



# Technical Specifications

## MOBOTIX S74

**Flexible. Modular. Unique.**

Weatherproof and robust, the latest generation of our successful S 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 four modules including two image sensors plus 2 functional modules.
- 2 x 4K UHD resolution.
- 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.



# Table of Contents

<b>Order Information</b> .....	<b>2</b>
<b>Hardware</b> .....	<b>2</b>
<b>Image and Video Properties</b> .....	<b>5</b>
<b>General Software Features</b> .....	<b>6</b>
<b>Video Analysis</b> .....	<b>7</b>
<b>Video Management Software</b> .....	<b>7</b>
<b>Sensor Modules</b> .....	<b>8</b>
<b>Functional Modules</b> .....	<b>14</b>
<b>Interface Slide in Boards</b> .....	<b>14</b>
<b>Dimensions</b> .....	<b>17</b>

## Order Information

Name	MOBOTIX S74
Order Code:	Mx-S74A

---

## 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)

---

Feature	Properties
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	95 % non-condensing
Internal DVR Storage	Internal microSD card (SDHC/SDXC), 8 GB out of the box, max. 1 TB.
I/Os	<a href="#">S74 IO Slide in Board, p. 15</a> required
Microphone/Speaker	<a href="#">S74 IO Slide in Board, p. 15</a> required
Passive infra-red sensor (PIR)	Available with functional module, max. 4.5 Watt (see <a href="#">Functional Modules, p. 14</a> )
Infra-red illumination	Three functional modules for wide-angle, standard, and tele lenses
Range of infra-red illumination	Up to 30 m/100 ft (may be more depending on scene)
Max. power consumption	max. 25 W
Electrical surge protection	<a href="#">S74 Network Slide in Board with LSA terminal, p. 15</a> or <a href="#">S74 Network Slide in Board with RJ45 and VDC power supply - A , p. 16</a> required
PoE standard	PoE Plus (802.3at-2009)/Class 4 (Network slide in Board required. See <a href="#">Interface Slide in Boards, p. 14</a> )
Interfaces	4 sensor / functional modules USB-C 2 Slots for slide in boards (Network, IOs etc.)
Mounting Options	Wall-mountable
Dimensions (height x width x depth)	36 x 232 x 110 mm
Weight without sensor modules	1.130g
Housing	Aluminum, PBT-30GF

## Technical Specifications

### MOBOTIX S74

---

Feature	Properties
Standard accessories	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 Module wrench (gray) 1 Lens wrench blue 4 Wood screws 4.5 x 60 mm 4 Dowels S8 2 Covers for screw plastic white
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, Zero-conf/mDNS
Manufacturer warranty	5 years

---

## Average Power Consumption

System	Modules	Average power consumption
S74 - Body	Body only	8.1 W
S74 - Audio, no Video	Audio	8.1 W
S74 - 4K, 12MP, IR, WL, Audio	Audio: PCB + Module M1: 4K Day/Night DN050 M2: IR 850nm wide M3: 12MP Day/Night DN016	19.5 W

---

System	Modules	Average power consumption
S74 - 4K, Thermal, IR, WL, Audio	Audio: PCB + Module M1: 4K Day/Night DN050 M2: IR 850nm wide M3: Thermografic Sensor 640R080 M4: White Light 5700K wide	20.9 W
S74 - Thermal, Multisense, WL, Audio	Audio: PCB + Module M1: 4K Day/Night DN050 M2: Multisense M3: Thermografic Sensor 640R080 M4: White Light 5700K wide	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

## Technical Specifications

### MOBOTIX S74

---

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)
--------------------------------	-------------------

### Weight of Sensor Modules

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

---



## 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

## Technical Specifications

### MOBOTIX S74

---

#### 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\*

---

\*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

#### Sensor module

#### Order code

CIF Thermal 45° x 35° MX-O-M7SB-336TS100

CIF Thermal 25° x 19° Mx-O-M7SB-336TS150

CIF Thermal 17° x 13° Mx-O-M7SB-336TS280

CIF Thermal Radiometry  
45° x 35° Mx-O-M7SB-336RS100

CIF Thermal Radiometry  
25° x 19°, Mx-O-M7SB-336RS150

CIF Thermal Radiometry  
17° x 13° Mx-O-M7SB-336RS280

CIF Thermal Radiometry  
9,3° x 7,1° Mx-O-M7SB-336RS500 (BTO)

ECO CIF Thermal 105°x75° Mx-O-M7SA-320T040

ECO CIF Thermal 56°x42° Mx-O-M7SA-320T080

VGA Thermal 90° x 69° Mx-O-M7SB-640TS050

---

Sensor module	Order code
VGA Thermal 69° x 56°	Mx-O-M7SB-640TS080
VGA Thermal 45° x 37°	Mx-O-M7SB-640TS100
VGA Thermal 32° x 26°	Mx-O-M7SB-640TS150
VGA Thermal Radiometry 90° x 69°	Mx-O-M7SB-640RS050
VGA Thermal Radiometry 69° x 56°	Mx-O-M7SB-640RS080
VGA Thermal Radiometry 45° x 37°	Mx-O-M7SB-640RS100
VGA Thermal Radiometry 32° x 26°	Mx-O-M7SB-640RS150
VGA Thermal Radiometry 18° x 14°	Mx-O-M7SB-640RS280 (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	PT mount Thermal 336/640: 98.5mm x 106mm diam, 620g (including PT Mount Sensor module alone: 73mm (+4.4mm front glass) x 57mm diam (63mm front glass), 310g

## Technical Specifications

### MOBOTIX S74

Feature	Properties																				
Max. image size	Can be scaled up to 3072 x 2048 (6MP), automatically scaled to size of MX sensor module																				
Max. frame rate	9fps (-FAST version 25/30fps on request)																				
Pixel pitch	17µm																				
Field of view	<table><thead><tr><th>Sensor Module</th><th>FoV</th></tr></thead><tbody><tr><td>336 xx 100</td><td>45° x 35°; 2.27mr, focal 7.5mm, f/1.25</td></tr><tr><td>336 xx 150</td><td>25° x 19°; 1.31mr, focal 13mm, f/1.25</td></tr><tr><td>336 xx 280</td><td>17° x 13°; 0.90mr, focal 19mm, f/1.25</td></tr><tr><td>336 xx 500</td><td>9° x 7°; 0.486mr, focal length 35mm, f/1.5</td></tr><tr><td>640 xx 050</td><td>90° x 69°; 2.27mr, focal 7.5mm, f/1.4</td></tr><tr><td>640 xx 080</td><td>69° x 56°; 1.89mr, focal 9mm, f/1.4</td></tr><tr><td>640 xx 100</td><td>45° x 37°; 1.31mr, focal 13mm, f/1.25</td></tr><tr><td>640 xx 150</td><td>32° x 26°; 0.90mr, focal 19mm, f/1.25</td></tr><tr><td>640 xx 280</td><td>18°x14°; 0.486mr, focal length 35mm, f/1.5</td></tr></tbody></table>	Sensor Module	FoV	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
Sensor Module	FoV																				
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 $\mu$ m
Temperature measurement range	-40 to 330°C/ -40 to 626 °F
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	12 $\mu$ m
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		via S74 IO Slide in Board
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°
	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°
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 IR Light Modules: 4,2 W at 100% brightness.
		Power consumption White Light Modules: 3,2 W at 100% brightness.

---

## Interface Slide in Boards

### S74 Network Slide in Board with RJ45 socket

Order Code	Mx-F-S7A-RJ45
Power Supply	PoE Plus (802.3at-2009)/Class 4
Network	RJ45 / Ethernet 1000Base-T

---

## S74 Network Slide in Board with LSA terminal

Order Code	Mx-F-S7A-LSA
Power Supply	PoE Plus (802.3at-2009)/Class 4
Network	LSA / Ethernet 1000Base-T
Overvoltage Protection	max. 4 kV on the PoE network cabling

## S74 IO Slide in Board

Order Code	Mx-F-S7A-INT01
------------	----------------

Terminal	Remark
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
Line In	Standard Line In: (0dB) Vrms=1V
SPK	0,9W at any 8 Ohm speaker. MOBOTIX Audio module: 0,9W at 8 Ohm
MIC	Passive microphone to connect (for best results). R_Bias for the microphone is 2.2 kOhm (included on the camera). Microphone impedance < 2.2 kOhm, Operating voltage of the microphone is 2V. Sensitivity of the MOBOTIX Audio Module: -35 +/-4dB (0dB = 1V/pa, 1kHz)
IN	<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>
OUT	<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>

## Technical Specifications

### MOBOTIX S74

---

#### Allowed cable dimensions for cables connected to the PCB terminals

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>

---

### S74 Network Slide in Board with RJ45 and VDC power supply - A

Order Code	Mx-F-S7A-RJ45-VDC
Power Supply	12-24 V DC only - recommended 2,5-1,5A
Network	RJ45 / Ethernet 1000Base-T

---

#### Allowed cable dimensions for cables connected to the PCB terminals

AWG	26 - 20
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>

---

### S74 Network Slide in Board with RJ45 and VDC power supply - B

Order Code	Mx-F-S7B-RJ45-VDC
Power Supply	12-24 V DC only - recommended 2,5-1,5A
Network	RJ45 / Ethernet 1000Base-T

---

#### Allowed cable dimensions for cables connected to the PCB terminals

AWG	26 - 14
Rigid	0.14mm <sup>2</sup> - 2.5mm <sup>2</sup>
Flexible	0.14mm <sup>2</sup> - 1.5mm <sup>2</sup>
Flexible with ferrule	0.25mm <sup>2</sup> - 1.5mm <sup>2</sup>

---



# 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!

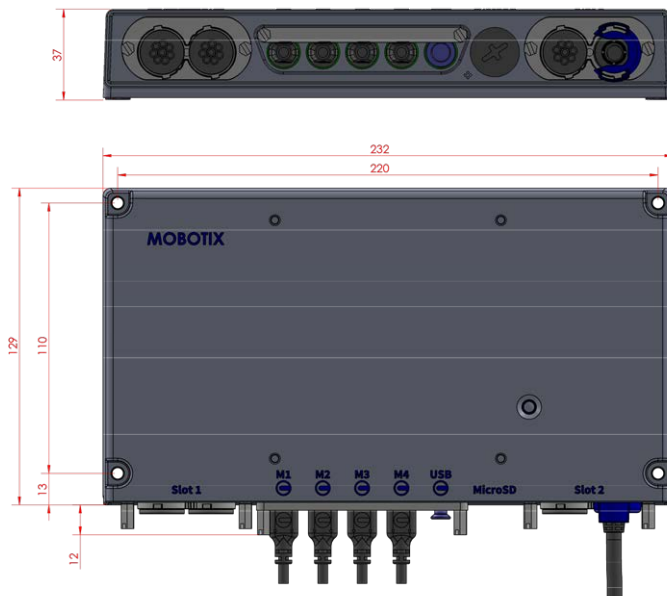


Fig. 1: MOBOTIX S74: All measurements in mm

# MOBOTIX

BeyondHumanVision

[EN\\_07/24](#)

MOBOTIX AG • Kaiserstrasse • D-67722 Langmeil • Tel.: +49 6302 9816-103 • [sales@mobotix.com](mailto:sales@mobotix.com) • [www.mobotix.com](http://www.mobotix.com)

MOBOTIX is a trademark of MOBOTIX AG registered in the European Union, the U.S.A., and in other countries. Subject to change without notice. MOBOTIX do not assume any liability for technical or editorial errors or omissions contained herein. All rights reserved. © MOBOTIX AG 2020