAL9003	1.0 kg
 <p>Mx-M-BC-W</p>	Weatherproof wall mount for MOVE Bullet cameras (IP66, IP67).	All MOVE Bullet cameras except Mx-BC1A-2-IR.	Die-cast ADC12 aluminium alloy, hammer blow-painted RAL9003	0.84 kg
 <p>Mx-A-VB-FGK-EC</p>	<b>EverClear-coated</b> front glass for MOVE2, 5, and 8 MP Vandal Bullet cameras.	All MOVE Vandal Bullet (VB) cameras <b>from Nov. 2021.</b>	Aluminum, glass, rubber	0.033 kg

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Picture/ Order Code	Description	Compatible Products	Material/ Color	Weight
	<b>EverClear-coated</b> front glass for MOVE 2MP ALPR cameras.	MOVE 2MP ALPR camera Mx-VB1A-2-IR-ALPR.	Aluminum, glass, rubber	0.033 kg
Mx-A-VB1A-2-IR-ALPR-FGK-EC				
	<b>EverClear-coated</b> front glass for MOVE 2MP ALPR ( <b>D variant</b> ) cameras.	MOVE 2MP ALPR camera Mx-VB1A-2-IR- <b>D</b> -ALPR.	Aluminum, glass, rubber	0.033 kg
Mx-A-VB1A-2-IR- <b>D</b> -ALPR-FGK-EC				

Dimensions

Order Code	Dimensions		
Mx-M-BC-P	Top 	Bottom 	Side 
Mx-M-BC-W	Top 	Bottom 	Side 

All measurements in mm.

Accessories for All Cameras

Picture/ Order Code	Description	Compatible Products	Material/ Color	Weight
  MX-NPA-UPOE1A-60W	UPoE Power Injector 60W. PoE++ 60W Network Power injector • AC Input Voltage: 100 to 240 VAC (50 to 60Hz) • AC Input Current: 1.5A @100-240 VAC • Operating Ambient Temperature: • -10° to 40°C @60W • -10° to 50°C, humidity 10 to 90% @30W • IEEE 802.3bt compliant • Output power of 60W over 4-pairs • Supports 10/100/1000Base-T applications • Plug-and-play installation • Full Protection OVP, OCP• Supports 10/100/1000Base-T applications.	All cameras.	Plastic housing, black	0.45 kg
  Mx-A-ETP1A-2601-SET	Media converter set Ethernet (PoE+) – Twisted-Pair. Complete set consisting of two two-wire transmit/receive units for establishing an Ethernet transmission path via twisted-pair cables. • Transmission of Ethernet and PoE+ power supply via two-wire line according to IEEE1901. • Simple connection of 10/100 Mbps Ethernet end devices • Max. 95 Mbps transmission	All cameras. Requires Mx-A-ETP1A-2601-POW.	Plastic housing, black	0.368 kg


Picture/ Order Code	Description	Compatible Products	Material/ Color	Weight
	<p>bandwidth, range up to 600 m/656 yd for data only, 300 m/328 yd for PoE depend- ing on the quality of the twis- ted-pair link • 128 bit AES network data encryption • Power supply 2-wire trans- mitter (Tx) and receiver (Rx) as well as end device via PoE+ network switch or external power supply 56VDC / 1.2A (not included!) • Con- nected end devices are sup- plied via PoE switch IEEE802.3af(PoE), IEEE802.3at (PoE+), UPoE up to 60W (requires ext. power supply unit). • Status LEDs (data, power supply, data link, PoE) • Integrated Overvoltage protection (IEC 61000-4-5 4kV (1.2 / 50us), 2kA(8 / 20us)) • Power Supply: TX: T-Linx or DC12V~57V, RX: PoE Switch or DC48V~57V • Operational temperature: -20 to 60°C • Dimensions: 80.4(L) x 61.6(W) x 24(H)mm • Weight: RX/TX: 102g • Warranty: 2 years</p>			

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### MOBOTIX MOVE 2MP Bullet Camera

Picture/ Order Code	Description	Compatible Products	Material/ Color	Weight
  Mx-A-ETP1A-2601-POW	Plug-type power supply for Mx-A-ETP1A-2601-SET.  Output: 57V DC +/-3% / 1.2 A • Input: 90-260V AC (47-63Hz) • 68,4 Watt • Operating Temperature: 0-40°C/32-122°F	Mx-A-ETP1A-2601-SET	Plastic housing, black	0.49 kg
  Mx-A-KBD1A-PTZ-JOG	MOBOTIX USB Keyboard with PTZ Joystick & Jog-Shuttle.  USB control panel for operating MOBOTIX MxMC 2.6 and higher and MOBOTIX HUB incl. Control of software PTZ and motorized PTZ cameras and pan/tilt devices • Integrated 3-axis joystick • Integrated jog shuttle • 38 control keys with backlight predefined for MxMC functions or freely definable for MOBOTIX HUB • Integrated alarm buzzer • Suitable for operation as HID device on MOBOTIX VMS with Windows and MAC based operating systems via USB 2.0 • Suitable for right- and left-handed users • Power supply: USB, max. 350 mA • Operating temperature: 0°-45°C/32-113 °F.	All cameras.  Requires Windows or macOS computer with USB 2.0 or better.	Plastic housing, black	1.9 kg


Picture/ Order Code	Description	Compatible Products	Material/ Color	Weight
 <p>MX-SWITCH1</p>	<p>MOBOTIX network switch for DIN (top-hat) rail mounting.</p> <p>5x RJ45 port with 100 MBit/s (1x uplink, 4x PoE+ with max. 75 W). Supply: 48 V DC, max. 75 W. Simplified cabling for door stations due to available connectivity for anti-theft protection, door opener and MxBus. MxBus, anti-theft protection, door and lock contact can be connected via separate wires of Ethernet cable.</p>	All cameras.	Plastic housing, gray	0.31 kg

# Further Reading


[Manuals and Quick Installation documents](#)




[Technical Specifications](#)



[MOBOTIX MOVE Installation Hints](#)



[MOBOTIX Community](#)







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