



# 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

# Table of Contents

Order Information .....

Hardware .....

Image and Video Properties .....

General Software Features .....

Video Analysis .....

Video Management Software .....

Accessories .....

Dimensions .....

2

2

5

6

7

7

8

10

## Order Information

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

## 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<br>1 s to 1/16.000 s                         |
| IK protection class                | Sensor modules: IK10   |
| IP / NEMA protection class         | Housing: IP66<br>Sensor modules: IP66/NEMA 4X                          |

| 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 ±1 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 Ω</li> </ul> </li> </ul>  |     |         |       |  |          |  |
| Allowed cable dimensions for cables connected to the PCB terminals | <p><i>Conductor cross section</i></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<br>Dual operation, WDR on: approx. 6.27 W<br>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<br>(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">www.mobotix.com</a> > <a href="#">Services</a> > <a href="#">Download Center</a> > <a href="#">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<br><a href="http://www.mobotix.com">www.mobotix.com</a> > <a href="#">Services</a> > <a href="#">Download Center</a> > <a href="#">Software Downloads</a>                              |
| MxManagementCenter     | Yes (latest version recommended)<br><a href="http://www.mobotix.com">www.mobotix.com</a> > <a href="#">Services</a> > <a href="#">Download Center</a> > <a href="#">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.

| Lens                    | Sensor                               | Order Code        |
|-------------------------|--------------------------------------|-------------------|
| 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.

| Module Cable                    | Description  | Order Code:       |
|---------------------------------|--|-------------------|
| Sensor cable 1m straight-angled | <div>Sensor cable straight-angled, length 1 m/3.3 ft.<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></div> | Mx-ONE-CBL-S01-AN |
| 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

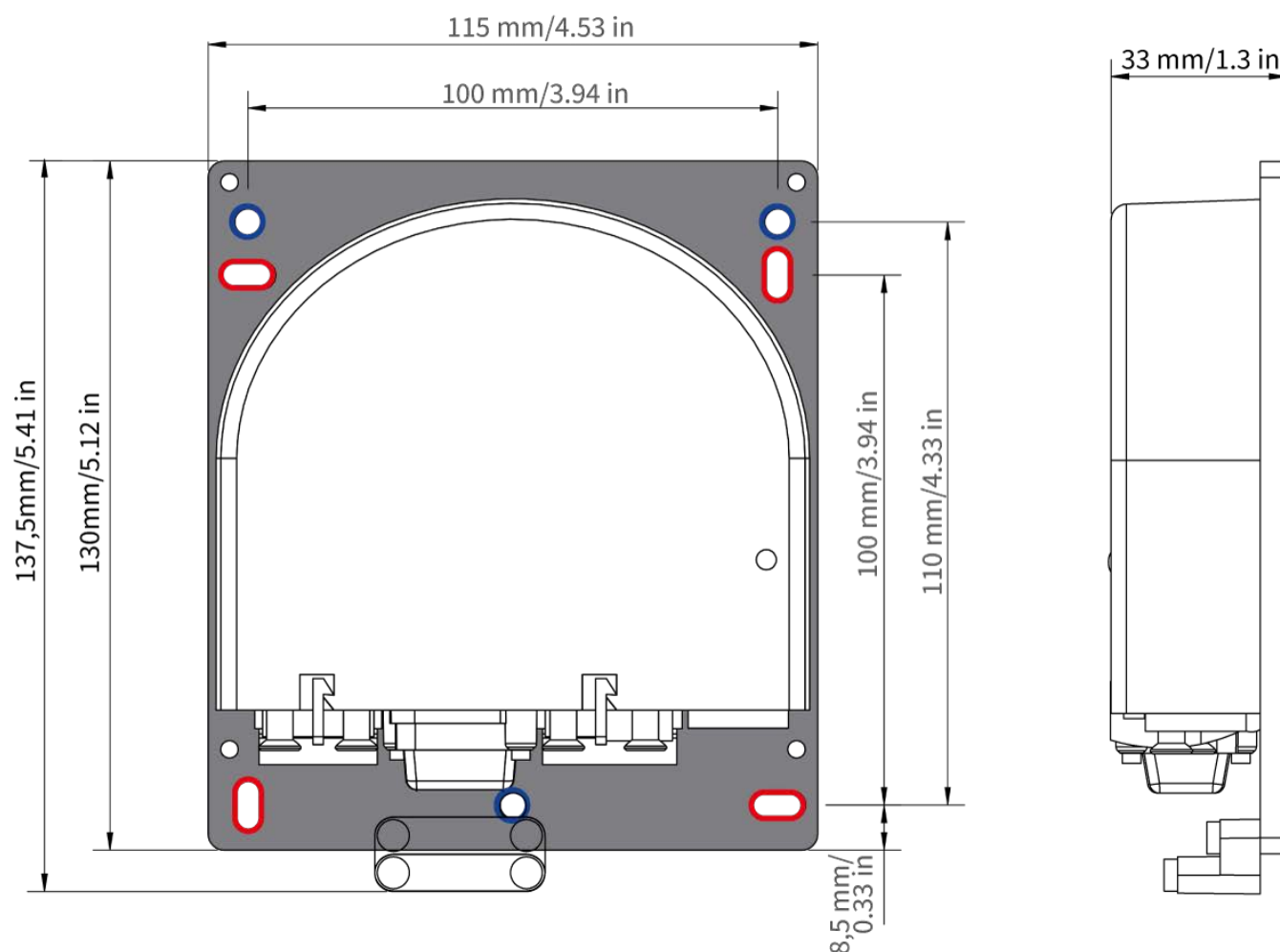
The following mounts of the sensors from previous camera models are compatible.

### 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    |

## 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](#).

