



# Technical Specifications

## MOBOTIX S ONE DUAL - Invisible Power. Visible Results.

With the MOBOTIX S ONE DUAL, MOBOTIX presents the next generation of modular premium dual cameras. It builds on the success of the S16 DualFlex and takes the concept to a new level of performance: two freely positionable 4K UHD sensor modules for 8K dual images, a compact, concealed camera housing, and AI-based edge analysis that runs simultaneously on both sensor channels for the first time.

The S ONE DUAL was developed for industrial requirements, mobile applications, and security-critical environments—it is robust, weatherproof, durable, and energy-efficient (PoE, <10 W).

- Two modular 4K UHD sensor modules – freely positionable for one or two viewing angles
- Compact, concealed camera housing – protected against tampering and external access
- Exceptionally robust: IP66, IK10, NEMA 4X, operating temperature -40 to 65 °C/-40 to 149 °F
- AI-ready with built-in MxActivitySensorONE for reliable object detection
- Up to 2 TB internal storage, with 64 GB microSD card preinstalled
- Comprehensive codec support: H.264, H.265, MxPEG+, MJPEG
- Versatile deployment options: e.g. vehicles (buses, trains, etc.), industrial machines and production systems, video-controlled access or barrier systems, warehouse logistics and discreet surveillance applications

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## Order Information

Name	MOBOTIX S ONE DUAL
Order Code:	Mx-ONE-S1A-D (Body only)

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## Hardware

Feature	Properties
Image sensor (color or B&W sensor)	Up to 4K UHD 3840x2160, 16:9, 1/1.8"
Available Lenses	See <a href="#">Sensormodules Standard (4K Day &amp; Night)</a> , p. 8
Light sensitivity	Color sensor: 0.1 lx @ 1/60 s; 0.005 lx @ 1 s
Exposure control	Manual and automatic mode 1 s to 1/16.000 s
IK protection class	Sensor modules: IK10
IP / NEMA protection class	Housing: IP66 Sensor modules: IP66/NEMA 4X

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Feature	Properties						
Intended use	Do not use in hazardous areas (Ex area)						
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), 64 GB out-of-the-box, max. 2 TB.						
I/Os	<p>INPUT</p> <ul style="list-style-type: none"> <li>■ Contact Closure (no galvanic isolation necessary) or up to 30 Vrms AC / 50 V DC</li> <li>■ Switching thresholds           <ul style="list-style-type: none"> <li>Input &gt;1.6 V leads to a detected HIGH</li> <li>Input &lt;0.9 V leads to a detected LOW (after a high)</li> </ul> </li> <li>■ Max. length for cables: 50 m</li> </ul> <p>OUTPUT</p> <ul style="list-style-type: none"> <li>■ 3x Dry contact, form A (max 30 Vrms / max, 50 V DC / 60 W / 2 A DC)</li> </ul>						
Microphone	<ul style="list-style-type: none"> <li>■ Microphone integrated in ONE Sensor Modules):           <ul style="list-style-type: none"> <li>Sensitivity: -41 dB FS <math>\pm 1</math> dB</li> <li>SNR 68 dBA</li> <li>AOP 133 dB SPL</li> </ul> </li> </ul>						
Speaker	<ul style="list-style-type: none"> <li>■ External speaker required:           <ul style="list-style-type: none"> <li>1.8 W @ 8 <math>\Omega</math></li> </ul> </li> </ul>						
Allowed cable dimensions for cables connected to the PCB terminals	<p>Conductor cross section</p> <table> <tr> <td>AWG</td> <td>26 - 20</td> </tr> <tr> <td>Rigid</td> <td>0.14 mm<sup>2</sup> - 0.5 mm<sup>2</sup></td> </tr> <tr> <td>Flexible</td> <td>0.14 mm<sup>2</sup> - 0.5 mm<sup>2</sup></td> </tr> </table>	AWG	26 - 20	Rigid	0.14 mm <sup>2</sup> - 0.5 mm <sup>2</sup>	Flexible	0.14 mm <sup>2</sup> - 0.5 mm <sup>2</sup>
AWG	26 - 20						
Rigid	0.14 mm <sup>2</sup> - 0.5 mm <sup>2</sup>						
Flexible	0.14 mm <sup>2</sup> - 0.5 mm <sup>2</sup>						
Shock detector (tamper detection)	Embedded in the camera housing						
PoE standard	PoE (802.3af-2003) / Class 3						
Power consumption	<p>Max. 12.95 W (average may be significantly lower)</p> <p>Average in dual operation: 9.0 W</p>						

## Technical Specifications

Feature	Properties
	Dual operation, WDR off: approx. 5.63 W
	Dual operation, WDR on: approx. 6.27 W
	MxActivitySensorONE per Sensor: approx. 1.4 W
Electrical surge protection	Overvoltage Protection Box (not part of the scope of delivery)
Interfaces	<ul style="list-style-type: none"><li>■ Ethernet 1000Base-T (RJ45 according to EIA/TIA-568B)</li><li>■ Sensor Modules M1, M2</li><li>■ USB 2.0/3.0 via USB-C connector</li><li>■ 12-24 V DC power supply</li><li>■ Input / Output</li><li>■ Ext. Speaker</li><li>■ microSD card, max. 1 TB</li></ul>
Mounting Options	Wall, ceiling, hidden installation; extensive selection of mounting accessories available (see <a href="#">Mounts, p. 9</a> )
Dimensions (height x width x depth)	137.5 x 115 x 33 mm
Weight	0.54 kg
Housing	Aluminum, PBT-30GF
Detailed technical documentation	<a href="http://www.mobotix.com &gt; Services &gt; Download Center &gt; Marketing &amp; Documentation">www.mobotix.com &gt; Services &gt; Download Center &gt; Marketing &amp; Documentation</a>
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 warranty	5 years

# 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
Max. image resolution	4K UHD 3840x2160 (8MP)
Multi streaming	H.264, H.265
Multicast stream via RTSP	Yes
Max. frame rate	MxPEG: 20@4K, H.264: 30@4K, H.265: 30@4K

# General Software Features

Feature	Properties
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><li>■ MQTT (Message Queuing Telemetry Transport)</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
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></ul>

Feature	Properties
	<ul style="list-style-type: none"> <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
MxActivitySensorONE	Motion and Loitering Detection of Person and Vehicles
MOBOTIX App support	Yes, with a later FW release

## Video Management Software

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

# Accessories

## Sensormodules Standard (4K Day & Night)

### NOTE!

Lenses or sensors are not part of the scope of delivery.

<b>Lens</b>	<b>Sensor</b>	<b>Order Code</b>
Fixed lens 120° WIDE	4K Sensor as D/N IR Cut / Microphone	Mx-ONE-SMA-8DN040
Fixed lens 95° WIDE	4K Sensor as D/N IR Cut / Microphone	Mx-ONE-SMA-8DN050
Fixed lens 60° WIDE	4K Sensor as D/N IR Cut / Microphone	Mx-ONE-SMA-8DN080
Fixed lens 45° STANDARD	4K Sensor as D/N IR Cut / Microphone	Mx-ONE-SMA-8DN100
Fixed lens 30° TELE	4K Sensor as D/N IR Cut / Microphone	Mx-ONE-SMA-8DN150
Fixed lens 15° TELE	4K Sensor as D/N IR Cut / Microphone	Mx-ONE-SMA-8DN280

## Module Cables

### NOTE!

The module cables are not part of the scope of delivery.

<b>Module Cable</b>	<b>Description</b>	<b>Order Code:</b>
Sensor cable 1m straight-angled	Sensor cable straight-angled, length 1 m/3.3 ft.	Mx-ONE-CBL-S01-AN
	<ul style="list-style-type: none"><li>■ For connecting optical sensor modules and thermal sensor modules to the ONE S1x camera body.</li><li>■ Required for audio signals from the microphone in the sensor module.</li></ul>	
Sensor cable 2m straight-angled	Sensor cable straight-angled, length 2 m/6.6 ft.	Mx-ONE-CBL-S02-AN

Module Cable	Description	Order Code:
	<ul style="list-style-type: none"> <li>■ For connecting optical sensor modules and thermal sensor modules to the ONE S1x camera body.</li> <li>■ Required for audio signals from the microphone in the sensor module.</li> </ul>	

## Mounts

The following mounts of the sensors from previous camera models are compatible.

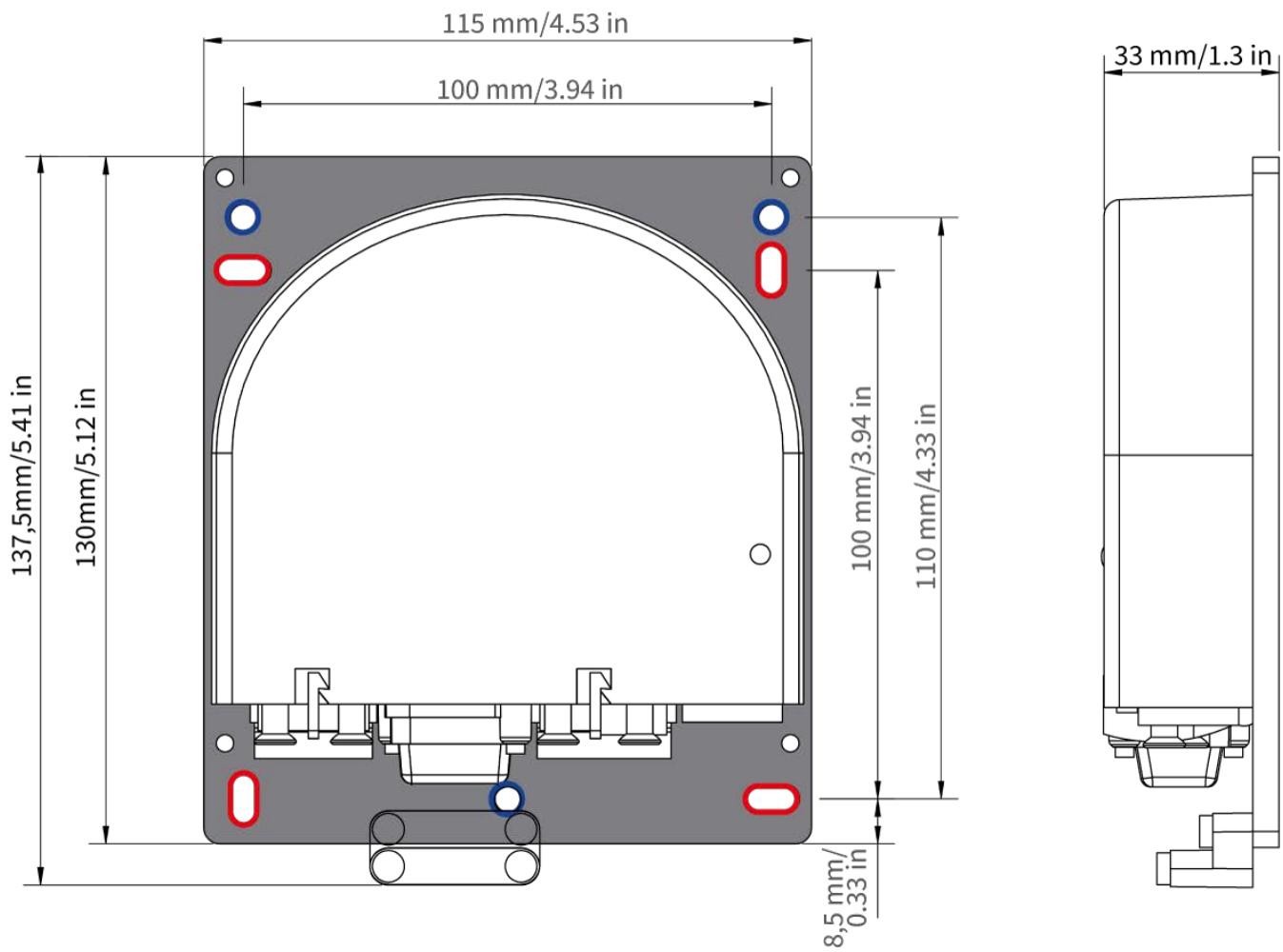
### NOTE!

- The mounts are not part of the scope of delivery.
- There may be color deviations in the mounts of earlier camera generations.
- An already installed S16 PT-Mount (purchased before January 2020) is not compatible with an S ONE DUAL module.

Mount Type	Description	Order Code:
On-Wall Kit for PTMount, white	On-Wall Kit for PTMount, white incl. mounting parts.	Mx-M-PTMA-OW
PTMount, white	Three axis adjustable mount	Mx-M-PTMA
SingleMount, white	For surveillance of one area with one sensor module	Mx-M-SLMA
DualMount, white	For surveillance of one to two areas with two sensor modules	Mx-M-DLMA

## Technical Specifications

### 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**.

# MOBOTIX

BeyondHumanVision

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