Installation Guide

MOBOTIX c ONE

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HEVCAdvance™ NDAA Compliant

BeyondHumanVision

MOBOTIX

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Before You Start

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Support

MOBOTIX Support

If you need technical support, please contact your MOBOTIX dealer. If your dealer cannot resolve the issue, they will contact MOBOTIX Support on your behalf.

If you have internet access, visit the MOBOTIX Help Desk for additional information and software updates.

www.mobotix.com > Services > Help Desk.

MOBOTIX eCampus

The MOBOTIX eCampus is a comprehensive e-learning platform that lets you access training content whenever and wherever you want. Simply open the site in your browser and select the desired training course.

www.mobotix.com/ecampus-mobotix.

MOBOTIX Community

The MOBOTIX Community is another valuable source of information. MOBOTIX staff and other users share their knowledge and experience – and you can contribute too.

community.mobotix.com.

Safety Notes

- This product must be installed by qualified personnel, and the installation must comply with all applicable local regulations.
- Do not use this product in potentially explosive atmospheres.
- Install this product in a well-ventilated location and do not block any ventilation openings.

- Do not use this product in dusty environments.
- Prevent moisture or water from entering the housing.
- Install this product as described in this document. An incorrect installation can damage the product!
- Do not replace the device batteries. Replacing a battery with an incorrect type may cause an explosion.
- External power supplies must comply with the Limited Power Source (LPS) requirements and have the same power specifications as the camera.
- To comply with the requirements of EN 50130-4 for the power supply of alarm systems in 24/7 operation, the use of an uninterruptible power supply (UPS) is highly recommended to ensure reliable operation during power interruptions.

Legal Notes

Copyright Notice!

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Legal Aspects of Video and Sound Recording

You must comply with all data protection regulations for video and sound monitoring when using MOBOTIX AG products. Depending on national laws and the installation location of the cameras, the recording of video and sound data may be subject to special documentation or it may be prohibited. All users of MOBOTIX products are therefore required to familiarize themselves with all applicable regulations and to comply with these laws. MOBOTIX AG is not liable for any illegal use of its products.

Declaration of Conformity

The products of MOBOTIX AG are certified according to the applicable regulations of the EC and other countries. You can find the declarations of conformity for the products of MOBOTIX AG on www.mobotix.com under **Services > Download Center > Marketing & Documentation > Certificates & Declarations of Conformity**.

RoHS Declaration

The products of MOBOTIX AG are in full compliance with European Unions Restrictions of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment (RoHS Directive 2011/65/EU) as far as they are subject to these regulations (for the RoHS Declaration of MOBOTIX, please see www.mobotix.com, **Services > Download Center > Marketing & Documentation > Brochures & Guides > Certificates**).

Disposal

Electrical and electronic products contain many valuable materials. For this reason, we recommend that you dispose of MOBOTIX products at the end of their service life in accordance with all legal requirements and regulations (or deposit these products at a municipal collection center). MOBOTIX products must not be disposed of in household waste! If the product contains a battery, please dispose of the battery separately (the corresponding product manuals contain specific directions if the product contains a battery).

Disclaimer

MOBOTIX AG does not assume any responsibility for damages, which are the result of improper use or failure to comply to the manuals or the applicable rules and regulations. Our General Terms and Conditions apply. You can download the current version of the **General Terms and Conditions** from our website at www.mobotix.com by clicking on the corresponding link at the bottom of every page.

FCC Disclaimer

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

Notes on System Security

To protect the camera against cybersecurity threats, the following security measures are enabled by default:

- Password must be changed when camera software is accessed for the first time.
- Public access is disabled.
- Intrusion detection is enabled.
- Timeout for grouping accesses from the same client into a single log entry is set to 60 minutes.
- IP addresses of offending HTTP clients are blocked.

The following measures are recommended after the installation has been completed:

Camera Web Interface

- **Admin Menu > Network Setup > Web Server**:
  - **Enable intrusion detection**: Enable notifications for repeated unsuccessful login attempts.
  - **Notification threshold**: Set the value as low as possible (for example, 5 minutes).

MxManagementCenter

- Menu View > Components View > Secure System:
  - **Enable encrypted HTTPS**: Disable all services that require unencrypted HTTP (for example, IP notify messages). Router settings may need to be adjusted when using remote access.
  - **User Management** (for all users):
    - **Force Complex Password**: Enabled
    - **Log out on Inactivity:** 5 minutes

For more information on this new feature, please read the «Cyber Protection Guide» on www.mobotix.com (under **Services > Download Center > Documentation > Brochures & Guides > Cyber Security**).

Protective Measures

WARNING!
When laying cables indoors and outdoors, the current regulations for cable laying, lightning and fire protection must always be observed.

MOBOTIX cameras and devices are protected against the effects of minor over voltages by a number of measures. However, these measures cannot prevent larger surge voltages from causing damage to the camera. When installing the cameras outdoors, special attention should therefore be paid to lightning protection and the associated dangers for the building and network infrastructure.

In general, you should only have MOBOTIX cameras and devices installed by certified specialist companies that are familiar with the installation and safe operation of network devices and the underlying regulations for lightning and fire protection as well as the current technology for preventing damage from surge voltages.

Notes on Cabling

- **Data cable:** Only double-shielded CAT5 cable or better (S/STP) may be used as data cable for the Ethernet interface.
- **Cable length:** The individual cable sections must not exceed the maximum permissible lengths in order to ensure perfect data transmission.
- **Avoidance of induction:** Data cables may only be laid parallel to power or high-voltage lines if the prescribed minimum distances are observed.

Fire Protection

When laying cables for the power supply, the relevant country-specific regulations (e.g. VDE in Germany) and the fire protection regulations valid at the installation site must be observed.

Lightning and Surge Protection

Measures should always be taken to protect this device from electrical surge damage.

NOTE!
Electrical surge protection available using the MX-Overvoltage-Protection-Box, which is available as an accessory.

Further information on how to avoid damage caused by lightning and over voltage is available from manufacturers of lightning and over voltage protection devices.

1

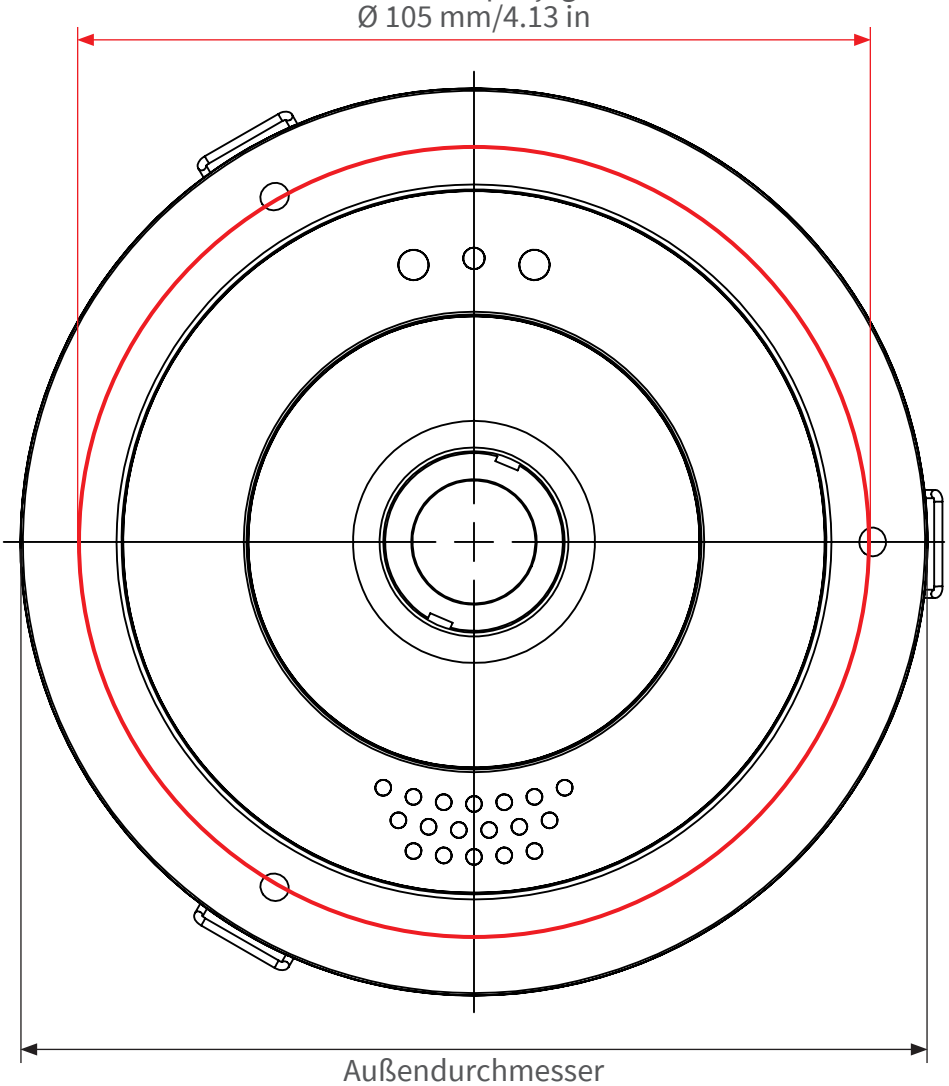
Drilling Template

Open this file in a PDF viewer (Adobe Reader or similar) and print the file **without scaling (original size)**.

NOTE!

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

Lochkreis für Bohrung
Bore circle
Cercle de perçage
Ø 105 mm/4.13 in



Außendurchmesser
Outside diameter
Diamètre extérieur
120 mm/4.72 in



Nur in Originalgröße kopieren oder ausdrucken!

Always copy or print at 100% of original size!

Copier ou imprimer uniquement aux dimensions d'origine !

2

Scope of Delivery

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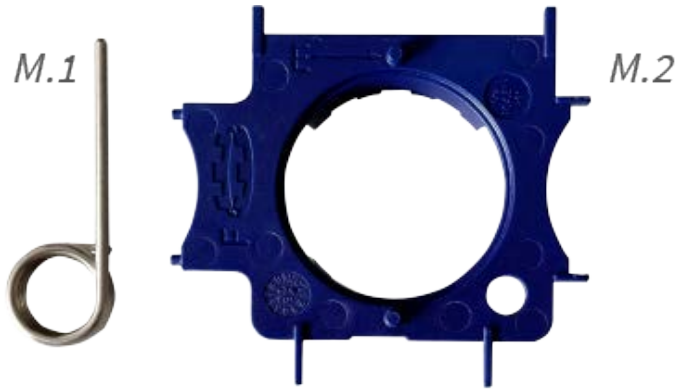
c ONE: Scope of Delivery



Scope of delivery c ONE: Body

Item	Count	Description
1.1	1	c ONE
1.2	1	MOBOTIX Ethernet patch cable, 50 cm/19.7 in (installed)
1.3	1	SD card 64 GB (installed)
1.4	1	Mounting supplies (see Mounting Supplies: Scope of Delivery, p. 15)
1.5	1	Safety Information
1.6	1	Sticker with IP address of camera

Mounting Supplies: Scope of Delivery



Item	Count	Description
M.1	1	Disassembly tool
M.2	1	MultiTool module wrench

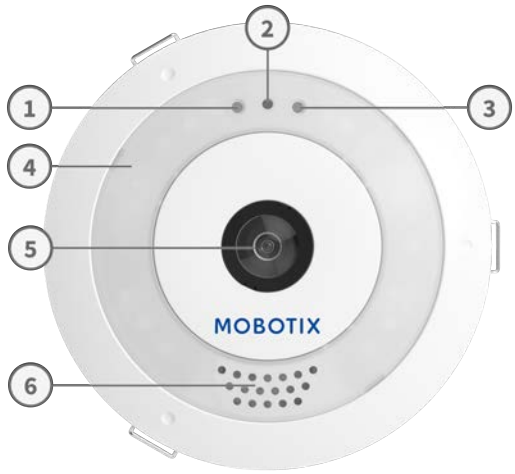
3

Overview

Sensor Side 18

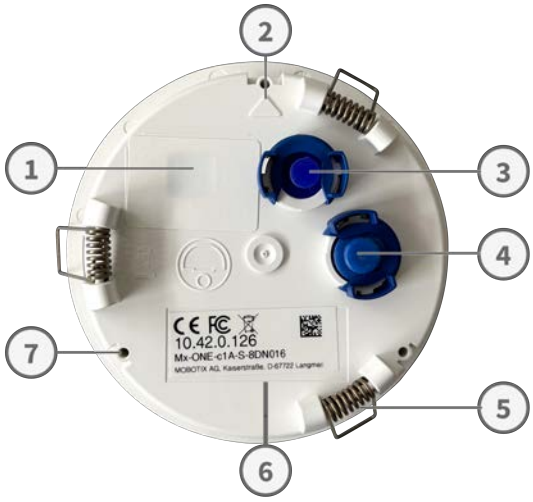
Back Side 18

Sensor Side



① Status LED
② Microphone
③ Ambient light sensor
④ LED Ring
⑤ Lens with cover
⑥ Speaker

Back Side



① IO sockets
② Top arrow
③ USB-C connector
④ RJ45 Network connector
⑤ Spring Clip (3x)
⑥ IP Address
⑦ Lock (3x)

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Order Information

Name	MOBOTIX c ONE
Order Code:	Mx-ONE-c1A-S-8DN016

NOTE! Using Kepler NurseAssist App (ONE) on This Camera

This camera supports the Kepler NurseAssist App (ONE).

- Camera software releases V8.2.4.x/V9.2.4.x and higher include this app as a standard.
- For testing app functionality, a 30-day trial is included. Licenses will be required to continue using the app after this period (see the documents below for order codes).
- For more information on using this camera as a NurseAssist Smart Sensor, license order codes, and its technical specifications, please consult the following documents:
  - Guideline: Kepler NurseAssist App (ONE)
  - Installation Guide: c ONE NurseAssist

Hardware

Feature	Properties
Image sensor (DN)	4K (1:1) effective max. resolution 2160x2160
Light sensitivity	Day Mode (Color): 0,1 lx @ 1/60 s; 0,005 lx @ 1 s Night Mode (B/W): 0,02 lx @ 1/60 s; 0,001 lx @ 1 s
Exposure control	Manual and automatic mode 1 s to 1/16,000 s
IP / NEMA protection class	IP40
Intended use	Not intended for use in hazardous areas (Ex areas)
Operating temperature range	-20 to 40 °C/-4 to 104 °F
Min. cold start temperature	-20 °C/-4 °F
Relative Humidity	5 % to 95 %, non-condensing
Internal DVR Storage	Internal microSD card (SDHC/SDXC), 64 GB out-of-the-box, max. 2 TB.

Feature	Properties
Allowed cable dimensions for cables connected to the PCB terminals	*Conductor cross section* ■ *AWG*: 26 – 20 ■ *Rigid*: 0.14 – 0.5 mm² ■ *Flexible*: 0.14 – 0.5 mm² ■ *Flexible with ferrule without plastic sleeve*: 0.25 – 0.34 mm² ■ *Flexible with ferrule with plastic sleeve*: 0.14 – 0.25 mm²
Input	Contact Closure (no galvanic isolation necessary) or up to 30 Vrms AC / 50V DC Switching thresholds ■ Input >1.6 V results in detected HIGH ■ Input <0.9 V results in detected LOW (after a HIGH) Max. length for cables: 50m
Output	1x dry contact, form A (max 30 Vrms / max, 50V DC/ 60 W/ 2A DC)
Microphone/Speaker	Integrated microphone: ■ Sensitivity: -35 dB +/-4 dB (0 dB = 1 V/pa, 1 kHz) Integrated speaker: ■ 0.9 W at 8 Ohm 1 external speaker optional, max. cable length 3 m/10 ft
Integrated illumination	IR LEDs, 850 nm, up to 25 m²/269 ft² (may be more depending on scene) White light for emergency lighting
Tampering Detection	Integrated Shock Sensor
Max. power consumption	12.95 W
Electrical surge protection	via Overvoltage Protection Box (not part of the scope of delivery)
PoE standard	PoE (802.3af-2003), Class 3
Interfaces	■ Ethernet 1000Base-T (RJ45 according to EIA/TIA-568B) ■ USB-C / USB 2.0 High Speed Power Output 5.1 V / 0.9 A / 4.5 W ■ 12-24 V DC power supply ■ Digital I/O: 1 Input / 1 Output **NOTE!** I/O terminal block Mx-ONE-A-IO-c1 is not included and has to be ordered separately! 
Status LED	Multicolor (7 colors)
Mounting Options	In-ceiling mountable; on-wall and corner via optional accessories

Feature	Properties
Dimensions (Ø x height)	120 x 54 mm/4.72 × 2.13 in
Weight	360 g
Housing	PBT-30GF
Standard accessories	
Detailed technical documentation	**www.mobotix.com > Services > Download Center > Marketing & Documentation**
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	H.264, H.265, MxPEG+, MJPEG
Image resolutions	CIF (320x240; 4:3), nHD[2] (360x360; 1:1), nHD (640x360; 16:9), VGA (640x480; 4:3), SVGA (800x600; 4:3), XGA (1024x768; 4:3), HD[2] (720x720; 1:1), HD (1280x720; 16:9), Mega (1280x960; 4:3), least FHD[2] (1080x1080; 1:1), FHD (1920x1080; 16:9), QXGA (2048x1536; 4:3), UHD[2] (2160x2160; 1:1), Custom Size
Multi streaming	H.264, H.265 with triple streaming
Multicast stream via RTSP	Yes
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 ■ MQTT (Message Queuing Telemetry Transport)
ONVIF compatibility	Profile S/G/T
Master/Slave functionality	Yes
Remote alarm notification	Email, MQTT, MxMessageSystem, network message (HTTP/HTTPS), SNMP, SIP
DVR/image storage management	■ On internal microSD card ■ On external USB and NAS devices ■ Different streams for live image and recording
Camera and data security	FIPS 140-3 validated encryption (OpenSSL 3.1.2, NIST CMVP #4985), VPN with FIPS-certified library, HTTPS with custom X.509 certificates (TLS), AES encryption at rest (microSD / NAS), role-based access control, IP-level access control list, audit trail / web server access log, intrusion detection with automatic IP lockout, IEEE 802.1X port-based network access control, digital image signature
Firmware Tampering Detection	Digital Signature

Video Analysis

Feature	Properties
Video motion detection	Yes
MxActivitySensor	Version 1.0, 2.1
MxActivitySensorONE	Motion and Loitering Detection of Person and Vehicles

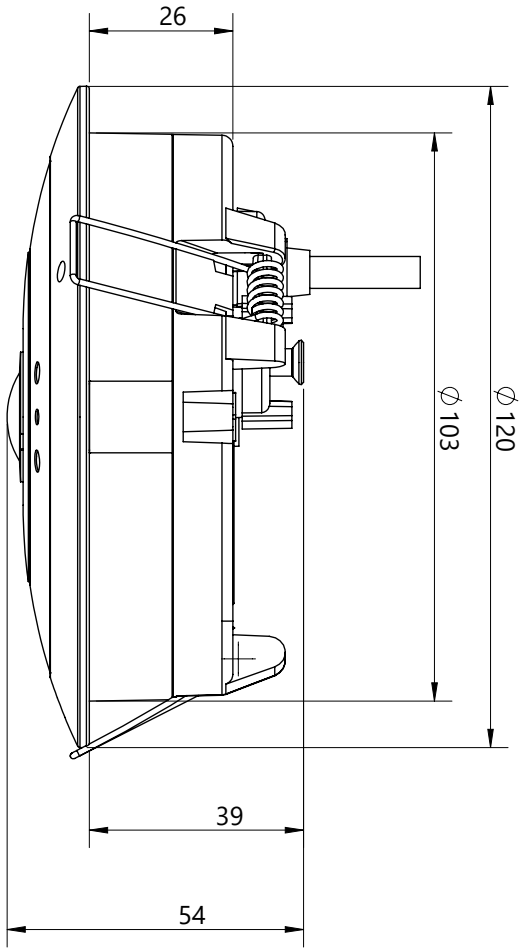
Video Management Software

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

Dimensions

NOTE!

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



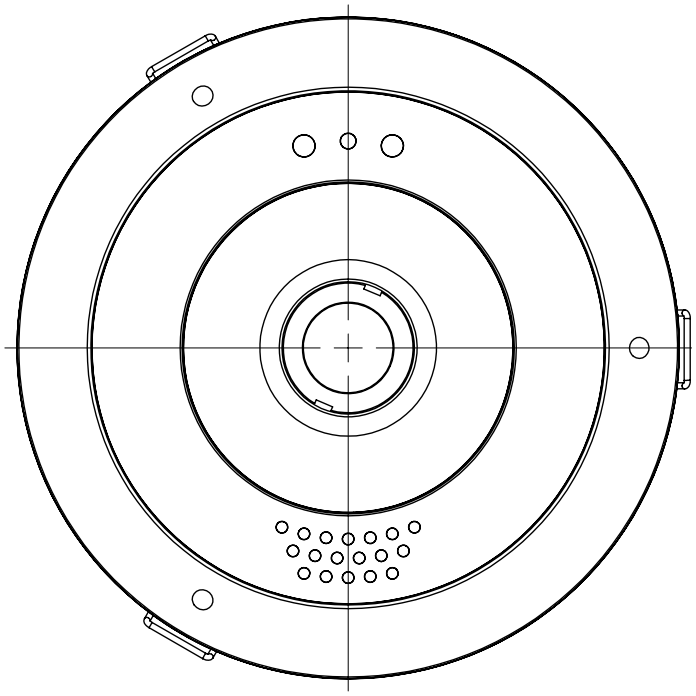


Fig. 1: MOBOTIX c ONE: All measurements in mm

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Mounting

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Before Mounting the Camera

NOTE!

You will need the camera's IP address to access the camera in the network (see Camera Software in the Browser, p. 55).

Before mounting the camera, make sure to copy the IP address ① from the back side of the camera housing (see Back Side, p. 18) or on the camera packaging.

The MOBOTIX c ONE is primarily designed for ceiling mounting. With the appropriate accessories, it can be mounted in a corner, on a pole, or in other mounting positions.

- Flush ceiling installation (see Flush Ceiling Installation, p. 34)
- Surface ceiling installation (see Surface Ceiling Installation, p. 35)
- Corner mounting (see Corner Installation, p. 39)

NOTE!

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

Before mounting the MOBOTIX c ONE, the following questions should be answered:

- Where and how will the camera be mounted?
- How is the mounting surface level?
- Which other mounting options are available?
- Which accessories might be needed?
- How is the camera connected to the network and how is the power supplied?
- How are the connections furnished from the building?
- What cabling considerations are necessary?
- Do you want to use a larger SD card (see Replacing the microSD Card, p. 60)?

The following sections will answer these questions. If you have further questions, please ask your MOBOTIX partner or contact the MOBOTIX support under **www.mobotix.com > Services > Help Desk**.

Removing the Back Plate

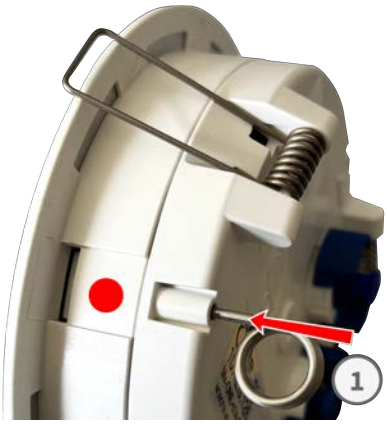
The following tasks require opening the camera housing:

- Replacing the microSD Card, p. 60.

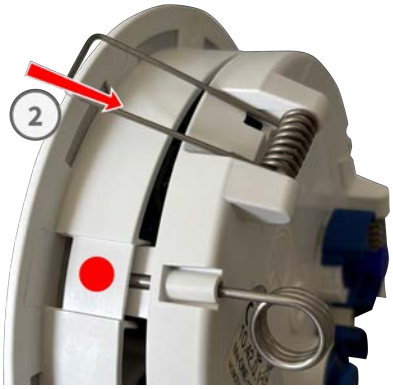
1. In order to remove the back plate, you will need to push the delivered disassembly tool M.1, p. 15, into the three holes on the back one after the other to release the locking tabs (see red circles in figure).



2. Insert the disassembly tool into a hole and press firmly until you feel a stop ① .



3. Gently push against the nearest spring clip to push the lock out of its seat and to lift the back plate from the housing ② . Repeat the process for the two other locks.
4. Lift the housing cover off the camera housing.

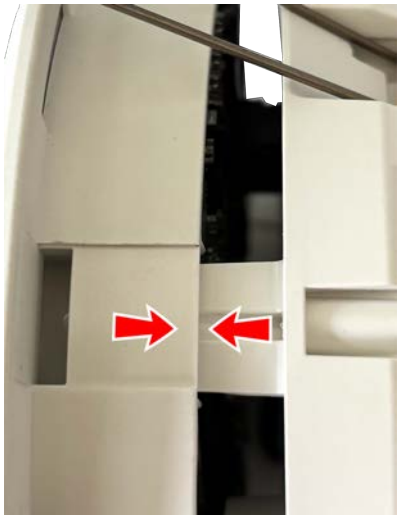


Attaching the Back Plate

CAUTION! Risk of damage!

Before attaching the back plate, make sure that the SD card is properly locked in place, since the card can be damaged otherwise.

1. Position the upper locking tab (marked with an arrow on the housing cover) above the SD card. Then gently press the back plate into position until all three locking tabs click into place.



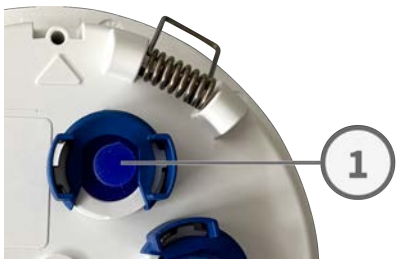
Connecting the Camera

All connections to the camera (network, USB-C, inputs/outputs) can be made directly on the camera. No further accessories are required for this. A PoE switch provides the camera's power supply.

Connecting a USB-C Device

The camera has a USB-C port that allows connecting external storage media or extension boxes, for example.

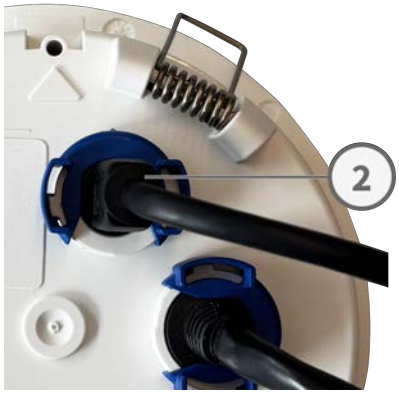
1. To access the USB-C port, open the blue bayonet catch ① of the plug lock by turning it away from the sealing plug, then remove the sealing plug.



2. Plug the USB-cable into the USB connector so that the small lug plug fits into the USB connector.

3. Attach bayonet catch.

4. Connect the USB-C device to the USB cable.



Connecting I/O Devices

The MOBOTIX c ONE has an I/O terminal connector that allows connecting multiple I/O devices. To use input/output devices, you need the I/O terminal block Mx-ONE-A-IO-c1.

NOTE!
I/O terminal block Mx-ONE-A-IO-c1 is not included and has to be ordered separately!



I/O Terminal Block Pin-Out



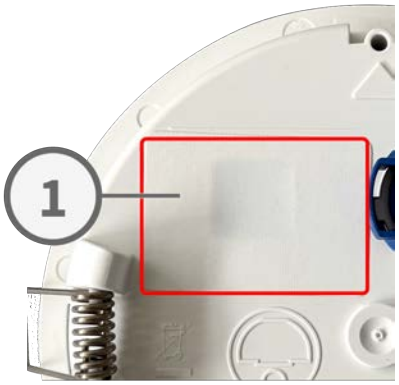
In+	Out+	Spk+	DC+
In–	Out–	Spk–	DC–

NOTE! The length of the speaker cable must not exceed 3 m/10 ft.

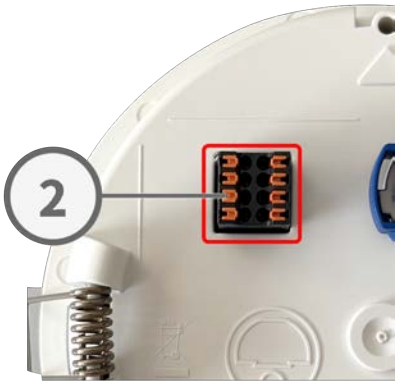
CAUTION! Incorrect wiring may damage the camera or connected devices.

- Before you proceed pay attention to the intended use or polarity of the slots. Ensure that the connections are assigned correctly as shown in the overview diagram above.
- Before connecting any wires, verify the terminal assignment and polarity. Ensure that all connections match the pin-out shown above.

1. On the back of the camera, remove the sticker ① covering he I/O terminal block connector.



2. Press the I/O terminal block ② into the I/O connector until it is fully seated.



3. Strip 5 mm of insulation from the ends of the connection wires of the I/O devices, plug them in the respective units into the corresponding slots ② (see I/O Terminal Block Pin-Out, p. 31) of the connection terminal and check their tight fit.



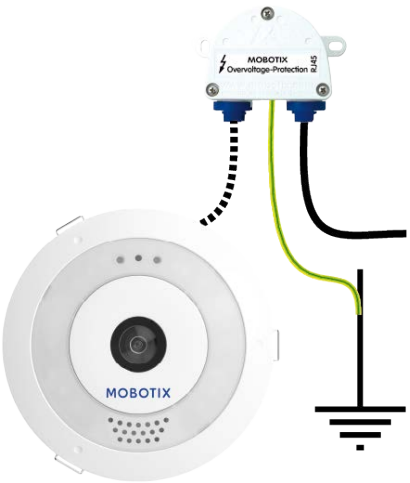
Connecting the Camera to the Network

NOTE! Before connecting the camera:

- Ensure that the PoE switch complies with PoE (802.3af-2003), Class 3 and supports a 100/1000 Mbps Ethernet interface.
- MOBOTIX recommends using an uninterruptible power supply (UPS) for the switch.
- The maximum network cable length for PoE is 100 m (328 ft).



Connect the supplied patch cable 1.2, p. 14 with the PoE network connection of the building.



NOTE!

MOBOTIX recommends connecting the camera using an MX-Overvoltage-Protection-Box (RJ45 or LSA). This provides a weatherproof (IP66) network and power connection with surge protection of up to 4 kV.

For more information, refer to the corresponding manual on the MOBOTIX website: **www.mobotix.com > Services > Download Center > Marketing & Documentation**

Mounting Options

The camera can be installed flush-mounted in a suspended ceiling without additional accessories. Alternatively, it can be installed on a ceiling or in a corner using the MOBOTIX On-Wall Mounting Set or Corner Mounting Set, both available as optional accessories.

NOTE!
Before mounting the camera

- Determine the optimal installation position and ensure that the field of view is not obstructed. After installation, you can fine-tune the image.
- Ensure that a PoE power supply compliant with PoE (802.3af-2003), Class 3 is available at the installation location (see Connecting the Camera to the Network, p. 33).

Flush Ceiling Installation

1. Use the drilling template or draw a circle with 105 mm/4.13 in diameter for the cut-out ① (see Drilling Template, p. 11).
2. Cut out the hole for the camera, then guide the Ethernet cable and any other cables you want to attach to the camera through the hole.
3. Insert the cables into the appropriate connectors and fasten them using the blue bayonet catches (see Back Side, p. 18).



4. Make sure that the camera points into the desired direction: The arrow icon on the back shows the "up" direction of the image.
5. Press the spring clips back and insert the c ONE into the hole for the camera. The spring clips will snap outwards, thus firmly holding the camera in place.
6. Make sure that you only press back the spring clips as shown on the right ② .

   Do not press them back any further as the springs may snap out of their fixtures otherwise.



Removing the Camera from the Ceiling

Gently pull one side of the camera downward to release it, then repeat the procedure on the other side.



CAUTION! Risk of injury!

Do not allow the spring clips to snap forward ① .

1. Disconnect all cables connected to the camera (for example, the network cable and USB cable).
2. Remove the camera from the ceiling.

Surface Ceiling Installation

Preparing the Camera

1. **Remove the spring clips:** Put on safety glasses for this step. Using a small flat-head screwdriver, push against the clip as indicated by the red arrow. The clips can now be removed easily.



2. **Attach the mounting ring:** Position the mounting ring (supplied with the On-Wall Mounting Set) on the camera, ensuring that the triangular mark on the mounting ring is aligned with the triangular mark on the camera.



Preparing the On-Wall Mounting Set

1. **Replace the Cable Fittings (optional):** If you route the cables through the side of the housing instead of the rear, replace one or both threaded plugs with the supplied cable fittings. Use a suitable coin to unscrew the threaded plug.



2. **Prepare the Interface Boxes (optional):** Up to two interface box boards can be installed inside the On-Wall Mounting Set. To prepare an interface box, remove the cover (three screws). Then use the supplied TX6 Torx wrench to remove the two screws (red arrows in the figure) and take out the board.



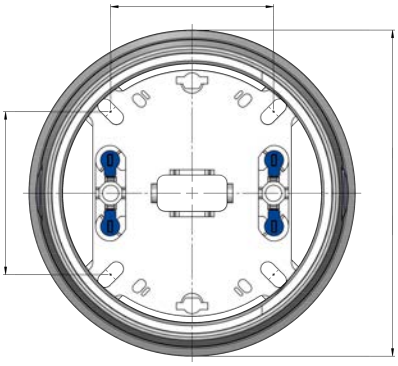
3. **Prepare the installation of the On-Wall Set:**

   NOTE!

   Ensure that there is sufficient space to install the On-Wall Mounting Set and that it remains accessible from the rear or the side. The mounting surface must be even and smooth to ensure a proper seal.

   Use the drilling template in this document to drill the mounting holes. If required, insert the supplied wall plugs.

   Lead the cables from the rear or from the side to the installation site.



Installing the On-Wall Mounting Set

1. **Install the on-wall socket:**

   Place the seal on the rear of the on-wall socket. Ensure that the holes in the seal are aligned with the holes in the back plate of the on-wall socket (red arrows in the figure).

   If required, route the cables through the rear openings of the on-wall socket and the seal.

   Position the on-wall socket and the seal over the drilled holes and fasten the on-wall socket using the supplied Ø 4.3 mm screws with washers (item 1.8, tightening torque: 0.4 Nm).

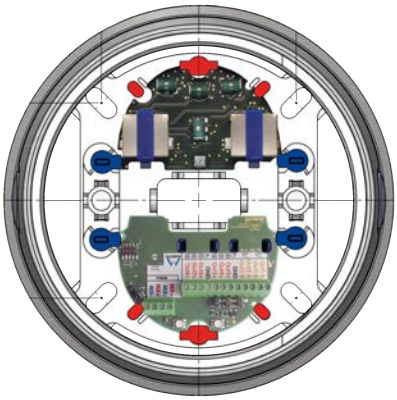


2. **Install the Interface Box boards (Optional):**

   Connect the required wires to each Interface Box board.

   Insert the interface box board into the guides (red in the figure) and slide it into its final position.

   Rotate the retaining tabs (blue in the figure) 90° over the board to secure it.



3. **Connect the camera:**

   If interface boxes are used, connect the corresponding wires to the camera.

   NOTE!

   For information on installing the interface boxes, refer to the corresponding documentation.

   Connect the camera to the network.

   If required, secure loose cables and wires using the supplied cable ties (see figure).



4. **Insert the camera:**

   Position the camera with the attached mounting ring on the On-Wall Mounting Set. Ensure that no cables or wires are trapped between the mounting ring and the rim of the On-Wall Mounting Set.

   Press firmly on the outer edge of the camera, as shown in the figure, until the camera audibly clicks into place. Do not press on the sensor module or the lens.

   Turn the camera to the desired viewing direction.



5. **Finish the installation:**

   Connect the camera to the power supply and complete the initial setup as described in the corresponding camera manual. Check the live image and adjust the camera, if necessary.

Removing the Camera

1. **Turn camera to the mark:**

   Rotate the camera until the microphone of the camera is aligned with the mark ① above the threaded plug.



2. **Firmly press down the camera:**

   Press firmly on the camera at the positions indicated by the red circles until the camera tilts inward and the opposite side lifts up.



3. **Remove the camera:**

   Lift the camera out of the On-Wall Mounting Set.

   Disconnect the network cable and any other cables or wires connected to the camera.



Corner Installation

Preparing the Camera

1. **Remove the spring clips:** Put on safety glasses for this step. Using a small flat-head screwdriver, push against the clip as indicated by the red arrow. The clips can now be removed easily.

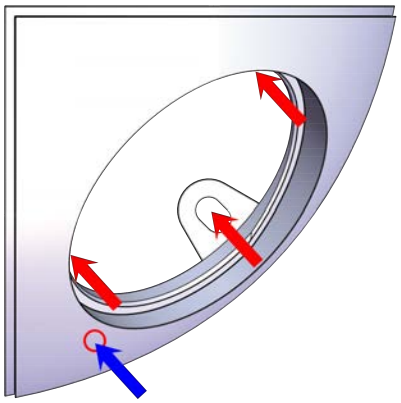


2. **Attach the mounting ring:** Position the mounting ring (supplied with the On-Wall Mounting Set) on the camera, ensuring that the triangular mark on the mounting ring is aligned with the triangular mark on the camera.



Installing the Corner Mounting Set

1. **Install the casing:**
   - Hold the casing in the mounting position with the embossed mark (blue arrow) pointing downward.
   - Mark the three mounting holes (red arrows in the figure).
   - Remove the casing. Drill the mounting holes and, if required, insert the supplied wall plugs.



NOTE!

If a concealed interface box is to be installed behind the casing, use the drilling template in this document.

Position the casing over the drilled holes and fasten it using the supplied Ø 5.3 × 20 mm screws with washers (max. torque: 0.4 Nm).

2. **Connect the camera:**
   - If interface boxes are used, connect the corresponding wires to the camera.

     NOTE!

     For information on installing the interface boxes, refer to the corresponding documentation.

   - Connect the camera to the network.

3. **Insert the camera:**



   - Position the camera with the attached mounting ring on the Corner Mounting Set. Ensure that no cables or wires are trapped between the mounting ring and the rim of the Corner Mounting Set.
   - Press firmly on the outer edge of the camera, as shown in the figure, until the camera audibly clicks into place. Do not press on the sensor module or the lens.
   - Turn the camera to the desired viewing direction.

4. **Finish the installation:**

   Connect the camera to the power supply and complete the initial setup as described in the corresponding camera manual. Check the live image and adjust the camera, if necessary.

   NOTE!

   In the browser, open **Setup Menu > vPTZ Settings** and set the **Tilt Angle Correction** to 35° (Corner Mounting Set).

Removing the Camera

1. **Turn camera to the mark:**

   Rotate the camera until the microphone of the camera is aligned with the mark ① above the threaded plug.



2. **Firmly press down the camera:**

   Press firmly on the camera at the positions indicated by the red circles until the camera tilts inward and the opposite side lifts up.



3. **Remove the camera:**

   Lift the camera out of the Corner Mounting Set.

   Disconnect the network cable and any other cables or wires connected to the camera.



Adjusting the Camera Lens

NOTE!
The camera lens is pre-focused at the factory, so this step is usually not necessary.

Adjusting the camera at the mounting position will ensure that you will see the desired field of view later on.

CAUTION!
When adjusting the image focus or the field of view of the camera, always make sure that you can see the live image of the camera on your monitor. See Camera Software in the Browser, p. 55.

Adjusting and Focusing the Camera Lens

1. Focus the lens ① by turning the lens with the MultiTool module wrench M.2, p. 15.
2. If required, clean the optical surfaces using a clean, lint-free cotton cloth.



6

Operating the Camera

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Getting Started

You can use the MOBOTIX c ONE with any current browser – or with MxManagementCenter.

NOTE!
You can download MxManagementCenter free-of-charge from **www.mobotix.com > Services > Download Center > Software Downloads**.

1. **Establish a connection to the camera:** Follow the instructions on how to access the camera as outlined in Initial Camera Setup, p. 48.
2. **Configure camera:** You can use the user interface of the camera in a browser or in MxManagementCenter.

LED States

The camera LED on top of the camera body displays the following states by default:



LED status	Meaning
Green steady on	Normal operation
Green steady flashing	Technical error or misconfiguration

Boot Options of the Camera

By default, the camera starts as DHCP client and automatically tries to get an IP address from a DHCP server. To start the camera in a mode different from the default mode, you can activate the boot menu of the camera.

NOTE!
Pressing the key of the camera will let the camera announce the current IP address of the camera on the speaker.

CAUTION!
When opening the camera, do not insert any objects into the housing. This could damage the camera!

1. Disconnect the camera's power supply.
2. Open the camera housing (see Removing the Back Plate, p. 28).
3. Take a suitable tool for operating the boot menu (any plastic pin will do), **but do not use metallic or pointed objects!**
4. Reconnect the power supply of the camera.
5. **Activate the boot menu:** The LED at the top of the camera housing lights up 5 to 10 seconds after establishing the power supply and will stay on for 10 seconds. Press the reset key ① with the tool. The camera enters the boot menu, ready for selecting one of the boot options. The LED will flash once. The flash signal will be repeated every second.



NOTE!
The number of flashes corresponds to the current boot option.

6. **Switch the boot option:** Briefly press the reset button(< 1 sec). After the last boot option, the camera returns to the first boot option (LED flashes once).
7. **Select a boot option:** Press the key longer (> 2 sec). The camera confirms the selection by flashing the LED rapidly for 3 seconds. After 20 sec, the camera will play a sound according to the table below.

LED Flashes	Boot Option	Meaning	Audio Confirmation
1x	•/•	This option is not supported on this camera model.	•/•
2x	Factory Defaults	Starts the camera with factory defaults (factory default IP address, users and passwords will not be reset).	**Boing**
3x	Automatic IP Address	Starts the camera as DHCP client and tries to obtain an IP address from a DHCP server. If a DHCP server cannot be found or no IP address can be obtained, the camera starts with its factory default address.	**Boing-Boing**
4x	Backup Operating System	Starts the camera with the recovery system, e.g., in order to recover from a failed update of the camera software.	**Alarm Sound**

8. Close the camera housing (see Attaching the Back Plate, p. 29).

NOTE!
If you do not select a boot option, the camera will resume its normal boot process after a certain time.

CAUTION!

- Note that you can restore specific parts of the camera configuration afterwards by using "Restore" to re-apply the settings still stored in the camera.
- As opposed to resetting the camera using **Admin Menu > Reset configuration to factory defaults**, the user information will not be reset if the camera is booted using the factory defaults.
- When starting the camera with DHCP support (option 2), make sure that the network has a properly functioning DHCP server. If this is not the case, the camera cannot obtain a valid IP address and will fall back to its last IP address.
- You should also make sure that the cameras always get the same IP addresses by mapping the MAC addresses of the cameras to the desired IP addresses.

Network Settings

Initial Camera Setup

Check the Preconditions

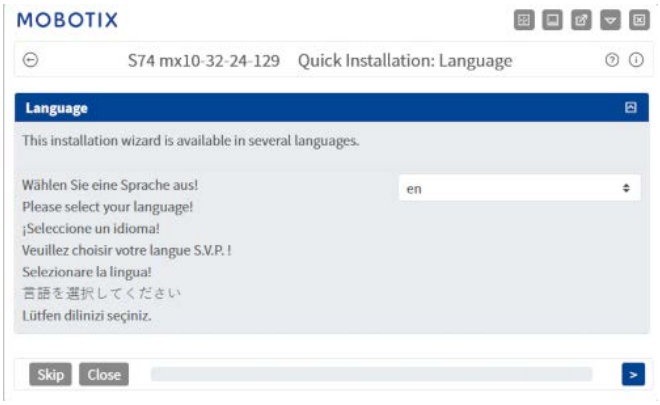
- Is the camera running (check camera power LED)?
- Is the camera accessible using my current network connection?
- Do I have the necessary information for successfully running the camera on the network?
  - IP address of NTP (*Network Time Protocol*) server.
  - IP address of network gateway (if required).

Access the Camera

1. Start your web browser.
2. Access the camera using its zeroconf address:
   - Look for the factory IP address such as `10.x.y.z` on the sticker on the camera body or the packaging.
   - Enter this address in the address bar of your browser using the following syntax: `mx10-x-y-z.local`.

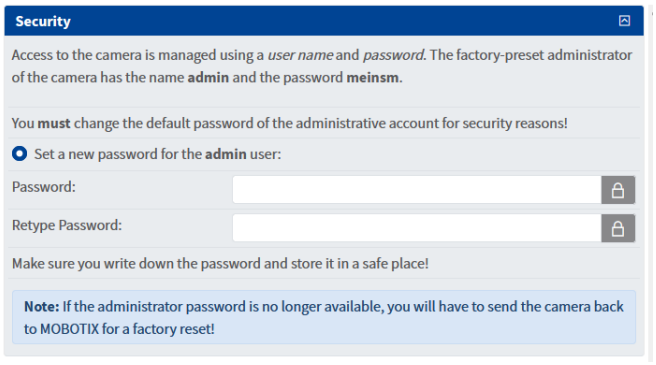
     EXAMPLE:
     Taking a factory IP address of `10.32.24.129` as an example, you would enter `mx10-32-24-129.local` in the address bar of your browser.

   - Click on **Admin Menu** and enter the default access credentials (`admin`/`meinsm`).
3. In the **Quick Installation** dialog, select your language, then click on >.



4. Continue clicking on > and do not change any settings until you reach the **Security** dialog.

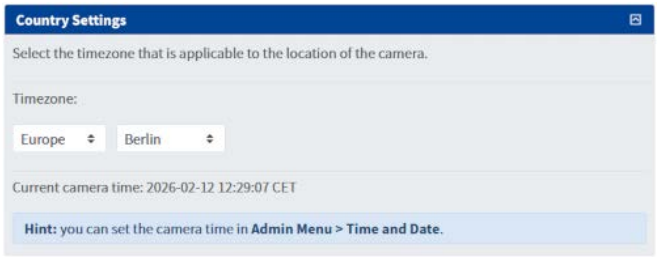
   Set a password for the admin user of the camera. Make sure you keep the password in a safe place.



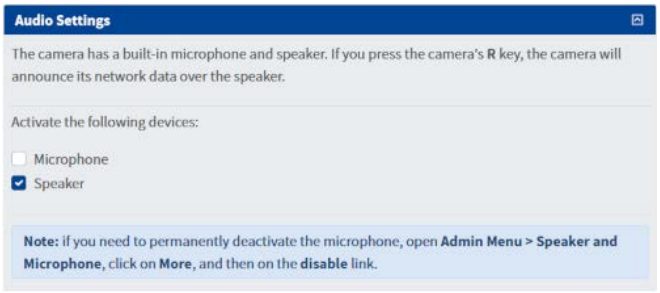
NOTE!
Make sure to record the new password in the system documentation!

5. Continue clicking on > and do not change any settings until you reach the **Country Settings** dialog.

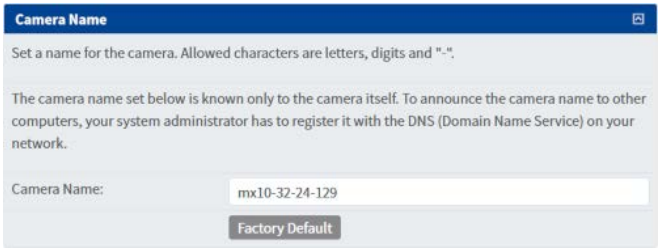
   Check the time zone and adjust it, if necessary.



6. Click on > and in the **Audio Settings** dialog, activate the devices that are available for this camera.



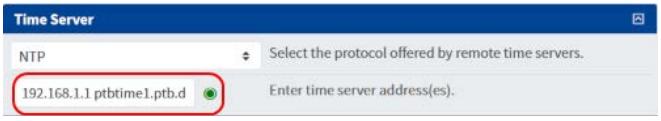
7. Click on > and in the **Camera Name** dialog, enter a descriptive camera name.



> **NOTE!**
> Make sure to record this camera name in the system documentation!

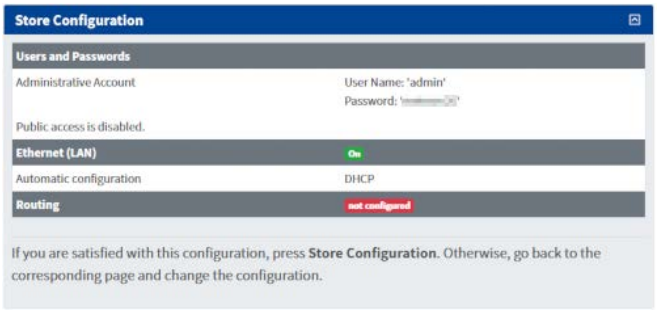
8. Continue clicking on > and do not change any settings until you reach the **Time Server** dialog.

   Enter the IP address of your network time servers as provided by your network administrator (e.g. `192.168.1.1 ptbtime1.ptb.de`; use spaces to separate multiple addresses).

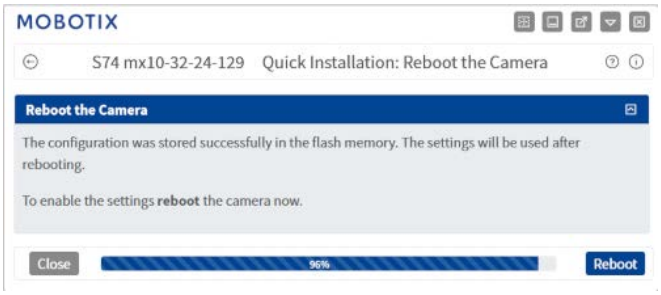


   If the time server is working properly, the LED to the right of the field turns green. A red LED indicates that the server does not work properly.

9. Click on > and review the information in the **Store Configuration** dialog. If everything is correct, print the page and include it in the system documentation.



10. Click on **Store Configuration** and then on **Reboot**.



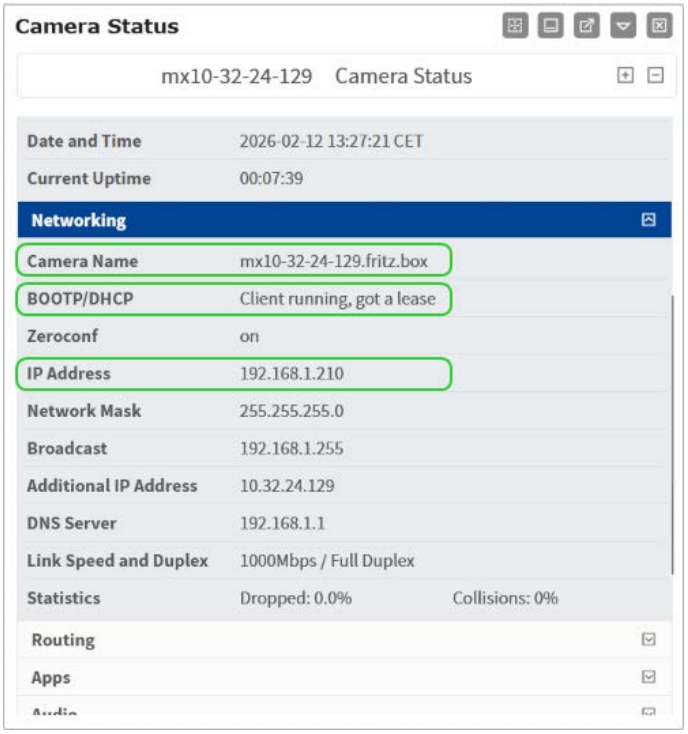
11. Enter the new password you entered in the **Security** dialog when prompted by the camera.

    The camera will now reboot; once it is working again, you will see its live image.

Find the "Real" IP Address of the Camera

Since you are still using the `mx10-32-24-129.local` zeroconf address, you need to find out the actual IP address of the camera.

1. Click on the **Show Camera Status** icon ⓘ.
2. In the **Camera Status** dialog, click on **Networking**.
   - The **Camera Name** entry shows the camera's current fully qualified domain name.
   - The **BOOTP/DHCP** status *Client running, got a lease* shows that the camera properly received an IP address.
   - The **IP Address** entry shows the camera's current address.
3. You can use either the **Camera Name** (e.g. `mx10-32-24-129.fritz.box`) or the IP address (e.g. `192.168.1.210`) to access the camera from now on.
4. Open a new browser tab and enter the address (e.g. `mx10-32-24-129.fritz.box` or `192.168.1.210`), then enter the access credentials (`admin/<your new password>`).



NOTE!
Make sure to record this address in the system documentation together with the camera name!

Automatic Setup using MxManagementCenter

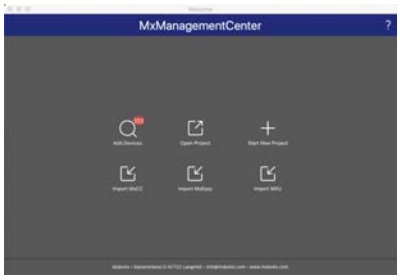
This section describes how to use MxMC to connect the camera and configure its network settings.

MxManagementCenter is a video management software for setting up and using the entire video surveillance system that provides a range of functions for different tasks and user groups. You can download the newest release of MxManagementCenter from the MOBOTIX website (www.mobotix.com > Services > Download Center > Software Downloads, MxManagementCenter section).

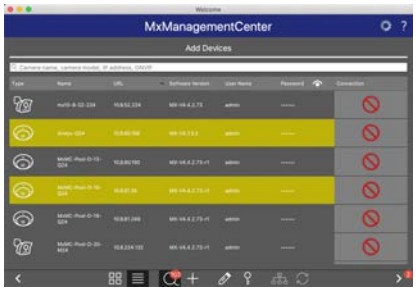
Network Settings on the Camera in MxMC

When starting MxManagementCenter for the first time, the configuration wizard opens and automatically starts searching for MOBOTIX cameras. The number of detected cameras is shown next to the **Add Devices** icon.

1. Click on **Add Devices**. The cameras are displayed either in a list or as tiles. Use the List and Tile buttons to change the display mode.



The application automatically monitors and displays the operating status of all cameras using corresponding icons.



EXAMPLE:

- The camera is not in the same subnet as the computer.
- The user name and password of the camera are not known.

NOTE!
Using the Bonjour service (en.wikipedia.org/wiki/Bonjour_(software)), the application finds not only MOBOTIX cameras on the same subnet, but also in other subnets. Normally, you would not be able to establish any connection to cameras in a different network or subnet.

NOTE!
This is the case, for example, if you are integrating cameras into a network without DHCP server (i.e. with fixed IP addresses) and the IP address range is different from the 10.x.x.x range supported by the cameras in addition to DHCP.
MxManagementCenter can automatically configure such a camera so that it is "integrated" into your existing network.

2. Select the camera you want to set up and click on **Edit Network Settings** at the bottom of the program window. The **Change Network Settings for Selected Devices** dialog opens.
3. Enter the IP address and the subnet mask of the selected camera.



NOTE!
The IP addresses of the other cameras are automatically incremented by 1.

4. Click on **Apply** to apply the settings.

NOTE!
For more information on this feature, please read the MxManagementCenter online help or the Tutorial (see www.mobotix.com > Services > Download Center > Documentation > Brochures & Guides > Tutorials).

Network Settings on the Camera in the Web Browser

1. Use a web browser to access the web interface of the MOBOTIX camera and enter the factory IP address (e.g. `10.16.0.99`).

NOTE!
When you access the web interface for the first time, you will need to assign a new password for the admin user.

CAUTION!
If the administrator password is no longer available, the camera must be returned to MOBOTIX for a factory reset.

2. Click on the **Admin Menu** button in the user interface of the camera. The Quick Installation Wizard automatically starts after entering the access credentials of the admin user.

NOTE!
You can also run the Quick Installation Wizard later on (**Admin Menu > Network Configuration > Quick Installation**; see Reference Manual).

3. Enter the network parameters of the camera in the course of the quick installation.

NOTE!
You can also change the network parameters later on by running **Admin Menu > Network Configuration > Quick Installation**.

4. Reboot the camera to apply the network settings.

7

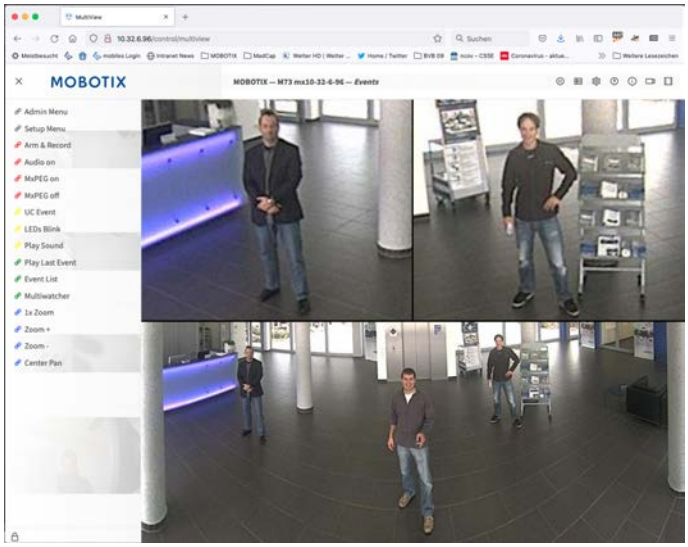
Camera Software in the Browser

Access the Camera in the Web Browser 56

Basic Settings 56

Access the Camera in the Web Browser

Once the power and network connection of the MOBOTIX have been established, you can access the interface of the camera software in a web browser.



- Enter the camera's IP address in the address field of a web browser.

NOTE!
You can find the IP address of the camera, for example, in the camera housing or on the sticker on the packaging.

Basic Settings

NOTE!
You must change the password when logging in for the first time.

CAUTION!
Make sure that you store information on user names and passwords in a secure place.

If you loose the administrator password and cannot access the Administration menu, the password can only be reset at the factory. This service is subject to a service charge.

The Quick Installation Wizard will appear automatically when accessing the Administration Menu for the first time. It provides an easy method to adjust the basic camera settings to the current application scenario. For security reasons, it is highly recommended to change the default administrator password after the camera has been configured properly.

Administering the camera: You can modify the camera configuration in the Administration Menu or the Setup Menu:

- **Admin Menu:** This menu contains the basic configuration dialogs of the camera (e.g. passwords, interfaces, software update).

- **Setup Menu:** This menu contains the dialogs for configuring the image, event and recording parameters. Some of these settings can be changed using the corresponding Quick Controls in the Live screen.

NOTE!
For more information, consult the Reference Manual of the camera (see **www.mobotix.com > Services > Download Center > Marketing & Documentation > User Manuals**.

8

Maintenance

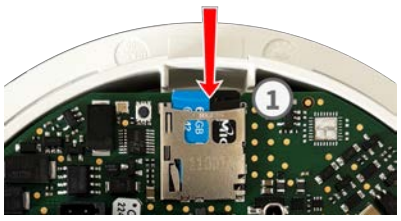
Replacing the microSD Card 60
Cleaning the Camera and Lenses 60

Replacing the microSD Card

CAUTION! Risk of equipment damage and data loss!

- Before removing the microSD card, disable recording and reboot the camera.
- Disconnect the camera from the power supply.
- Do not touch the circuit board while replacing the microSD card.
- Ensure that the microSD card is not write-protected.

1. **Deactivate storage:** If storage on microSD card is still activated, deactivate it in the cameras web interface: **Admin Menu > Storage on External File Server / Flash Device**, then reboot the camera.
2. Disconnect the camera's power supply.
3. **Open the housing:** (see Removing the Back Plate, p. 28).
4. **Remove the microSD card:** Gently push the microSD card into the slot to release it from the push lock. Then pull it out with tweezers.



5. **Insert microSD card:** Carefully insert the new microSD card into the slot using tweezers and press it in lightly until it clicks into place.
6. **Close the housing:** (see Attaching the Back Plate, p. 29).
7. **Activate storage:**
   - Format a new microSD card as outlined in the camera's *Storage on External File Server / Flash Device* online help topic.
   - If the microSD card already is formatted with MxFFS, you can activate storage in **Admin Menu > Storage on External File Server / Flash Device**. After rebooting the camera, recording will automatically resume.
8. **Reboot the camera.**

Cleaning the Camera and Lenses

Clean the camera housing using a mild alcohol-free detergent without abrasive particles.

If lens are dirty from the installation process, clean them using a lint-free cotton cloth. Check the lens focus after cleaning and adjust if required.

To protect the lens protection glass, only use the supplied mounting supplies for disassembly.

Cleaning the lens protection glass

- Use the wide end of the module wrench M.2, p. 15 to remove/install the lens protection glass. The narrow side of the wrench is used to adjust the sharpness (focal length) of the tele lenses.
- You should clean the lens protection glasses and domes regularly using a clean, lint-free cotton cloth. If the dirt is more persistent, add a mild alcohol-free detergent without abrasive particles.
- Make sure you instruct cleaning personnel on how to clean the camera.

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