



# Technical Specifications

## MOBOTIX MOVE 2MP Vandal Fixed Dome Analytics Camera

Performant 2MP, Full HD/1080p resolution camera with integrated DNN-based video analytics features, perfect for the daily security and surveillance needs. The camera performs fast and reliable auto focus and adapts to different indoor and outdoor scenes. The MOBOTIX EverClear superhydrophilic and self-cleaning nano coating of the dome ensures best image quality even in rain and reduces cleaning efforts and operational costs.

- EverClear coating of dome
- Motorized Vari-Focal Lens 2.7 to 12 mm, F1.6 to F2.9 with Zoom and One-Push Auto Focus
- Wide Dynamic Range (WDR) max. 130 dB
- MOBOTIX MxMessageSystem communication system
- Integrated DNN-based video analytics with object classification/filtering
- Integrated IR LEDs up to 50 m/164 ft distance
- ONVIF Profile S/G/T/M support
- Triple power support (IEEE802.3af/AC24V/DC12V)
- Temperature Range -55 to 60 °C/-67 to 140 °F
- IP66 and IK10
- Quick Connection Mount



BeyondHumanVision

**MOBOTIX**

Document ID: Mx\_TS\_Mx-VD3A-2-IR-VA\_V1.27\_EN

V1.27\_7/1/2026, Order Code: Mx-VD3A-2-IR-VA

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#### High-Quality DNN Edge Video Analytics

| Counting  | Intrusion   | Removed Objects   | Sabotage   | Face Recognition  |
|---|---|---|--|---|
|  |  |  |  |  |
| Abandoned Objects   | Stopped Vehicle   | Wrong Direction   | Loitering  | ALPR  |
|  |  |  |  |  |

The latest computer vision technology makes the DNN-accelerated video processing engine efficient at the edge. This integrated engine provides high accuracy, and 8 video analytics functions. Moreover, it allows simultaneous detection on multiple objects.

#### MOBOTIX EverClear Nano Coating

The new, groundbreaking MOBOTIX EverClear coating uses a special nano technology that transforms water droplets into an ultra-thin water film immediately upon impact. This ensures the highest image quality in rain and difficult environmental conditions and reduces maintenance costs due to its “self-cleaning” effect.



## Product Information

|              |  |
|--------------|--|
| Product Name | 2MP Vandal Fixed Dome Analytics Camera |
| Order Code   | Mx-VD3A-2-IR-VA                        |

## Hardware Design

|           |  |
|-----------|--|
| Processor | Ambarella S6L22m (Quad-core ARM® Cortex®-A53, 600 MHz) |
| Memory    | RAM: 512 MB<br>FLASH: 256 MB                           |

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|                         |   |
|-------------------------|---|
| Image Sensor            | 5MP, 1/2.7" Progressive CMOS OS05A20 (OmniVision) |
| Effective (Used) Pixels | 1920x1080 (2MP)                                   |

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## Lens

|                      |   |
|----------------------|---|
| Minimum Illumination | Color: 0.08 lux<br>B/W: 0.008 lux   |
| Lens Characteristics | Motorized Lens: Zoom, Focus, P-IRIS<br>Focal Length: 2.7 to 12 mm<br>Aperture: F1.6 to F2.9<br>Horizontal Field of View: 99.4° (Wide), 31.3° (Tele)<br>Vertical Field of View: 53.1° (Wide), 17.7° (Tele)   |
| Lens Mechanics       | 3-Axis adjustment   |
| Dome Coating         | Superhydrophilic MOBOTIX EverClear nano coating transforms water droplets into an ultra-thin water film upon impact. The coating ensures best image quality in rain and difficult external conditions and it reduces reflections and noise in low-light scenarios. EverClear is dirt-repellent and increases the stability as well as the scratch-resistance of the dome, further reducing maintenance efforts. Coating endurance up to 3 years depending on environmental conditions and cleaning treatment. |

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## Camera

|                      |   |
|----------------------|---|
| Day/Night            | Automatic mechanically switchable IR-cut filter   |
| Shutter Speed        | <b>Manual Mode:</b><br>WDR: up to 1/17550 s<br>Linear: up to 1/37440 s<br><b>Automatic Mode:</b><br>Up to 1/10000 s |
| Frame Rate (maximum) | H.265/H.264: 1920x1080@30 fps + 720x480@30fps<br>MJPEG: 1080p@30fps   |
| Auto Gain            | Min. gain: 3 dB, max. gain: 48 dB, step size: 3   |

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|                |  |
|----------------|--|
| WDR            | Up to 130 dB Multi Exposure WDR & HDR Engine support   |
| Zoom           | Optical: 4.4x, 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   |

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## 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. |

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## Audio Codec

|                      |  |
|----------------------|--|
| Compression/Encoding | G.711/G.726/AAC/LPCM   |
| Streaming            | 2-Way, bidirectional   |
| Audio Input          | Line In: Max 6.2 Vpp Signal In, Input Impedance: 33 k $\Omega$ |
| Audio Output         | Line Out: 1 Vrms Signal Out, Output Resistance: 200 $\Omega$   |

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## 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)  |

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**MOBOTIX MOVE 2MP Vandal Fixed Dome Analytics Camera**

|                           |   |
|---------------------------|---|
| Direct to Cloud support   | Yes (uses TLS 1.2 by default, MOBOTIX CLOUD account and newest firmware required)                 |
| User and Group Management | Yes (for fine-grained access control)   |
| VPN                       | Yes (to establish secure network connections)   |
| 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           | 10/100/1000 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>▪ Audio detection</li> </ul>  |
| DNN-Based Video Analytics | <ul style="list-style-type: none"> <li>▪ Abandoned objects</li> <li>▪ Intrusion (object classification/filtering for people, vehicles, etc.)</li> <li>▪ Sabotage</li> <li>▪ Wrong direction</li> <li>▪ Loitering (object classification/filtering for people, vehicles, etc.)</li> <li>▪ Object counting (object classification/filtering for people, vehicles, etc.)</li> <li>▪ Object removal</li> <li>▪ Stopped vehicle (object classification/filtering)</li> </ul> <p>2 analytics functions can be activated simultaneously</p> |

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|                |  |
|----------------|--|
| Event Triggers | <ul style="list-style-type: none"><li>External input</li><li>Analytics</li><li>Network failure detection</li><li>Periodical event</li><li>Manual trigger</li><li>MxMessageSystem messages</li></ul>  |
| Event Actions  | <ul style="list-style-type: none"><li>External output activation</li><li>Video and audio recording to edge storage</li><li>File upload: FTP, network share and email</li><li>Notification: HTTP, FTP, email</li><li>MxMessageSystem messages</li></ul> |

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## General

|                          |   |
|--------------------------|---|
| Housing Materials        | Metal Housing   |
| Housing Color            | RAL 9003  |
| Camera Module Adjustment | 3-Axis Gimbal (Pan/Tilt/Rotate)   |
| Device Color             | Metal body housing: RAL 9003<br>Logo color: Pantone 286C and Pantone Gray 6 Cu  |
| Power Requirements       | PoE IEEE802.3af, class 0, max 12.95 W<br>DC12V, max 14.88 W<br>AC24V, max 15.25 W, max 26.16 VA<br>Zero-Down-Time Power Source Switching  |
| PoE Modes Supported      | Mode A or Mode B  |
| Connectors               | RJ45,<br>Alarm in x2, Alarm out x1, Audio in, Audio out terminal block,<br>DC12V/AC24V terminal block,<br>CVBS Connector COAX (75 Ohm)<br>(CVBS output available with max. 2 activated streams, requires optional adapter 2-pin COAX cable) |
| IR Illumination          | 850 nm; up to 50 m/164 ft distance depending on reflection of scenery   |

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|                                |   |
|--------------------------------|---|
| Video Storage                  | microSD/SDHC/SDXC card support up to 1 TB,<br>Support for recording to NAS, MOBOTIX HUB, MOBOTIX MOVE NVR |
| Environmental Protection Class | IP66 and IK10   |
| Operating Temperature          | -55 to 60 °C/-67 to 140 °F  |
| Cold Start Temperature         | -30 °C/-22 °F   |
| Relative Humidity              | 90 % non-condensing   |
| Storage Conditions             | -20 to 70 °C/-4 to 158 °F   |
| Approvals                      | EMC: CE, FCC, BIS<br>Safety: LVD<br>Environmental: IP66, IK10   |
| MTBF                           | 95,000 hours  |
| Warranty                       | 5 years   |
| Dimensions                     | ø 133.8 x 117.4 mm  |
| Weight                         | 760 g   |

#### NOTE!

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

## Alarm Input/Output Current and Voltage

### Alarm In

3.3 V with 10 kΩ pull up, 50 mA

### Alarm Out

350 V DC/AC, 130 mA

# 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<br>Order Code | Overview                            |                                       | Outline                           |                                     | Discern                           |                                     | Perceive                        |                                   | Characterize                  |                                   | Validate                      |                                 | Scrutinize                    |                               |
|--------------------------|-------------------------------------|---------------------------------------|-----------------------------------|-------------------------------------|-----------------------------------|-------------------------------------|---------------------------------|-----------------------------------|-------------------------------|-----------------------------------|-------------------------------|---------------------------------|-------------------------------|-------------------------------|
|                          | Wide-Angle<br>↔/⌘                   | Tele<br>↔/⌘                           | Wide-Angle<br>↔/⌘                 | Tele<br>↔/⌘                         | Wide-Angle<br>↔/⌘                 | Tele<br>↔/⌘                         | Wide-Angle<br>↔/⌘               | Tele<br>↔/⌘                       | Wide-Angle<br>↔/⌘             | Tele<br>↔/⌘                       | Wide-Angle<br>↔/⌘             | Tele<br>↔/⌘                     | Wide-Angle<br>↔/⌘             | Tele<br>↔/⌘                   |
| Mx-VD3A-2-IR-VA          | 39 m/38 m<br>127.95<br>ft/124.67 ft | 170 m/135 m<br>557.74<br>ft/442.91 ft | 19 m/19 m<br>62.34<br>ft/62.34 ft | 85 m/67 m<br>278.87<br>ft/219.82 ft | 10 m/10 m<br>32.81<br>ft/32.81 ft | 43 m/34 m<br>141.08<br>ft/111.55 ft | 6 m/6 m<br>19.69<br>ft/19.69 ft | 27 m/22 m<br>88.58<br>ft/72.18 ft | 3 m/3 m<br>9.84 ft/9.84<br>ft | 14 m/11 m<br>45.93<br>ft/36.09 ft | 2 m/2 m<br>6.56 ft/6.56<br>ft | 7 m/5 m<br>22.97<br>ft/16.40 ft | 1 m/1 m<br>3.28 ft/3.28<br>ft | 2 m/2 m<br>6.56 ft/6.56<br>ft |

# Dimensions

**NOTE!** Drilling template: [www.mobotix.com](http://www.mobotix.com) > Services > Download Center > Marketing & Documentation > Drilling Templates.

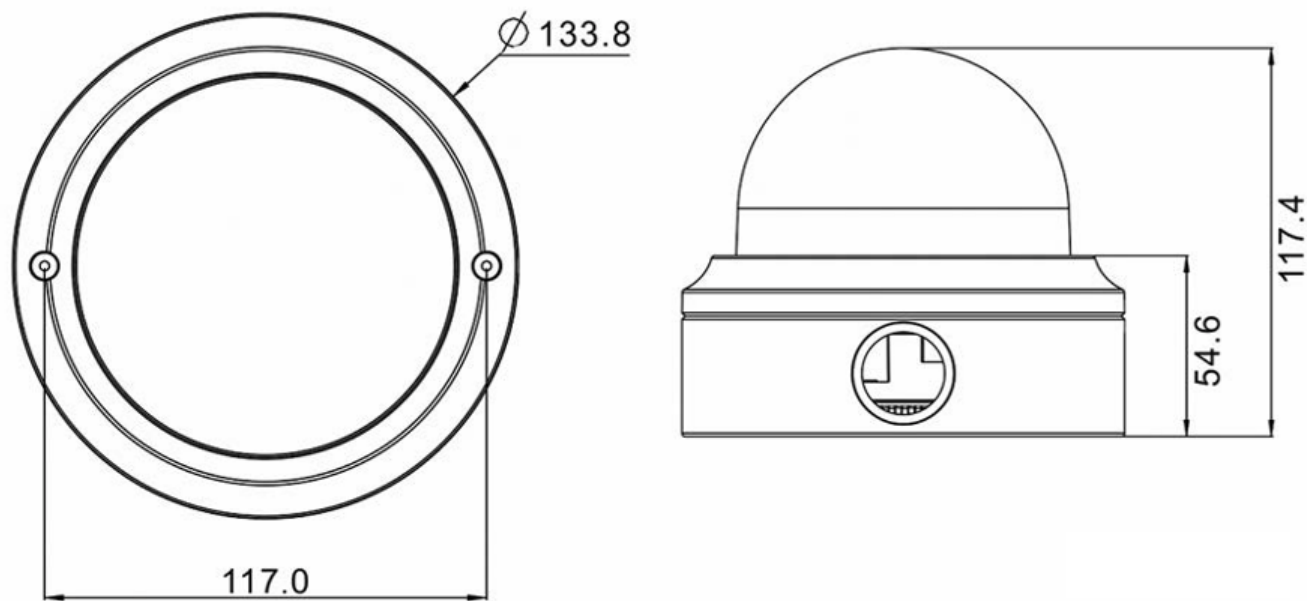




Fig. 1: Mx-VD3A-2-IR-VA: All measurements in mm

## Accessories for Vandal Dome Cameras

| Picture/<br>Order Code   | Description  | Compatible<br>Products  | Material/<br>Color  | Weight  |
|--|--|---|---|---|
|  <p data-bbox="312 1115 448 1144">Mx-M-VD-C</p>  | <p data-bbox="608 533 906 651">Weatherproof corner mount for MOVE Vandal Dome cameras.</p> | <p data-bbox="967 533 1166 651">All MOVE Vandal Dome (VD) cameras.</p> <p data-bbox="967 674 1166 741">Requires use of Mx-M-VD-W.</p>     | <p data-bbox="1190 533 1310 651">SPCC steel, hammer-blow painted</p> <p data-bbox="1190 674 1310 696">RAL9003</p>               | <p data-bbox="1410 533 1490 562">2.0 kg</p>   |
|  <p data-bbox="312 1765 448 1794">Mx-M-VD-P</p> | <p data-bbox="608 1176 935 1294">Weatherproof pole mount for MOVE Vandal Dome cameras.</p> | <p data-bbox="967 1176 1166 1294">All MOVE Vandal Dome (VD) cameras.</p> <p data-bbox="967 1317 1166 1391">Requires use of Mx-M-VD-W.</p> | <p data-bbox="1190 1176 1382 1294">Zinc-galvanized SECC steel, powder-coated</p> <p data-bbox="1190 1317 1382 1346">RAL9003</p> | <p data-bbox="1410 1176 1490 1205">0.7 kg</p> |

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### MOBOTIX MOVE 2MP Vandal Fixed Dome Analytics Camera

| Picture/<br>Order Code   | Description  | Compatible<br>Products  | Material/<br>Color  | Weight   |
|--|--|---|---|--|
|  <p data-bbox="236 1003 373 1030">Mx-M-VD-W</p>     | <p data-bbox="533 371 855 582">Weatherproof wall mount for MOVE Vandal Dome cameras (2-piece set of wall mount and pendant cap).</p> | <p data-bbox="890 371 1094 676">All MOVE Vandal Dome (VD) cameras.<br/>Can be combined with Mx-M-VD-C or Mx-M-VD-P.</p> | <p data-bbox="1114 371 1311 766">Wall Mount: Die-cast ADC12 aluminium alloy, hammer blow-painted<br/>RAL9003<br/>Pendant cap: polycarbonate<br/>RAL9003</p> | <p data-bbox="1334 371 1414 398">1.4 kg</p>    |
|  <p data-bbox="236 1303 373 1330">Mx-M-VD-IC</p>  | <p data-bbox="533 1066 855 1187">Indoor in-ceiling mount for MOVE Vandal Dome cameras.</p>   | <p data-bbox="890 1066 1094 1187">All MOVE Vandal Dome (VD) cameras.</p>  | <p data-bbox="1114 1066 1311 1232">Zinc-galvanized SECC steel, powder-coated<br/>RAL9003</p>  | <p data-bbox="1334 1066 1414 1093">0.8 kg</p>  |
|  <p data-bbox="223 1729 386 1756">Mx-A-VD-DCS</p> | <p data-bbox="533 1357 855 1478">Tinted replacement dome for MOVE Vandal Dome cameras.</p>   | <p data-bbox="890 1357 1094 1478">All MOVE Vandal Dome (VD) cameras.</p>  | <p data-bbox="1114 1357 1311 1680">Ring: Die-cast ADC12 aluminium alloy, powder-coated<br/>RAL9003<br/>Dome: Polycarbonate, tinted</p>                      | <p data-bbox="1334 1357 1430 1384">0.25 kg</p> |

MOBOTIX MOVE 2MP Vandal Fixed Dome Analytics Camera

Picture/  
Order Code



Mx-A-VD-DCT

Description

Clear replacement dome for MOVE Vandal Dome cameras.

Compatible Products

All MOVE Vandal Dome (VD) cameras.

Material/  
Color

Ring: Die-cast ADC12 aluminium alloy, powder-coated RAL9003  
Dome: Polycarbonate, clear

Weight

0.21 kg



Mx-A-VD-DBC-EC

Clear **EverClear-coated** replacement dome for MOVE Vandal Dome cameras.

All MOVE Vandal Dome (VD) cameras.

Ring: Die-cast ADC12 aluminium alloy, powder-coated RAL9003  
Dome: Polycarbonate, clear

0.21 kg



Mx-A-VD-DBT-EC

Tinted **EverClear-coated** replacement dome for MOVE Vandal Dome cameras.

All MOVE Vandal Dome (VD) cameras.

Ring: Die-cast ADC12 aluminium alloy, powder-coated RAL9003  
Dome: Polycarbonate, tinted

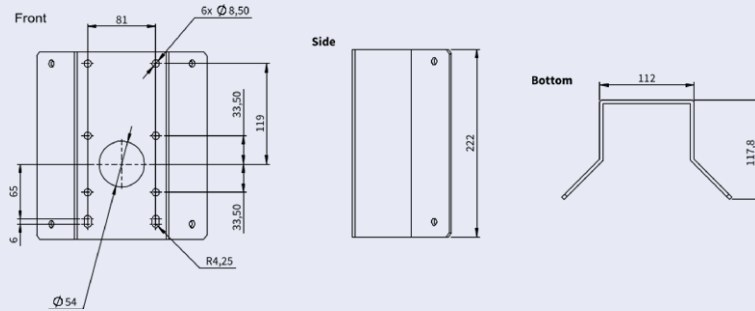
0.25 kg

# Dimensions

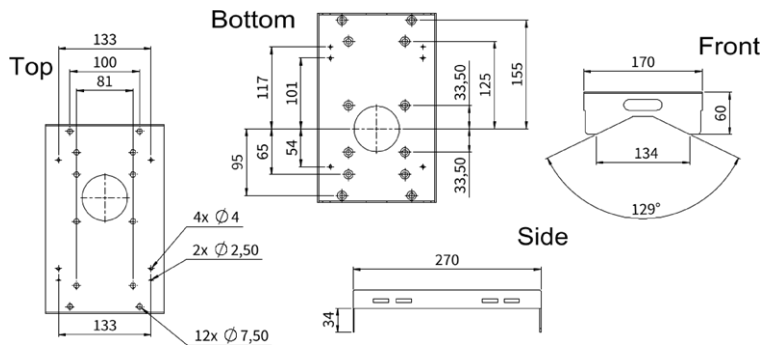
## Order Code

## Dimensions

Mx-M-VD-C



Mx-M-VD-P



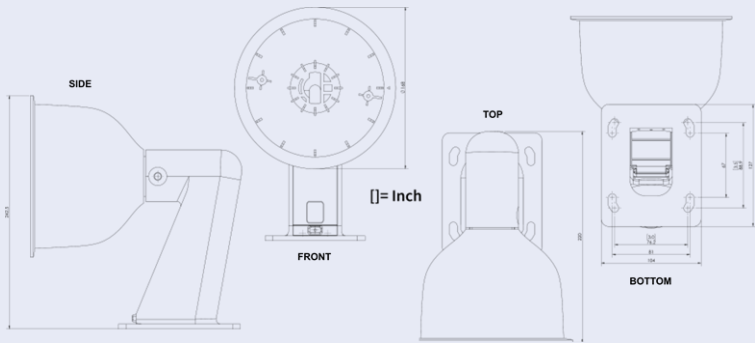
# Technical Specifications

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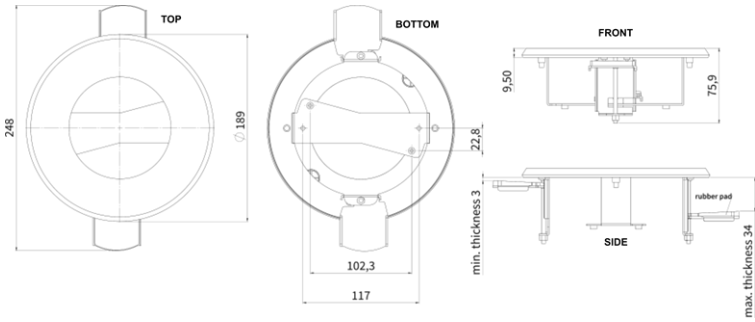
### Order Code

Mx-M-VD-W

### Dimensions



Mx-M-VD-IC



All measurements in mm.

## Accessories for All Cameras

MOBOTIX MOVE 2MP Vandal Fixed Dome Analytics Camera

| Picture/<br>Order Code   | Description  | Compatible<br>Products                            | Material/<br>Color  | Weight                                       |
|--|--|---|---|--|
|  <p data-bbox="245 927 517 958">MX-NPA-UPOE1A-60W</p> | <p data-bbox="608 376 983 1144">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.</p> | <p data-bbox="1003 376 1158 405">All cameras.</p> | <p data-bbox="1230 376 1358 454">Plastic housing, black</p> | <p data-bbox="1410 376 1506 405">0.45 kg</p> |

## Technical Specifications

### MOBOTIX MOVE 2MP Vandal Fixed Dome Analytics Camera

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**Picture/  
Order Code**



Mx-A-ETP1A-2601-SET

**Description**

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 bandwidth, range up to 600 m/656 yd for data only, 300 m/328 yd for PoE depending on the quality of the twisted-pair link • 128 bit AES network data encryption • Power supply 2-wire transmitter (Tx) and receiver (Rx) as well as end device via PoE+ network switch or external power supply 56VDC / 1.2A (not included!) • Connected end devices are supplied 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 Over-voltage protection (IEC 61000-4-5 4kV(1.2 / 50us), 2kA(8 / 20us)) • Power Supply: TX: T-

**Compatible  
Products**

All cameras. Requires Mx-A-ETP1A-2601-POW.

**Material/  
Color**

Plastic housing, black

**Weight**

0.368 kg

MOBOTIX MOVE 2MP Vandal Fixed Dome Analytics Camera

**Picture/  
Order Code**

**Description**

**Compatible  
Products**

**Material/  
Color**

**Weight**

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



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-SWITCH1

MOBOTIX network switch for DIN (top-hat) rail mounting. 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.

All cameras.

Plastic housing, gray 0.31 kg

## Further Reading

[Manuals and Quick Installation documents](#)



[Video Analytics Manual](#)



[Technical Specifications](#)



[MOBOTIX MOVE Installation Hints](#)



[MOBOTIX Community](#)



# MOBOTIX

BeyondHumanVision

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