



# Technical Specifications

## MOBOTIX M73

**Flexible. Modular. Unique.**

Weatherproof and robust, the latest generation of our successful M camera models features increased modularity as well as the latest MOBOTIX 7 system platform with intelligent Plug-In App concept. The result is a system completely unrivaled in terms of performance, functionality and design.

- Platform with the most flexible codec support: H.264, H.265, MxPEG+ and MJPEG
- ONVIF Profile G, S, T conformity guarantees utmost interoperability
- Increased modularity with flexible usage of a combination of up to three sensor or functional modules
- 2 x 4K UHD resolution
- Can optionally be used with an exchangeable CIF/VGA thermal sensor module
- Wide Dynamic Range (WDR) with up to 120 dB
- Easy Plug quick-mounting system
- Robust in any environment: -40 to 65 °C/-40 to 149 °F, IP66, NEMA 4X and IK10

 HEVC Advance™

BeyondHumanVision

**MOBOTIX**

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## Order Information

Name	MOBOTIX M73
Order Code:	Mx-M73

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## Hardware

Feature	Properties
Image sensor (color or B&W sensor)	up to 4K UHD 3840x2160, 16:9, 1/1,8"
Light sensitivity	<ul style="list-style-type: none"><li>Color sensor (day): 0,1 lx @ 1/60s; 0,005 lx @ 1s</li><li>BW sensor (night): 0,02 lx @ 1/60s; 0,001 lx @ 1s</li></ul>
Exposure control	Manual and automatic mode 1 s to 1/16,000 s
IK protection class	IK10 (housing)
IP / NEMA protection class	IP66 / NEMA 4X

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Feature	Properties
Operating temperature range	-40 to 65 °C/-40 to 149 °F
Min. cold start temperature	-30 °C/-22 °F
Relative Humidity	95 % non-condensing
Internal DVR Storage	Internal microSD card (SDHC/SDXC), 8 GB out of the box, max. 1 TB.
I/Os	see <a href="#">Connector Box LSA / Connector Box RJ45, p. 16</a>
Microphone/Speaker	<ul style="list-style-type: none"> <li>▪ Functional audio module, max. 4.5 Watt (see <a href="#">Functional Modules, p. 15</a>)</li> <li>▪ Microphone Sensitivity: -35 +/-4 dB (0 dB = 1 V/pa, 1 kHz)</li> <li>▪ Speaker: 0.9 W at 8 Ohm</li> </ul>
Passive infrared sensor (PIR)	Available with functional module, max. 4.5 Watt (see <a href="#">Functional Modules, p. 15</a> )
Infrared illumination	Three functional modules for wide-angle, standard, and tele lenses
Range of infrared illumination	Up to 30 m/100 ft (may be more depending on scene)
Shock detector (tamper detection)	Yes
Max. power consumption	max. 25 W
Electrical surge protection	integrated with MOBOTIX integrated with Connector Box LSA (not part of the scope of delivery)
PoE standard	PoE Plus (802.3at-2009)/Class 4
Interfaces	<ul style="list-style-type: none"> <li>▪ Ethernet 1000BaseT</li> <li>▪ miniUSB / USB2.0 High-Speed (<math>V_{out} = 5,1V</math>, <math>I_{out} = 0,9A</math>, <math>P_{out} = 4,5W</math>)</li> </ul>
Mounting Options	Wall- or pole-mountable (with Pole Mount accessory)
Dimensions (height x width x depth)	228 x 153 x 232 mm
Weight without sensor modules	Approx. 2.5 kg/5.5 lb
Housing	Aluminum, PBT-30GF

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#### Feature

Standard accessories

#### Properties

3 Transport plugs  
1 blind module (must be installed when using only two sensor modules)  
1 Mounting plate with wall sealing (pre-installed), two standard plugs (pre-installed)  
1 connector box (pre-installed)  
1 Ethernet patch cable, 50 cm/19.7 in with sealing (RJ45 variant only)  
1 SD card 8 GB (installed)  
1 Important Safety Information  
1 Sticker with EAN number of camera  
1 Sticker with IP address of camera  
1 Connector box RJ45 or LSA black with rubber plug black, rubber plug single-wire white, USB plug blue (installed)  
1 Protective cover for connector box polystyrene white (installed)  
1 Rubber plug black (installed)  
1 Rubber plug single-wire white (installed)  
1 Rubber plug cable dia. 3.5 mm white (to replace C.5)  
1 USB plug connector box blue (installed)  
1 Module wrench (gray)  
1 Lens wrench blue  
3 housing plugs silicone white  
3 Security clips plastic red  
2 Cable tie black  
1 Allen wrench 5 mm  
1 Allen wrench 2.5 mm  
1 TORX wrench TX20  
1 TORX wrench TX10  
1 Screw driver yellow  
4 Washers dia. 6.4 mm plastic white  
4 Wood screws 4.5 x 60 mm  
4 Dowels S8  
3 Oval head screws with shank 2.5x6.5 mm, stainless steel black  
2 Covers for screw plastic white

Tiltability of camera

Horizontal: 2 x 180 degrees  
Vertical: 110 degrees

Feature	Properties
Detailed technical documentation	<a href="http://www.mobotix.com">www.mobotix.com</a> > <a href="#">Support</a> > <a href="#">Download Center</a> > <a href="#">Marketing &amp; Documentation</a>
MTBF	80,000 hours
Certificates	EN 50121-4, 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
Protocols	DHCP (client and server), DNS, ICMP, IGMP v3, IPv4, IPv6, HTTP, HTTPS, FTP, FTPS, NFS, NTP (client and server), RTP, RTCP, RTSP, SFTP, SIP (client and server), SMB/CIFS, SNMP, SMTP, SSL/TLS 1.3, TCP, UDP, VLAN, VPN, Zeroconf/mDNS S
Manufacturer warranty	5 years

## Average Power Consumption

### M73 - Body

Average power consumption: 8.5 W

### M73 - D/N, IR, Audio

Modules:

M1: IR 850nm wide

M2: ULL Day/Night DN280

M3: Audio

Average power consumption: 15.4 W

### M73 - D/N, IR, Multisense

Modules:

M1: IR 850nm wide

M2: ULL Day/Night DN280

M3: Multisense

Average power consumption: 14.1 W

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#### M73 - D/N, Thermal, Audio

Modules:

M1: Thermografic Sensor 336R100

M2: ULL Day/Night DN280

M3: Audio

**NOTE!** Thermal overlay used as Live view.

Average power consumption: 12.2 W

#### M73 - D/N, Thermal, Multisense

Modules:

M1: Thermografic Sensor 336R100

M2: ULL Day/Night DN280

M3: Multisense

**NOTE!** Thermal overlay used as Live view.

Average power consumption: 11.5 W

#### M73 - D/N, Thermal, IR

Modules:

M1: Thermografic Sensor 336R100

M2: ULL Day/Night DN280

M3: IR 850nm wide

**NOTE!** Thermal overlay used as Live view.

Average power consumption: 16.5 W

## Image and Video Properties

Feature	Properties
Available video codecs	<ul style="list-style-type: none"> <li>▪ H.264, H.265</li> <li>▪ MxPEG+</li> <li>▪ MJPEG</li> </ul>
Image resolutions	VGA 640x360, XGA 1024x576, HD 1280x720, FullHD 1920x1080, QHD 2560x1440, 4K UHD 3840x2160
Multi streaming	H.264, H.265 with triple streaming
Multicast stream via RTSP	Yes
Max. image H.264 resolution	<ul style="list-style-type: none"> <li>▪ One sensor: 4K UHD, 3840x2160 (8MP)</li> <li>▪ Both sensors (dual image): 2x 4K UHD, 7680x2160 (16MP)</li> </ul>
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	<ul style="list-style-type: none"> <li>▪ H.264, H.265 Multistreaming</li> <li>▪ Multicast stream via RTSP</li> <li>▪ Digital pan, tilt, zoom/vPTZ (up to 8x zoom)</li> <li>▪ Genetec protocol integration</li> <li>▪ Programmable exposure zones</li> <li>▪ Snapshot recording (pre/post-alarm images)</li> <li>▪ Continuous recording</li> <li>▪ Event recording</li> <li>▪ Time-controlled flexible event logic</li> <li>▪ Weekly schedules for recordings and actions</li> <li>▪ Event video and image transfer via FTP and email</li> <li>▪ Playback and QuadView via web browser</li> <li>▪ Animated logos on the image</li> <li>▪ Master/Slave functionality</li> <li>▪ Privacy zone scheduling</li> <li>▪ Remote alarm notification (network message)</li> <li>▪ Programming interface (HTTP-API)</li> <li>▪ MxMessageSystem</li> </ul>
ONVIF compatibility	Profile G, S, T, (M with later firmware release)
Master/Slave functionality	Yes
Remote alarm notification	email, network message (HTTP/HTTPS), SNMP, MxMessageSystem, MQTT



Feature	Properties
DVR/image storage management	<ul style="list-style-type: none"> <li>▪ On internal microSD card</li> <li>▪ On external USB and NAS devices</li> <li>▪ Different streams for live image and recording</li> <li>▪ MxPEG+ only</li> <li>▪ MxFFS with buffered archive, pre- and post-alarm images, storage monitoring with error reporting</li> </ul>
Camera and data security	User and group management, SSL connections, IP-based access control, IEEE 802.1X, intrusion detection, digital image signature
Digitally signed firmware	Yes (to prevent firmware file tampering)

## Video Analysis

Feature	Properties
Video motion detection	Yes
MxActivitySensor	Version 1.0, 2.1, 3.0 and object-based MxAnalytics AI
MxAnalytics	Yes with a later FW release
MOBOTIX App support	Yes with a later FW release

## Video Management Software

Feature	Properties
MOBOTIX HUB	Yes <a href="http://www.mobotix.com">www.mobotix.com</a> > Support > Download Center > Software Downloads
MxManagementCenter	Yes (latest version recommended) <a href="http://www.mobotix.com">www.mobotix.com</a> > Support > Download Center > Software Downloads
MOBOTIX Cloud	Streaming & Events supported

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Feature	Properties
MOBOTIX LIVE App	Yes (available in Google Play Store (Android) and Apple App Store (iOS)).
3rd Party VMS Software	see ONVIF Profile S, T and G specification

## Sensor Modules

### Dimensions of Sensor Modules

Dimensions (height x width)	58 x 42,5 (50 mm)
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### Weight of Sensor Modules

Sensor Module	Weight
Standard Sensor Modules	max. 150g
Functional Modules	max. 150g
Thermal Sensor Module	380g
PTMount Thermal	890g

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## Supported Image Sensor Modules

Sensor Module	Order Code
Sensor module with standard 45° lens	Mx-O-M7SA-8DN100*
	Mx-O-M7SA-8D100
	Mx-O-M7SA-8N100*
	Mx-O-M7SA-4DN100
Sensor module with tele lens 30°	Mx-O-M7SA-8DN150*
	Mx-O-M7SA-8D150
	Mx-O-M7SA-8N150*
	Mx-O-M7SA-4DN150
	Mx-O-M7SA-8L150
Sensor module with tele lens 15°	Mx-O-M7SA-8DN280*
	Mx-O-M7SA-8D280
	Mx-O-M7SA-8N280*
	Mx-O-M7SA-4DN280
	Mx-O-M7SA-8L280
Sensor module with tele lens 8°	Mx-O-M7SA-8D500
	Mx-O-M7SA-8N500
	Mx-O-M7SA-8L500
Sensor module with wide angle lens 60°	Mx-O-M7SA-8DN080*
	Mx-O-M7SA-8D080
	Mx-O-M7SA-8N080*
	Mx-O-M7SA-4DN080
Sensor module with super wide angle lens 95°	Mx-O-M7SA-8DN050*
	Mx-O-M7SA-8D050
	Mx-O-M7SA-8N050*
	Mx-O-M7SA-4DN050

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#### Sensor Module

#### Order Code

Sensor module with ultra wide angle lens 120° 4K Mx-O-M7SA-8DN040\*

Mx-O-M7SA-8D040

Mx-O-M7SA-8N040\*

Mx-O-M7SA-4DN040

Mx-O-M7SA-8L040

Sensor module with hemispheric lens 180° 12MP Mx-O-M7SA-12DN016\*

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\*also available in black.

**NOTE!** Please consider any lens-related restrictions. For example, license plate recognition is not possible with a hemispheric lens.

For a complete list of lenses for MOBOTIX cameras, please see the Lens Table document for MOBOTIX 7 models on [www.mobotix.com](http://www.mobotix.com) > [Support](#) > [Download Center](#) > [Marketing & Documentation](#) > [Lens Table](#).

## Supported Thermal Sensor Modules (Pre-mounted on Thermal Front Plate)

#### Sensor Module

#### Order Code

CIF Thermal 45° x 35° MX-O-M73TB-336T100

CIF Thermal 25° x 19° Mx-O-M73TB-336T150

CIF Thermal 17° x 13° Mx-O-M73TB-336T280

CIF Thermal Radiometry  
45° x 35° Mx-O-M73TB-336R100

CIF Thermal Radiometry  
25° x 19° Mx-O-M73TB-336R150

CIF Thermal Radiometry  
17° x 13° Mx-O-M73TB-336R280

CIF Thermal Radiometry  
9,3° x 7,1° Mx-O-M73TB-336R500 (BTO)

VGA Thermal 90° x 69° Mx-O-M73TB-640T050

VGA Thermal 69° x 56° Mx-O-M73TB-640T080

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Sensor Module	Order Code
VGA Thermal 45° x 37°	Mx-O-M73TB-640T100
VGA Thermal 32° x 26°	Mx-O-M73TB-640T150
VGA Thermal 18° x 14°	Mx-O-M73TB-640T280
VGA Thermal Radiometry 90° x 69°	Mx-O-M73TB-640R050
VGA Thermal Radiometry 69° x 56°	Mx-O-M73TB-640R080
VGA Thermal Radiometry 45° x 37°	Mx-O-M73TB-640R100
VGA Thermal Radiometry 32° x 26°	Mx-OM73TB-640R150
VGA Thermal Radiometry 18° x 14°	Mx-O-M73TB-640R280 (BTO)

The **Thermal Radiometry (TR)** variants automatically alarm when the temperature exceeds or falls below defined limits. This is crucial for the detection of fire or heat sources. Up to 20 different temperature events can be configured simultaneously in so-called TR windows or over the complete sensor image over a temperature range of High Sensitivity: -40 to 170 °C/-40 to 320 °F -- Low Sensivity: -40 to 550 °C/-40 to 1022 °F . The **Thermal (non-TR)** variants only measure in the center of the image (Thermal spot, 2x2 pixel).

## Features Thermal Image Sensors

Feature	Properties
Thermal sensitivity	Typ. 50 mK, IR range 7.5 to 13.5 µm
Temperature measurement range (adjustable)	High Sensitivity: -40 to 170 °C/-40 to 320 °F -- Low Sensivity: -40 to 550 °C/-40 to 1022 °F
Thermal image sensor	Uncooled microbolometer, CIF: 336 x 256 pixels / VGA: 640 x 480
Dimensions	336/640: 48,5x48,5x70 170g without front plate / 265g with front plate
Max. image size	Can be scaled up to 3072 x 2048 (6MP), automatically scaled to size of MX sensor module

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Feature	Properties	
Max. frame rate	9fps (-FAST version 25/30fps on request)	
Pixel pitch	17µm	
Field of view	<b>Sensor Module</b>	<b>FoV</b>
	336 xx 100	45° x 35°; 2.27mr, focal 7.5mm, f/1.25
	336 xx 150	25° x 19°; 1.31mr, focal 13mm, f/1.25
	336 xx 280	17° x 13°; 0.90mr, focal 19mm, f/1.25
	336 xx 500	9° x 7°; 0.486mr, focal length 35mm, f/1.5
	640 xx 050	90° x 69°; 2.27mr, focal 7.5mm, f/1.4
	640 xx 080	69° x 56°; 1.89mr, focal 9mm, f/1.4
	640 xx 100	45° x 37°; 1.31mr, focal 13mm, f/1.25
	640 xx 150	32° x 26°; 0.90mr, focal 19mm, f/1.25
	640 xx 280	18°x14°; 0.486mr, focal length 35mm, f/1.5
Operating temperature	-40° to +65°C / 40° to 149°F; 5% to 95% non-condensing	
Power consumption	CIF: 1W VGA: 1.2W	
MTBF	80,000 hours	
IP rating	IP67	
IK rating	IK04	
Material	PBT-30GF (housing); Germanium (lens)	
Software (included)	Video management software MxManagementCenter	

## Features ECO Thermal Image Sensor

Feature	Properties
Thermal sensitivity	Typ. 65 mK, IR range 7.8 to 14 µm
Temperature measurement range	-40 to 330°C/ -40 to 626 °F

Feature	Properties
Field of view	T040: 105 x 75°; 5,23mr, focal 2.2mm, f/1.05 T080: 56 x 42°; 3,00mr, focal 4.0mm, f/1.00
Thermal image sensor	Uncooled microbolometer, CIF: 320 x 240 pixels
Dimensions	58 x 42.5 mm (dia. 50 mm), 65g
Pixel pitch	12µm
Max. image size	Can be scaled up to 3072 x 2048 (6MP), automatically scaled to size of MX Sensor module
Max. frame rate	9 fps (when displaying an Mx Sensor module and a thermal sensor module, the overall frame rate of the camera is reduced to 9 fps)
Operating temperature	-40° to +65°C / 40° to 149°F; 5% to 95% non-condensing
Power consumption	600mW
IP rating	IP66
IK rating	IK04
Material	PBT-30GF (housing); Chalcogenide (lens)
Software (included)	Video management software MxManagementCenter

## Functional Modules

Functional Module	Order Code	Remark
Audio module	Mx-F-AUDA	Audio module with microphone and speaker
Functional MultiSense module	Mx-F-MSA	with PIR sensor, temperature sensor, illumination sensor
Functional IR Light modules	Mx-F-IRA-W	for Super Wide-Angle Lens Sensor Modules 95°

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Functional Module	Order Code	Remark
	Mx-F-IRA-S	for Standard & Wide-Angle Lens Sensor Modules 45° and 60°
	Mx-F-IRA-T	for Tele Lens Sensor Modules 15° and 30°
		Power consumption IR Light Modules: 4,2 W at 100% brightness.
White Light Modules	Mx-F-WLA-W	for Super Wide-Angle Lens Sensor Modules 95°
	Mx-F-WLA-S	for Standard & Wide-Angle Lens Sensor Modules 45° and 60°
	Mx-F-WLA-T	for Tele Lens Sensor Modules 15° and 30°
		Power consumption White Light Modules: 3,2 W at 100% brightness.

## Connector Box LSA / Connector Box RJ45

Interface	Properties
Network	100/1000 Mbps
Overvoltage Protection	max. 4 kV on the PoE network cabling
Allowed cable dimensions for cables connected to the PCB terminals	<i>Conductor cross section</i> AWG 20 - 26 Rigid 0.14mm <sup>2</sup> - 0.5mm <sup>2</sup> Flexible 0.14mm <sup>2</sup> - 0.5mm <sup>2</sup> Flexible with ferrule 0.25mm <sup>2</sup> - 0.34mm <sup>2</sup>
Line In	Standard Line In: (0dB) V <sub>rms</sub> =1V



Interface	Properties
Line Out	Headphones with 20mW @ 16 Ohm or 32 Ohm. Audio inputs as a Line Out function to 10k Ohm impedance of receiver. Audio level while connected to 10k Ohm equals -10dbV
IN / OUT	INPUT <ul style="list-style-type: none"> <li>▪ Contact Closure (no galvanic isolation necessary) or up to 50V AC/DC</li> <li>▪ max. length for cables: 50m</li> </ul> OUTPUT <ul style="list-style-type: none"> <li>▪ requires pull-up resistor and external power supply (10mA / max. 50V DC - no AC)</li> <li>▪ Output may be loaded with max. 50mA</li> <li>▪ max. length for cables: depends on loop impedance of the connected cable.</li> </ul>

## 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!

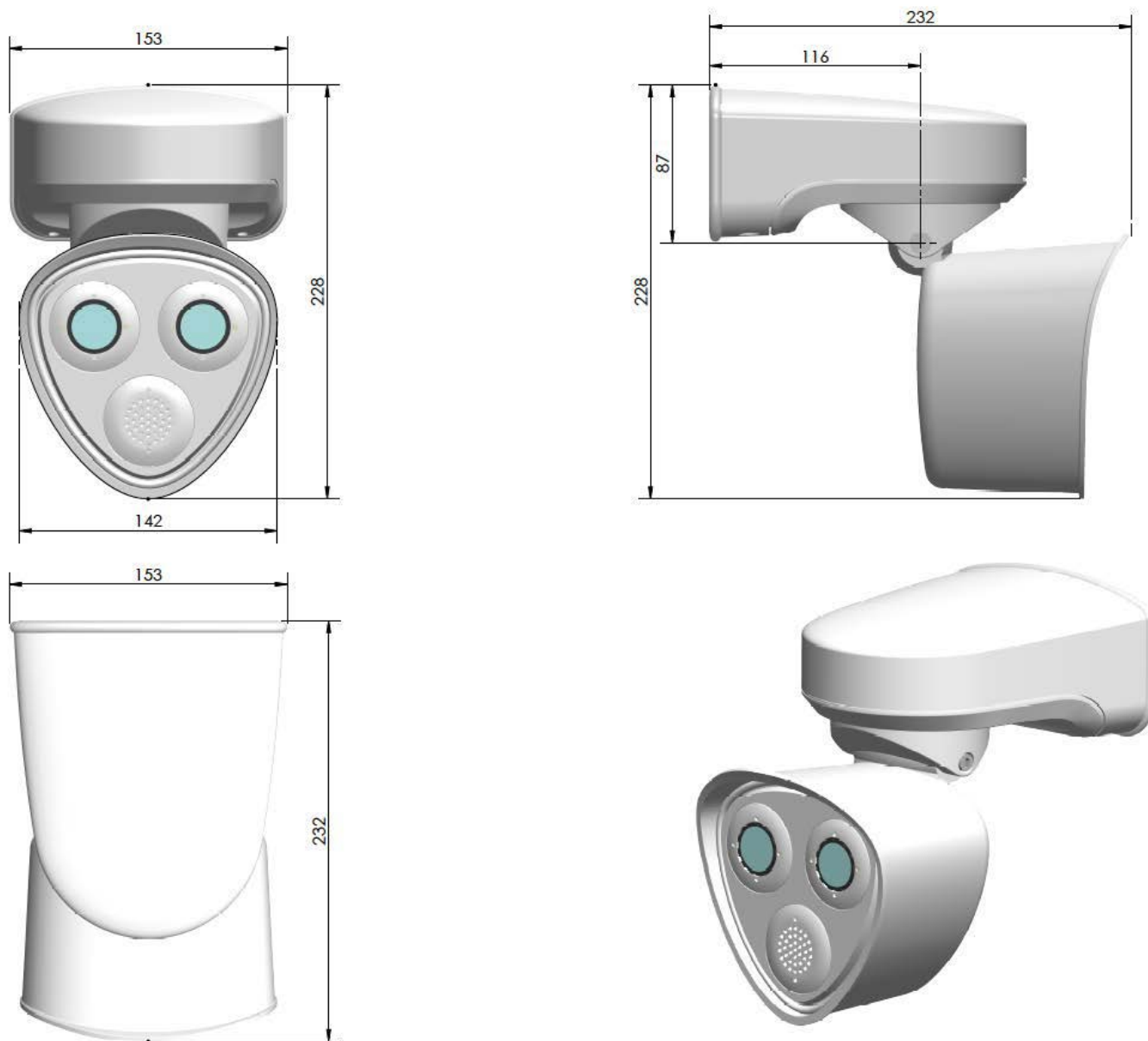


Fig. 1: MOBOTIX M73: All measurements in mm

# MOBOTIX

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

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