

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

HEVCAdvance™ NDAA Compliant

BeyondHumanVision

MOBOTIX

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Order Information

Name	MOBOTIX M73
Order Code:	Mx-M73(A/B)

Hardware

Feature	Properties
Image sensor (color or B&W)	Up to 4K UHD 3840x2160, 16:9, 1/1,8”
Light sensitivity	■ Color sensor (day): 0,1 lx @ 1/60s; 0,005 lx @ 1s ■ BW sensor (night): 0,02 lx @ 1/60s; 0,001 lx @ 1s
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
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), 8 GB out-of-the-box, max. 2 TB.
I/Os	See Connector Box LSA/Connector Box RJ45, p. 14
Microphone/Speaker	■ Functional audio module, max. 4.5 Watt (see Functional Modules, p. 13) ■ Microphone Sensitivity: -35 +/-4 dB (0 dB = 1 V/pa, 1 kHz) ■ Speaker: 0.9 W at 8 Ohm
Passive infrared sensor (PIR)	Available with functional module, max. 4.5 Watt (see Functional Modules, p. 13)
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)
Tampering Detection	Integrated Shock Sensor
Max. power consumption	■ Max. 25 W/521 mA at 48 VDC ■ Max. 25 W/1042 mA at 24 VDC
Electrical surge protection	Integrated with MOBOTIX Connector Box LSA (not part of the scope of delivery)
PoE standard	PoE Plus (802.3at-2009)/Class 4
Interfaces	■ Ethernet 1000BaseT ■ miniUSB / USB2.0 High-Speed (V_{out} = 5.1V, I_{out} = 0.9A, P_{out} = 4.5W)
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

Feature	Properties
Standard accessories	■ 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 RJ45 or LSA black with rubber plug black, rubber plug single-wire white, USB plug blue (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 Protective cover for connector box polystyrene white (installed, to be removed during installation) ■ 1 Rubber plug black (installed) ■ 1 Rubber plug single-wire white (installed) ■ 1 Rubber plug cable dia. 3.5 mm white ■ 1 USB plug connector box blue (installed) ■ 1 Module wrench ■ 1 Lens wrench ■ 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
Detailed technical documentation	**www.mobotix.com > Services > Download Center > Marketing & Documentation**
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, NRTL

Feature	Properties
Protocols	DHCP (client and server), DNS, ICMP, IGMP v3, IPv4, IPv6, HTTP, HTTPS, FTP, FTPS, MQTT, 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
Manufacturer warranty	5 years

Power Consumption

CAUTION!
To comply with the requirements of EN 54-4, the entire flame detection system (cameras, alarm systems, etc.) must be protected by uninterruptible power supplies (UPS) or batteries that can bridge power outages of up to 72 hours!

M73 - Body

Components	Average Power Consumption	Max. Power Consumption
■ M73	■ 8.5 W/177 mA at 48 VDC ■ 8.5 W/354 mA at 24 VDC	■ Max. 25 W/521 mA at 48 VDC ■ Max. 25 W/1042 mA at 24 VDC

M73 - D/N, IR, Audio

Components	Average Power Consumption	Max. Power Consumption
■ M73 ■ M1: IR 850nm wide-angle ■ M2: ULL Day/Night DN280 ■ M3: Audio	■ 15.4 W/321 mA at 48 VDC ■ 15.4 W/642 mA at 24 VDC	■ Max. 25 W/521 mA at 48 VDC ■ Max. 25 W/1042 mA at 24 VDC

M73 - D/N, IR, Multisense

Components	Average Power Consumption	Max. Power Consumption
■ M73 ■ M1: IR 850nm wide-angle ■ M2: ULL Day/Night DN280 ■ M3: Multisense	■ 14.1 W/294 mA at 48 VDC ■ 14.1 W/588 mA at 24 VDC	■ Max. 25 W/521 mA at 48 VDC ■ Max. 25 W/1042 mA at 24 VDC

M73 - D/N, Thermal, Audio

Components	Average Power Consumption	Max. Power Consumption
■ M73 ■ M1: Thermal Image Sensor ■ M2: ULL Day/Night ■ M3: Audio	■ 12.2 W/254 mA at 48 VDC ■ 12.2 W/508 mA at 24 VDC	■ Max. 25 W/521 mA at 48 VDC ■ Max. 25 W/1042 mA at 24 VDC

NOTE!
Thermal overlay used as Live view.

M73 with Thermal, Multisense, D/N Modules

Components	Average Power Consumption	Max. Power Consumption
■ M73 ■ M1: Thermal Image Sensor ■ M2: Day/Night sensor module ■ M3: Multisense	■ 11.5 W/240 mA at 48 VDC ■ 11.5 W/480 mA at 24 VDC	■ Max. 25 W/521 mA at 48 VDC ■ Max. 25 W/1042 mA at 24 VDC

M73 - D/N, Thermal, IR

Components	Average Power Consumption	Max. Power Consumption
■ M73 ■ M1: Thermal Image Sensor ■ M2: ULL Day/Night ■ M3: IR 850nm	■ 16.5 W/344 mA at 48 VDC ■ 16.5 W/688 mA at 24 VDC	■ Max. 25 W/521 mA at 48 VDC ■ Max. 25 W/1042 mA at 24 VDC

NOTE!
Thermal overlay used as Live view.

Image and Video Properties

Feature	Properties
Available video codecs	■ H.264, H.265 ■ MxPEG+ ■ MJPEG
Image resolutions	CIF 320x240, VGA 640x360, XGA 1024x576, HD 1280x720, FHD 1920x1080, QHD 2560x1440, 4K UHD 3840x2160
Multi streaming	H.264, H.265 with triple streaming
Multicast stream via RTSP	Yes
Max. image resolution H.264	■ One sensor: 4K UHD 3840x2160 (8MP) ■ Both sensors (dual image): 2x 4K UHD 7680x2160 (16MP)
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

Feature	Properties
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
DVR/image storage management	■ On internal microSD card ■ On external USB and NAS devices ■ Different streams for live image and recording ■ MxPEG+ only ■ MxFFS with buffered archive, pre- and post-alarm images, storage monitoring with error reporting
Camera and data security	User and group management, SSL connections, IP-based access control, IEEE 802.1X, intrusion detection, digital image signature
Firmware Tampering Detection	Digital Signature

Video Analysis

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

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

Sensor Modules

Dimensions of Sensor Modules

Height x Width	58 x 42,5 (50 mm)	
Weight	Standard Sensor Modules	max. 150g
	Functional Modules	max. 150g
	Thermal Sensor Module B-Models	max. 380g
	Thermal Sensor Module C-Models	max. 220g

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	Order Code
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
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*

*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 > Services > Download Center > Marketing & Documentation > Lens Table**.

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

Sensor Module	Order Code
CIF Thermal 25° x 19°	Mx-O-M73TB-336T150
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

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

Sensor Module	Order Code
QVGA/CIF Thermal Radiometry 50° x 40°	Mx-O-M73TC-320R100
QVGA/CIF, 12° x 10°	Mx-O-M73TC-320T280
VGA Thermal Radiometry 95° x 76°	Mx-O-M73TC-640R050
VGA Thermal Radiometry 50° x 40°	Mx-O-M73TC-640R100
VGA Thermal, 18° x 14.4	Mx-O-M73TC-640T280

The **Thermal Radiometry (TR)** variants can automatically trigger alarms if 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 TR windows or covering the full sensor image over a temperature range of High Sensitivity: –40 to 170 °C/–40 to 320 °F; Low Sensitivity: -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 – B Models

Feature	Properties
Thermal sensitivity	Typ. 50 mK
Thermal image sensor	Uncooled microbolometer, CIF: 336 x 256 px / VGA: 640 x 480 px
IR range	7.5 to 13.5 µm
Temperature measurement range (adjustable)	■ High Sensitivity: -40 to 170°C/–40 to 320°F ■ Low Sensitivity: –40 to 550°C/–40 to 1022°F Default: Automatic (switches between High and Low depending on highest temperatures in FoV)
Dimensions	336/640 px: 48.5x48 mm/48.5x70 mm; 170 g without front plate / 265 g with front plate
Dimensions	■ PT Mount Thermal 336/640 px: 98.5 mm x 106 mm diam; 620 g (including PT Mount) ■ Sensor module alone: 73 mm (+4.4 mm front glass) x 57 mm diam (63 mm front glass); 310 g
Max. image size	Can be scaled up to 3072 x 2048 (6MP), automatically scaled to size of MX sensor module

Feature	Properties	
Max. frame rate	9 fps (fast version 25/30 fps on request)	
Pixel pitch	17 µm	
Field of view	*Sensor Module*	*FoV*
	336R/T100	45° x 35°; 2.27 mrad; focal length 7.5 mm, f/1.25
	336R/T150	25° x 19°; 1.31 mrad; focal length 13 mm, f/1.25
	640R/T050	90° x 69°; 2.27 mrad; focal length 7.5 mm, f/1.4
	640R/T100	45° x 37°; 1.31 mrad; focal length 13 mm, f/1.25
	640R/T150	32° x 26°; 0.90 mrad; focal length 19 mm, f/1.25
Operating temperature range	-40 to 65 °C/-40 to 149 °F	
Relative Humidity	5 % to 95 %, non-condensing	
Power consumption	max. 1.2 W	
MTBF	80,000 hours	
IP rating	IP67	
IK rating	IK04	
Material	PBT-30GF (housing); Germanium (lens)	

Features Thermal Image Sensors – C Models

Feature	Properties	
Thermal sensitivity	Typ. 30 mK	
IR range	7.5 to 13.5µm	
Temperature measurement range (adjustable)	■ High Sensitivity: –40 to 150°C/–40 to 302°F ■ Low Sensitivity: –40 to 350°C/–40 to 662°F Default: Automatic (switches between High and Low depending on highest temperatures in FoV)	
Max. image size	Can be scaled up to 3072 x 2048 (6MP), automatically scaled to size of MX sensor module	
Max. frame rate	30 fps	
Pixel pitch	12 µm	
Field of view	*Sensor Module*	*FoV (H x V)*
	320R100	50° x 40°; focal length 9.2 mm; f/1.0
	320T280	12° x 9.6°; focal length 18 mm; f/1.0
	640R050	95° x 76°; focal length 4.9 mm; f/1.1
	640R100	50° x 40°; focal length 9.2 mm; f/1.0
	640T280	18° x 14.4°; focal length 24.9 mm; f/1.0
Operating temperature range	-40 to 65 °C/-40 to 149 °F	
Relative Humidity	5 % to 95 %, non-condensing	
Power consumption	1.5 W	

Feature	Properties
MTBF	80,000 hours
IP rating	IP67
IK rating	IK04
Material	PBT-30GF (housing); Germanium (lens)

Features Thermal Image Sensors - ECO Models

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
Field of view	■ T040: 105 x 75°; 5.23mrad, focal length 2.2mm, f/1.05 ■ T080: 56 x 42°; 3.00mrad, focal length 4.0mm, f/1.00 ■ T150: 24 x 18°; 1.32mrad, focal length 9.1mm, f/1.00
Thermal image sensor	Uncooled microbolometer, CIF 320x240
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) (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 range	-40 to 65 °C/-40 to 149 °F
Relative Humidity	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
MultiSense module	Mx-F-MSA	With PIR sensor, temperature sensor, illumination sensor
IR Light modules	Mx-F-IRA-W	For Super Wide-Angle Lens Sensor Modules 95°

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 (only Connector Box LSA)	max. 4 kV on the PoE network cabling	
Allowed cable dimensions for cables connected to the PCB terminals	*Conductor cross section*	
	AWG	20 - 26
	Rigid	0.14mm^2 - 0.8mm^2
	Flexible	0.14mm^2 - 0.5mm^2
	Flexible with ferrule	0.25mm^2 - 0.34mm^2
Line In	Standard Line In: (0dB) Vrms=1V	
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	

Interface	Properties
Input	Contact Closure (no galvanic isolation necessary) or max. 30 Vrms AC / 50V DC Switching thresholds: ■ Input > 1.6V leads to a detected HIGH ■ Input < 0.9V leads to a detected LOW (after a high) max. length for cables: 50m
Output	**M73-A** requires pull-up resistor and external power supply (10mA / max 30 Vrms AC / max. 50V DC) Output may be loaded with max. 50mA max. length for cables: depends on loop impedance of the connected cable. **M73-B** Dry contact, form A (max 30 Vrms AC / max, 50V DC/ 60 W/ 2A DC)

Dimensions

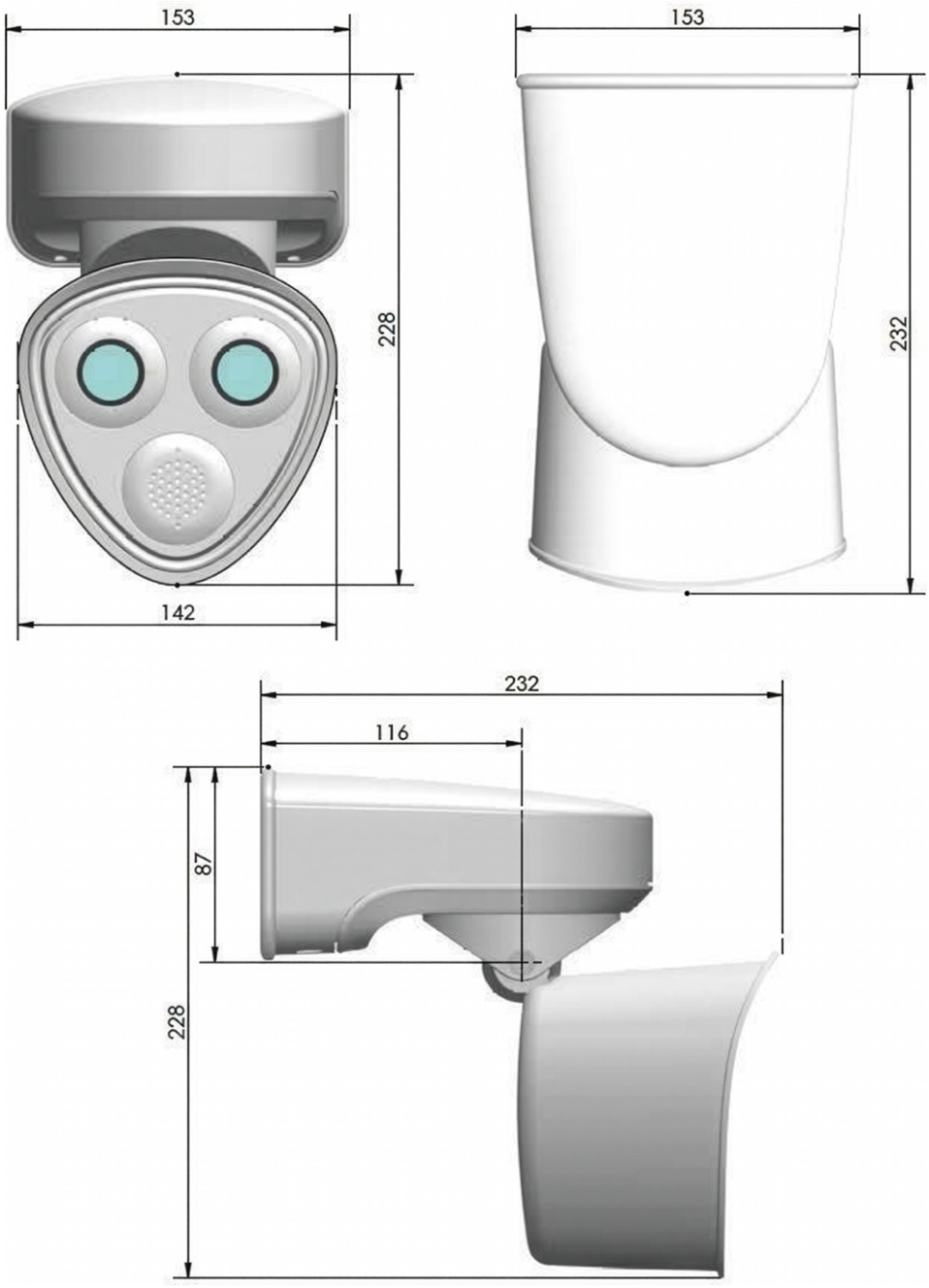


Fig. 1: MOBOTIX M73: All measurements in mm

NOTE!

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

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