



Technical Specifications

MOBOTIX M ONE (FIX & VARIO)

MOBOTIX M ONE (FIX & VARIO) - The One-of-a-Kind Video Security System

A robust maintenance-free German IP video system with outstanding design and high-quality components: glass fiber-reinforced, salt water-resistant housing, high-end processors, image sensors for excellent quality, and cyber-secure firmware by MOBOTIX with integrated AI for top-level perimeter protection and intrusion detection.

- Comprehensive codec support: H.264, H.265, MxPEG+, and MJPEG
- Wide range of optics with application-oriented fixed and varifocal lenses
- 4K UHD resolution for crisp and detailed images at day and night
- Two integrated IR LED lights (near and long distance)
- Wide Dynamic Range (WDR) with up to 120 dB
- Internal DVR including 64 GB microSD card (up to 1 TB supported)
- Integrated MOBOTIX ActivitySensor with AI-based object recognition
- Robust in all environmental conditions: -40 to 65 °C, IP66, NEMA 4X, and IK10
- 'Quick&Easy' installation with integrated bracket, concealed cabling, and varifocal optics



BeyondHumanVision

MOBOTIX

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Order Information MOBOTIX M ONE (FIX & VARIO)

Varifocal Lens Variants	
Mx-ONE-M1A-S-8DNTELE	M1A-S with 4K DN Tele Varifocal (Day/Night), 42° - 15°
Mx-ONE-M1A-S-8DNWIDE	M1A-S with 4K DN Wide Varifocal (Day/Night), 112° - 47.5°
Fixed Lens Day/Night Variants	
Mx-ONE-M1A-S-8DN040	M1A-S with 4K DN040 (Day/Night), 120°x60°
Mx-ONE-M1A-S-8DN050	M1A-S with 4K DN050 (Day/Night), 95°x50°
Mx-ONE-M1A-S-8DN080	M1A-S with 4K DN080 (Day/Night), 60°x33°
Mx-ONE-M1A-S-8DN100	M1A-S with 4K DN100 (Day/Night), 45°x25°
Mx-ONE-M1A-S-8DN150	M1A-S with 4K DN150 (Day/Night), 30°x17°
Mx-ONE-M1A-S-8DN280	M1A-S with 4K DN280 (Day/Night), 15°x8.5°
Fixed Lens Night Variants	
Mx-ONE-M1A-S-8N040	M1A-S with 4K N040 (Night) 120°x60°
Mx-ONE-M1A-S-8N050	M1A-S with 4K N050 (Night), 95°x50°
Mx-ONE-M1A-S-8N080	M1A-S with 4K N080 (Night), 60°x33°
Mx-ONE-M1A-S-8N100	M1A-S with 4K N100 (Night), 45°x25°
Mx-ONE-M1A-S-8N150	M1A-S with 4K N150 (Night), 30°x17°
Mx-ONE-M1A-S-8N280	M1A-S with 4K N280 (Night), 15°x8.5°
Mounts	
Mx-MH-SecureFlex-ESWS	Pole mount for M1x, M2x, M1A-S
MX-M-CM-M1	Ceiling mount for M1 cameras

Hardware

Feature	Properties
Image sensor (color or B&W sensor)	Up to 4K UHD, 3840 × 2160, 16:9, 1/1.8"
Available Lenses	- Varifocal Wide (4.3–9.3 mm; f/1.3; 112–47°) - Varifocal Tele (11–29 mm; f/1.7; 42–15°) - Fixed lenses with various focal lengths (aperture: f/1.8)
Optical zoom	Yes (for varifocal models)
Light sensitivity	- Color sensor (day): 0.1 lx @ 1/60 s; 0.005 lx @ 1 s - B&W sensor (night): 0.02 lx @ 1/60 s; 0.001 lx @ 1 s
Exposure control	Manual and automatic modes 1 s to 1/16,000 s
IK protection class	IK10
IP / NEMA protection class	IP66 / NEMA 4X
Intended use	Not intended for use in hazardous areas (Ex areas)
Operating temperature range	-40 to 65 °C/-40 to 149 °F
Min. cold start temperature	-30 °C/-22 °F
Relative Humidity	5 % to 95 %, non-condensing
Internal DVR Storage	Internal microSD card (SDHC/SDXC), 64 GB out-of-the-box, max. 2 TB.
Permissible conductor sizes for PCB terminals	<i>Conductor cross section</i> - AWG: 26 – 20 - Rigid: 0.14 – 0.5 mm² - Flexible: 0.14 – 0.5 mm² - Flexible with ferrule without plastic sleeve: 0.25 – 0.34 mm² - Flexible with ferrule with plastic sleeve: 0.14 – 0.25 mm²
Input	Contact closure (no galvanic isolation required) or up to 30 Vrms AC / 50 V DC Switching thresholds - Input > 1.6 V results in detected HIGH - Input < 0.9 V results in detected LOW (after a HIGH) Max. cable length: 50 m
Output	2x dry contact, Form A (max. 30 Vrms / max. 50 V DC / 60 W / 2 A DC)
Microphone/Speaker	1x embedded microphone - Microphone sensitivity: -35 ± 4 dB (0 dB = 1 V/Pa, 1 kHz) 1x embedded speaker: 0.9 W at 8 Ω 1x external speaker (optional)

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Feature	Properties
Integrated illumination	2x embedded IR LEDs, 850 nm, up to 30 m / 100 ft (greater range possible depending on the scene) Right: tele; left: wide-angle
Tampering detection	Integrated shock sensor
Max. power consumption	Max. 12.95 W / 270 mA (average can be significantly lower)
Electrical surge protection	Overvoltage Protection Box (not included)
PoE standard	PoE (802.3af-2003), Class 3
Interfaces	■ Ethernet 1000Base-T (RJ45 according to EIA/TIA-568B) ■ USB 2.0 via USB-C connector ■ 12-24VDC power supply ■ Input / Output ■ Ext. Speaker
Status LED	Multicolor (8 colors)
Mounting Options	Wall-mountable (default) Ceiling- or pole-mountable (accessory required; compatible with M26)
Dimensions (height x width x depth)	222 x 131 x 238 mm
Weight	Approx. 0.973 kg/2.15 lbs
Housing	PBT-30GF
Standard accessories	■ 1x Ethernet patch cable, 50 cm / 19.7 in (installed) ■ 1x SD card 64 GB (installed) ■ 1x Important Safety Information ■ 1x sticker with camera IP address ■ 1x camera connection flyer ■ 1x module wrench *M1A-S FIX only ■ 1x sealing ring for VarioFlex and wall mounts ■ 5x screw caps plastic white ■ 1x 5mm Allen wrench ■ 4x stainless steel washers Ø5.3 mm ■ 4x Wood screws 4.5x60 mm ■ 4x Dowels S8 ■ 1x Tweezers for replacing the SD card
Pan/tilt range	■ Wall- or pole-mounted Horizontal: 180° Vertical: 110° ■ Ceiling mounted Horizontal: 360° Vertical: 110°

Feature	Properties
Detailed technical documentation	www.mobotix.com > Services > Download Center > Marketing & Documentation
MTBF	100,000 hours
Certificates	EN 55032, EN 55035, EN 61000-6-1, EN 61000-6-2, EN 61000-6-3, EN 61000-6-4, EN 62368-1, EN 63000, AS/NZS CISPR32, 47 CFR Part 15b, NRTL
Protocols	DHCP (client and server), DNS, ICMP, IGMP v3, IPv4, IPv6, HTTP, HTTPS, FTP, FTPS, NFS, NTP (client and server), MQTT, RTP, RTCP, RTSP, SFTP, SIP (client and server), SMB/CIFS, SNMP, SMTP, SSL/TLS 1.3, TCP, UDP, VLAN, VPN, Zeroconf/mDNS
Manufacturer's warranty	5 years

Image and Video Properties

Feature	Properties
Available video codecs	H.264, H.265, MxPEG+, MJPEG
Image resolutions	VGA 640x360, XGA 1024x576, HD 1280x720, FHD 1920x1080, QHD 2560x1440, 4K UHD 3840x2160 (8MP)
Multi streaming	H.264, H.265 with triple streaming
Multicast stream via RTSP	Yes
Max. frame rate	MxPEG: 20@4K, H.264: 30@4K, H.265: 30@4K

General Software Features

Feature	Properties
WDR	Up to 120 dB
Software features	■ H.264, H.265 Multistreaming ■ Multicast stream via RTSP ■ Digital pan, tilt, zoom/vPTZ (up to 8x zoom) ■ Genetec protocol integration ■ Programmable exposure zones ■ Snapshot recording (pre/post-alarm images) ■ Continuous recording ■ Event recording ■ Time-controlled flexible event logic ■ Weekly schedules for recordings and actions ■ Event video and image transfer via FTP and email ■ Playback and QuadView via web browser ■ Animated logos on the image ■ Master/Slave functionality ■ Privacy zone scheduling ■ Remote alarm notification (network message) ■ Programming interface (HTTP API) ■ MxMessageSystem ■ MQTT (Message Queuing Telemetry Transport)
ONVIF compatibility	Profile S/G/T
Master/Slave functionality	Yes
Remote alarm notification	Email, MQTT, MxMessageSystem, network message (HTTP/HTTPS), SNMP, SIP
DVR/image storage management	■ On internal microSD card ■ On external USB and NAS devices ■ Different streams for live image and recording
Camera and data security	FIPS 140-3 validated encryption (OpenSSL 3.1.2, NIST CMVP #4985), VPN with FIPS-certified library, HTTPS with custom X.509 certificates (TLS), AES encryption at rest (microSD / NAS), role-based access control, IP-level access control list, audit trail / web server access log, intrusion detection with automatic IP lockout, IEEE 802.1X port-based network access control, digital image signature
Firmware Tampering Detection	Digital Signature

Video Analysis

Feature	Properties
Video motion detection	Yes
MxActivitySensor	Version 1.0, 2.1
MxActivitySensorONE	Motion and Loitering Detection of Person and Vehicles

Video Management Software

Feature	Properties
MOBOTIX HUB	Yes www.mobotix.com > Services > Download Center > Software Downloads
MxManagementCenter	Yes (latest version recommended) www.mobotix.com > Services > Download Center > Software Downloads
MOBOTIX LIVE App	Yes, available in Google Play Store (Android) and Apple App Store (iOS).
3rd Party VMS Software	See ONVIF Profile S/G/T specification

Dimensions

NOTE!

Drilling template: www.mobotix.com > Services > Download Center > Marketing & Documentation > Drilling Templates.

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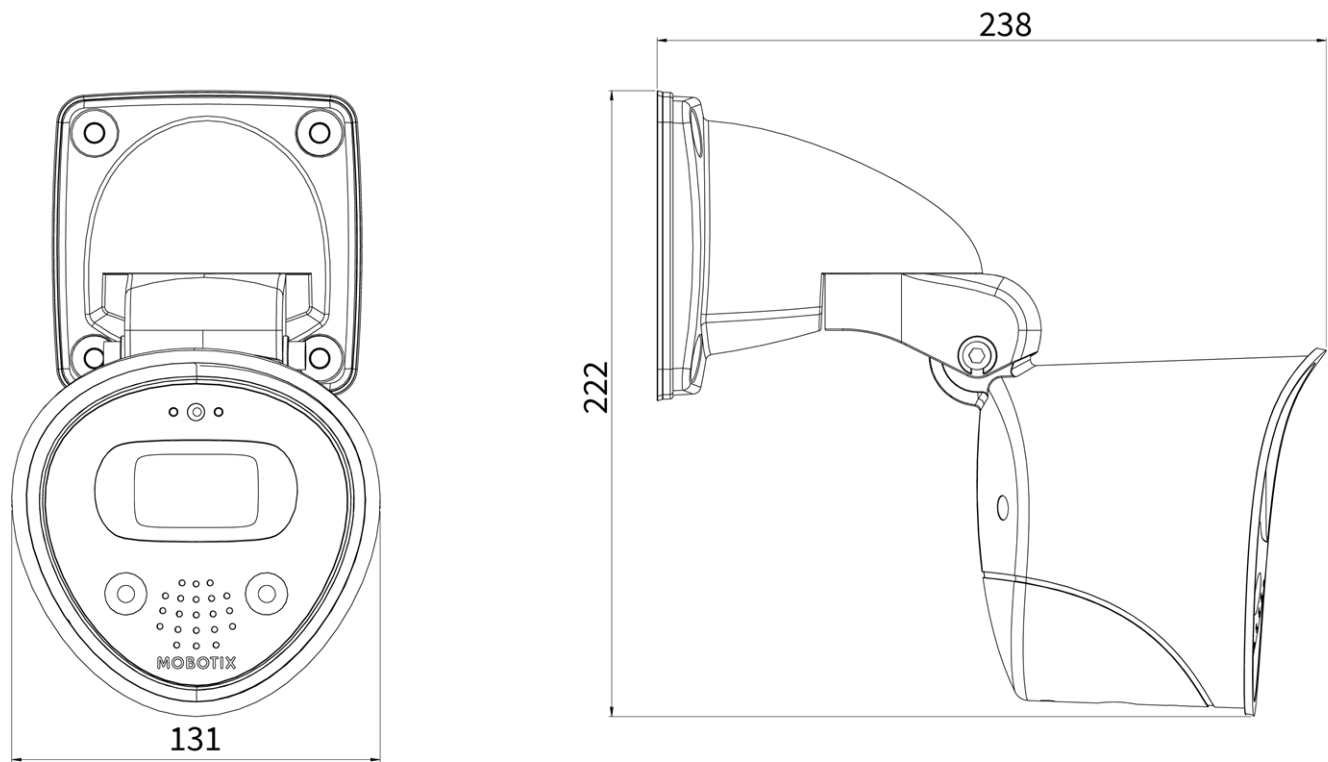


Fig. 1: MOBOTIX M ONE (FIX & VARIO): All measurements in mm



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