



Technical Specifications

MOBOTIX MOVE 20MP Multisensor IR Video Analytics Camera

The MOBOTIX MOVE 20MP Multisensor IR Video Analytics Camera incorporates four individually adjustable 5MP sensors with remote zoom/focus lenses for optimum positioning and alignment to the observation needs. Four individual video streams plus a combined stream of all four sensors that provides an undistorted view up to 360 degrees make this camera the best choice for monitoring large areas or road intersections. The integrated DNN-based video analytics features include Face and License Plate recognition for 24/7 video surveillance with simultaneous detection of multiple objects. The MOBOTIX EverClear superhydrophilic and self-cleaning nano coating of the multisensor bubble ensures best image quality even in rain and reduces cleaning efforts and operational costs.

- 4 x 5MP image sensors, freely adjustable (1/2.8" Progressive CMOS IMX 675 SONY STARVIS II)
- High light sensitivity: 0.02 Lux color, 0.001 Lux B/W
- Motorized 3x zoom/focus lens 2.8 to 8 mm
- WDR up to 130 dB
- Integrated IR illumination up to 30 m/100 ft
- Supports up to nine streams H.264/H.265/MJPEG
- Intelligent encoding, smart low-bitrate control
- Bi-directional audio Line In/Out and integrated microphone
- MOBOTIX MxMessageSystem
- 2D & 3D motion-compensated noise reduction (MCTF)
- ONVIF Profile S/G/T/M support
- DNN video analytics (8 VA, Face & ALPR)
- Smart event functions
- M.2 SATA3 SSD support up to 8 TB
- microSD SDHC/SDXC card support up to 1 TB (2 slots)
- Triple power support (IEEE802.3bt/AC24V/DC24V)
- Outdoor protection rate IP66/IK10
- NEMA 4x-compliant
- FIPS140-2 level 3-compliant (certified TPM Chipset)
- Temp. Range -40 to 60 °C/-40 to 140 °F with heater
- EverClear coating of multisensor bubble



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High-Quality DNN Edge Video Analytics



The latest computer vision technology makes the DNN-accelerated video processing engine efficient at the edge. This integrated engine provides high accuracy, real-time object tracking and 10 (DNN-based) video analytics functions including ALPR and human face recognition. Moreover, it allows simultaneous detection on multiple objects.

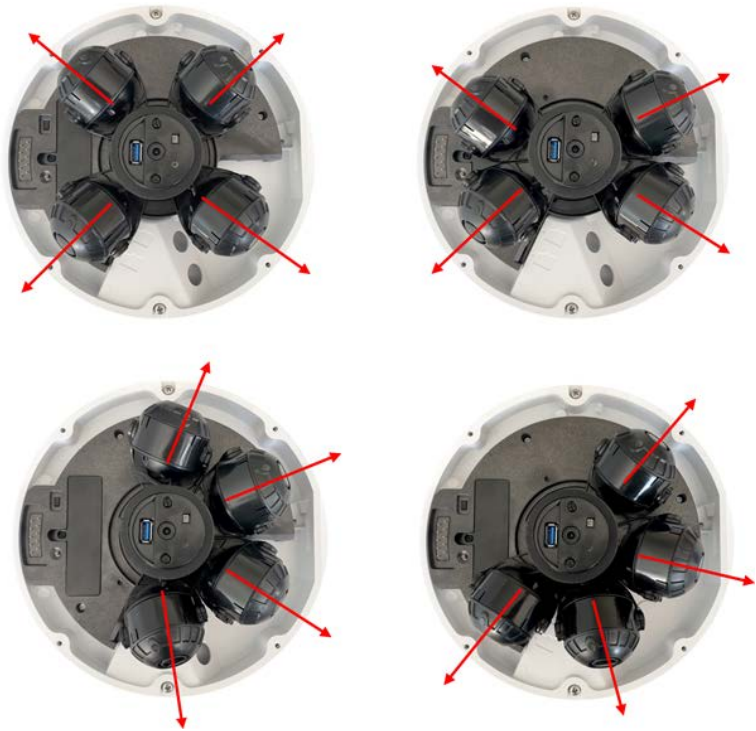
MOBOTIX EverClear Nano Coating

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.

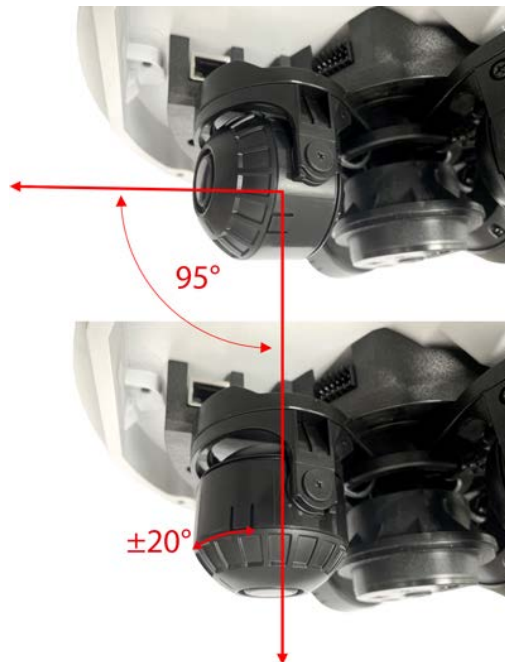


Freely Positionable Image Modules

The four sensor modules can be arranged next to each other as required and thus optimally aligned to the detection area.



Every sensor module can be tilted by up to 95 degrees. In addition, you can pivot every module by ± 20 degrees.



Product Information

| | |
|--------------|--|
| Product Name | 20MP Multisensor IR Video Analytics Camera |
| Order Code | Mx-VM1A-20-IR-VA |

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Image Quality

| | |
|---|---|
| Image Sensors | 4 x 5MP 1/2.8" Progressive CMOS IMX675 (SONY STARVIS II) |
| Effective (Used) Pixels (per image sensor) | H x V = 2608x1964 (5MP) |
| Pixel Size | 2.0 µm |
| Frame Rate (maximum) | WDR on/off: H.265/H.264: 5MP@30 fps MJPEG: 1080p@30 fps |
| Multisensor Bubble 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 multisensor bubble, further reducing maintenance efforts. Coating endurance up to 3 years depending on environmental conditions and cleaning treatment. |

Hardware Design

| | |
|-----------|----------------------------|
| Processor | Ambarella CV52 |
| Memory | RAM: 32 GB, FLASH: 4 GB |

Lens

| | |
|--|---|
| Minimum Illumination | Color: 0.02 Lux B/W: 0.001 Lux F1.6, AGC=on, 30 IRE, 1/1 s |
| Lens Characteristics (per image sensor) | Motorized Lens: Zoom, Focus Focal Length: 2.8 to 8 mm Aperture: F1.6 Horizontal Field of View: 111.5° (Wide), 53.7° (Tele) Vertical Field of View: 79° (Wide), 40.2° (Tele) |

Camera

| | |
|--|--|
| Day/Night | Automatically switchable IR-cut filter |
| Shutter Speed (Auto) | 1 to 1/10000 s |
| Shutter Speed (Manual) | WDR: 1 to 1/67500 s Linear: 1 to 1/67500 s |
| Shutter Priority Mode | Up to 1/45 s |
| WDR | Up to 130 dB |
| Zoom | Optical: 3x, Digital: 10x |
| Image Settings | Color, Brightness, Sharpness, Contrast, White Balance, Exposure Control, 2DNR, 3DNR, NR by Motion, Masking, Text Overlay |
| Image Rotation | 90°, 180°, 270° |
| Camera Module Adjustment (per image sensor) | Pan/tilt/rotate/twist |

Video Codec

| | |
|----------------------|--|
| Compression/Encoding | H.265/H.264/MJPEG |
| Streaming | Up to 9 individually configurable streams (4 streams, 4 sub streams, 1 Quad stream) in H.264/H.265/MJPEG; configurable resolution, frame rate, bandwidth LBR/VBR/CBR in H.265/H.264 |

Audio Codec

| | |
|----------------------|--|
| Compression/Encoding | G.711/G.726/AAC/LPCM |
| Streaming | Bi-directional |
| Audio Input | Integrated microphone, Line In Max. 2.28 V _{pp} for line signal Input impedance: 33 kΩ |
| Audio Output | Line Out Output resistance: 220 Ω Output voltage: 1 V _{rms} |

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Cyber Security Features

| | |
|--|---|
| Password Protection | Yes (including “forced” password change during initial setup) |
| IP address filtering | Yes |
| IEEE 802.1X network access control | Yes |
| Digest authentication | Yes |
| AES encryption for password protection | Yes |
| SNMP, TLS, HTTP, HTTPS | Yes |
| User and Group Management | Yes |
| SSL connections | Yes |
| VPN | Yes |
| Digital image signature | Yes |
| RSA encryption (2048 bits) | Yes |

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, VPN |
| ONVIF conformance | Supports profiles S/G/T/M |
| Supported Browsers | All current browsers (e.g. Microsoft Edge, Firefox, Google Chrome, Opera, etc.) are supported. |

System Integration

Base Video Analytics

- Motion detection
- Audio detection

Enhanced Video Analytics

- Abandoned objects
- Intrusion (object classification)
- Sabotage
- Wrong direction
- Loitering (object classification)
- Object counting (object classification)
- Object removal
- Stopped vehicle (object classification)

1 analytics function can be activated for every image sensor

DNN (Deep Neural Network) based video analytics

- Face Recognition (incl. gender & age estimation)
- Number Plate Recognition – supported countries:
Armenia, Austria, Azerbaijan, Belarus, Belgium, Bosnia and Herzegovina, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Georgia, Germany, Greece, Hungary, Ireland, Israel, Italy, Japan, Kazakhstan, Kyrgyzstan, Latvia, Lithuania, Luxembourg, Moldova, Monaco, Montenegro, Netherlands, North Macedonia, Norway, Poland, Portugal, Romania, Russia, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Taiwan, Turkey, Ukraine, United Kingdom, Uzbekistan, Vietnam

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

General

| | |
|--------------------------------|---|
| Housing material | Metal and plastic |
| Power Requirements | IEEE802.3bt, Type 3, class 6, max 51 Watt AC24V, max 53.1 Watt, max 74.8 VA DC24V, max 27.55 Watt |
| Connectors | <ul style="list-style-type: none">▪ RJ45▪ USB Type A▪ 2 x Alarm in, 2x Alarm out, Audio in, Audio out terminal block▪ DC24V/AC24V terminal block |
| IR Illumination | 850 nm; up to 30 m/100 ft distance depending on scenery reflection |
| Video Storage | microSD SDHC/SDXC card support up to 1 TB (2 slots), M.2 SSD card support up to 8 TB, support for recording to NAS, MOBOTIX HUB, MOBOTIX MOVE NVR, MOBOTIX CLOUD |
| Remotely Upgradable | Yes |
| Environmental Protection Class | IP66/IK10 |

MOBOTIX MOVE 20MP Multisensor IR Video Analytics Camera

| | |
|-----------------------|---|
| Operating Temperature | -40 to 60 °C/-40 to 140 °F with heater |
| Relative Humidity | 10 to 90 % non-condensing |
| Storage Conditions | -20 to 70 °C/-4 to 158 °F |
| Approvals | EMC: CE/FCC Safety: LVD IT Security: FIPS 140-2-compliant (using certified TPM chipset) Environmental: IP66, IK10, NEMA-4x-compliant |
| MTBF | 95,000 hours |
| Warranty | 5 years; mechanically wearable parts (motor, gears, belts, etc.) excluded |
| Dimensions | ø 255 x 105 mm |
| Weight | 2400 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 | Alarm Out |
|-------------------------------|---------------------|
| 5 V with 10 kΩ pull up, 50 mA | 400 V DC/AC, 120 mA |



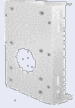





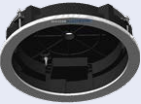
DORI Specifications

In the video surveillance context, “DORI” stands for Detection, Observation, Recognition and Identification and is based on IEC EN62676-4: 2015. These levels define the minimum pixels that a face of a person must have to provide proper identification, for example.

- **Detection:** Up to this distance, you can reliably determine if a person or vehicle is present.
- **Observation:** Up to this distance, you can see characteristic details of an individual, such as distinctive clothing.
- **Recognition:** Up to this distance, you can determine with a high degree of certainty whether an individual is the same as someone that has been seen before.
- **Identification:** Up to this distance, you can determine the identity of an individual beyond reasonable doubt.

| DORI Level | Detection | | Observation | | Recognition | | Identification | |
|------------------|-----------------|------------------|----------------|-----------------|----------------|----------------|----------------|----------------|
| | Wide | Tele | Wide | Tele | Wide | Tele | Wide | Tele |
| Camera | | | | | | | | |
| Mx-VM1A-20-IR-VA | 53 m/ 174 ft | 109 m/ 358 ft | 21 m/ 69 ft | 43 m/ 141 ft | 11 m/ 36 ft | 22 m/ 72 ft | 5 m/ 16 ft | 11 m/ 36 ft |

Accessories

| Picture | Order Code | Description |
|---|---------------|--|
|  | Mx-M-SD-C | Corner Mount for MOBOTIX MOVE cameras (only in combination with Wall Mount Mx-M-SD-W/WM) |
|  | Mx-M-SD-GN | Parapet Mount (Gooseneck) with integrated junction box for MOBOTIX MOVE cameras |
|  | Mx-M-SD-P | Pole Mount for MOBOTIX MOVE cameras (only in combination with Wall Mount Mx-M-SD-W/WM) |
|  | Mx-M-SD-PM | Pendant Mount Kit 25 cm for MOBOTIX MOVE cameras |
|  | Mx-M-SD-PMEXT | Pendant mount extension 25 cm for use with Pendant Mount Kit Mx-M-SD-PM |
|  | Mx-M-SD-W | Wall Mount for MOBOTIX MOVE cameras; can be combined with Pole Mount Mx-M-SD-P or Corner Mount Mx-M-SD-C |
|  | Mx-M-SD-WM | Wall Mount with room for optional junction box Mx-M-SD-WMJB for MOBOTIX MOVE cameras |
|  | Mx-M-SD-WMJB | Wall Mount Junction Box for MOBOTIX MOVE cameras |
|  | Mx-M-VM-IC | Ceiling Flush Mount for MOBOTIX MOVE Cameras |

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Picture**Order Code****Description**

Mx-M-VM-AP

Adapter Mounting Plate for MOBOTIX MOVE Cameras (use with Mx-M-SD-GN, Mx-M-SD-PM/PMEXT, Mx-M-SD-W, Mx-M-SD-WM)



Mx-A-VM-DBC

Clear Replacement Dome for MOBOTIX MOVE Cameras



Mx-A-VM-DBT

Tinted Replacement Dome for MOBOTIX MOVE Cameras



Mx-NPA-PoE1A-60W-BT

Network Power Injector 60 W



Mx-A-ETP1A-2601-SET

Media Converter Set Ethernet (PoE+) – Twisted-Pair

Dimensions

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

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

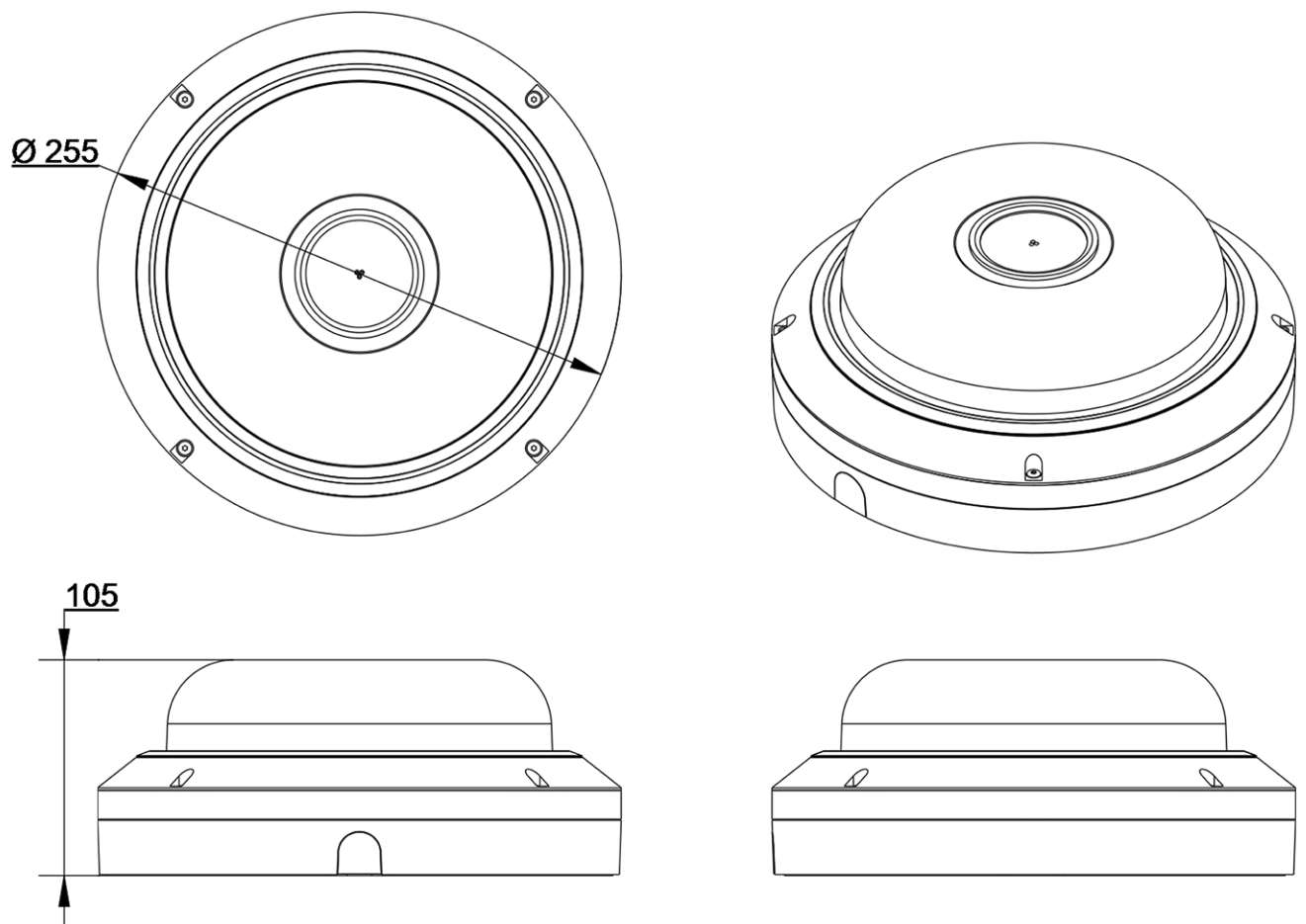


Fig. 1: 20MP Multisensor IR Video Analytics Camera: All measurements in mm

Further Reading

[Manuals and Quick Installation documents](#)



[Video Analytics Manual](#)



[Technical Specifications](#)



[MOBOTIX MOVE Installation Hints](#)



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EN_08/23

MOBOTIX AG • Kaiserstrasse • D-67722 Langmeil • Tel.: +49 6302 9816-103 • sales@mobotix.com • www.mobotix.com

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