Camera Manual
# M26 Allround

Beyond**Human**Vision

# MOBOTIX

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**LEGAL NOTES**

**Legal aspects of video and sound recording**

You must comply with all data protection regulations for video and sound monitoring when using MOBOTIX products. Depending on national laws and the installation location of the M26, 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.

## SAFETY WARNINGS

**Notes on Installing:**

- This product must not be used in locations exposed to the dangers of explosion.

- Make sure that you install this product as outlined in *Chapter 2, «Installation»* of this manual. A faulty installation can damage the camera!

- When installing this product, make sure that you are only using genuine MOBOTIX parts and MOBOTIX connection cables.

- Only install this product on suitable, solid materials that provide for a sturdy installation of the fixing elements used.

**Electrical installation:** Electrical systems and equipment may only be installed, modified and maintained by a qualified electrician or under the direction and supervision of a qualified electrician in accordance with the applicable electrical guidelines. Make sure to properly set up all electrical connections.

**Electrical surges:** MOBOTIX cameras are protected against the effects of small electrical surges by numerous measures. These measures, however, cannot prevent the camera from being damaged when stronger electrical surges occur. Special care should be taken when installing the camera outside of buildings to ensure proper protection against **lightning**, since this also protects the building and the whole network infrastructure.

**Max. power consumption of attached extension modules:** The power consumption of all attached *MxBus modules* must *not exceed 2.5 W*. When attaching modules to the MxBus connector *and* the USB socket, the *power consumption of all attached modules must not exceed 3 W*, *if the camera is powered by PoE class 3*. If *PoE class 2* is used, *the camera cannot power any peripheral devices!*

**Never touch the lens:** Due to the high performance of the M26, the area of the image sensor **can get quite hot**, especially when the ambient temperature is also high. This does not affect the proper functioning of the camera in any way. For this reason, the product must not be installed within the reach of persons.

**Power off before opening the camera:** Make sure the power supply to the camera is disconnected before opening the camera housing (e.g., when inserting or exchanging lenses, lens units and SD cards).

**Network security:** MOBOTIX products include all of the necessary configuration options for operation in Ethernet networks in compliance with data protection laws. The operator is responsible for the data protection concept across the entire system. The basic settings required to prevent misuse can be configured in the software and are password-protected. This prevents unauthorized parties from accessing these settings.

**FOREWORD**

Dear MOBOTIX customer,

Congratulations on your decision to purchase a professional and modern HiRes network camera "Made in Germany"! The robust and versatile M26 is a cost-efficient and professional mono camera solution with interchangeable lenses for indoor and outdoor applications (IP66). You can select from a wide range of lenses, from Hemispheric to Super Wide-Angle to Tele lenses (now up to 320 mm) and CSVario lens. Add to that the proven advantages that are inherent to the MOBOTIX concept, such as the integrated event, alarm and telephone features and the modern long-term storage directly in the camera with all of its benefits.

The weatherproof MxBus and MiniUSB interfaces of the camera allow attaching MOBOTIX interface boxes and standard devices, such as 3G/UMTS modems, external storage devices, etc. The pre-installed MicroSD card flash storage is easily exchanged for larger storage requirements, providing for secure long-term storage.

The introduction of the newest image sensor technology with increased light sensitivity provides brilliant images with image sizes of up to 3072x2048 pixels, thus delivering color images of higher quality under lowlight conditions.

You can download the **MxManagementCenter** video management software for MOBOTIX cameras from the MOBOTIX website: **www.mobotix.com > Support > Download Center > Software Downloads**. The tutorial for the application is available from **Support > Download Center > Documentation > Brochures & Guides > Tutorials**.

For iPad, iPhone, and Android devices, MOBOTIX offers the **MOBOTIX MxBell**, a free-of-charge mobile solution that is easily found when searching for "MOBOTIX AG" in the App Store or on Google Play.

If you have any questions, our support and international sales staff are available at **intl-support@mobotix.com** from Monday to Friday, 8 am to 6 pm (German time).

We would like to thank you for your trust and wish you all the best with your new MOBOTIX camera M26 Allround!

**MOBOTIX**

Beyond **HumanVision**

M26 Allround B036 to B500

M26 Allround B016

M26 Allround CSVario

# 1 PRODUCT OVERVIEW

## 1.1 Lenses, Hardware, Image Formats

| Lenses, Sensors | |
| --- | --- |
| B016* Hemispheric | • |
| B036* Super-Wide-Angle | • |
| B041* Super-Wide-Angle | • |
| B061* Wide-Angle | • |
| B079* Wide-Angle | • |
| B119* Tele | • |
| B237* Tele | • |
| B500* Tele | • |
| CSVario 4.5 to 10 mm* | • |
| Image sensor with individual exposure zones | Color/BW |
| Sensor sensitivity 6MP in lux at 1/60 s and 1 s | 0.1 / 0.005 (Color) 0.02 / 0.001 (BW) |
| **Hardware Features** | |
| IP protection class | IP66 |
| Temp. Internal DVR (MB) | 64 |
| Internal DVR (MicroSD, SDXC, pre-installed) | • |
| Microphone/speaker | •/• |
| Passive infrared sensor (PIR) | – |
| Integrated temperature sensor | • |
| Shock detector | • |
| Power consumption in Watts (typical) | < 4 W |
| Variable PoE class | 2 – 3 |
| **Image Formats, Frame Rates and Image Storage** | |
| Max. resolution (per sensor) | **6MP** (3072x2048) |
| Max. frame rate (MxPEG, max. resolution) | **6MP**: 8 fps |
| CIF images with 4 GB MicroSD DVR | 250,000 |
| VGA images with 4 GB MicroSD DVR | 125,000 |
| MEGA images with 4 GB MicroSD DVR | 40,000 |
| QXGA images with 4 GB MicroSD DVR | 20,000 |

## 1.2   Software Features

| General Features | |
|---|---|
| Digital zoom (continuous) with panning | • |
| Motion JPEG/MxPEG/H.264 codecs | •/•/• |
| Programmable exposure ones | • |
| Snapshot rec. (pre-/post-alarm images) | 50 |
| Terabyte ring buffer storage (internal/network) | • |
| Event/Continuous rec. with sound (0.2 to 30 fps) | •/• |
| Time and event control | • |
| Weekly schedules/holidays | • |
| Web functionality (FTP, email) | • |
| Playback/Quad- und MultiView | • |
| Bidirectional sound in browser | • |
| Logo generator, animated | • |
| Flexible event logic | • |
| Master/Slave arming | • |
| Several scheduled privacy zones | • |
| Customized voice messages | • |
| VoIP telephony (audio/video, alert) | • |
| Remote alarm notification (network msg.) | • |
| Signal inputs/outputs, RS232 | Via MX-Input-Box/MX-Output-Box oder MX-232-IO-Box |
| Programming interface/HTTP API | • |
| Security features (HTTPS/SSL, IP-based access control, IEEE 802.1X network authentication) | • |
| **Video Analysis** | |
| Video Motion detector | • |
| MxAnalytics | • |
| MxActivitySensor | • |
| **Video Management Software** | |
| MxManagementCenter | • |
| MOBOTIX MxBell | • |

Free-of-charge download from **www.mobotix.com** or App Store/ Google Play

## 1.3   Technical Data

| | |
|---|---|
| **Model Versions** | Mx-M26A/B* (all Day/Night image sensors)<br>*Variant Mx-M26B supports MOBOTIX MxBus modules |
| **Lens Options** | MX-B016 bis MX-B500, 180° to 8° horizontal angle of view |
| **Sensitivity** | Color sensor (day): 0,1 lx @ 1/60s; 0,005 lx @ 1s<br>BW sensor (night): 0,02 lx @ 1/60s; 0,001 lx @ 1s |
| **Image Sensor** | 1/1.8" CMOS, 6MP (3072x2048), progressive scan |
| **Max. Image Size** | 6MP (3072x2048) |
| **Image Formats** | Freely configurable format 4:3, 8:3, 16:9 or customized format (image cropping), like 2592x1944 (5MP), 2048x1536 (QXGA), 1920x1080 (Full-HD), 1280x960 (MEGA) |
| **Max. Frame Rate** | MxPEG: 42@HD(1280x720), 34@Full-HD, 24@QXGA, 14@5Mp, 12@6MP<br>M-JPEG*: 25@HD(1280x720), 13@Full-HD, 9@QXGA, 5@5Mp, 4@6MP<br>H.264: 25@Full-HD, 20@QXGA |
| **Video Codec** | MxPEG, M-JPEG, JPEG (max. output size 6MP)<br>H.264 (max. output size QXGA, bandwidth limitation applicable) |
| **ONVIF** | ONVIF-S (camera release V5.2.x and higher) |
| **DVR** | On internal MicroSD card (SDXC, SDHC pre-installed)<br>• External, on USB device<br>• External, on NAS<br>• Separate live image and full image recording – MxFFS with archiving function<br>• Pre- and post-alarm images<br>• Automatic DVR monitoring with error notification |
| **Software** | MxManagementCenter |
| **Image Processing** | MxLEO, backlight compensation, automatic white balance, image distortion correction |
| **PTZ** | Digital pan/tilt/zoom; max. zoom 8x (continuous) |
| **Alarm/Events** | Temperature sensor, shock detector (with firmware version 5.0.1 and higher), microphon, other sensors/IOs via MxMessageSystem, notification via e-mail, FTP, IP telephony (VoIP, SIP), visual/sound alarms, pre- and postalarm images |
| **Intelligent Video Analysis** | MxActivitySensor, video motion analysis, MxAnalytics |
| **Audio** | Microphone/ loudspeaker, both 16bit/16kHz (HD-Wideband-Audio))<br>Lip-synchronous audio, audio recording<br>VoIP/SIP, two-way communication, remote controlling using key codes |
| **Interfaces** | Ethernet 100Base-T, MiniUSB, MxBus*;<br>inputs/outputs and RS232 via accessories<br>*Only variant Mx-M26B |
| **Security** | User/Group management, SSL, IP address filter, IEEE802.1x, intrusion detection, digital imge signature, MxFFS |
| **Certifications** | EN 55032:2012, EN 55024:2010, EN 50121-4:2015, FprEN 61000-6-1:2015, EN 61000-6-2:2015, EN 61000-6-3:2007+A1:2011+AC:2012, EN 61000-6-4:2007+A1:2011, EN 50581:2012, EN 60950-1:2006+A11:2009+A1:2010+A12:2011+A2:2013, 47 CFR Part 15B, AS/NZS CISPR32:2015 |

| | |
|---|---|
| **Power Supply** | Power over Ethernet (IEEE 802.3af) |
| **Power Consumption** | Typ. 4 W |
| **Power Consumption of External Devices** | At MxBus: max. 2.5 W, at USB: max. 2.5 W, total max. 3 W<br>The power consumption of the camera will increase accordingly! |
| **Protection Classes** | IP66<br>IK06 |
| **Ambient Temperature** | −30 to 50 °C/−22 to 122 °F |
| **Dimensions/Weight** | W x H x D: 140 x 189 x 220 mm; weight: about 350 g |
| **Standard Delivery** | Housing (high-resistance composite, PBT), white, conversion set for ceiling mount*, mounting supplies, wrenches, 50 cm patch cable, software, MicroSD card (installed)<br>*Only in delivery if included in initial order! |

## 1.4    Delivered Parts and Dimensions

### 1.4.1    The M26 Camera



| Item | Quantity | Part Name |
|------|----------|-----------|
| 1.1 | 1 | Camera in weatherproof housing including VarioFlex wall mount |
| 1.2 | 1 | Ceiling mount*<br>Only included if this had been specified when ordering the camera! |
| 1.3 | 1 | Gasket for wall and ceiling mount |
| 1.4 | 1 | Lens, mounted (standard M14, CSVario, or B016) |
| 1.5 | 2 | Lens cover, 1 mounted, 1 replacement (cover for CSVario/B016 not shown)* |
| 1.6 | 1 | Lens wrench B016 (with M26-Sec-D12/N12 only) |
| 1.7 | 2 | Allen wrench 5 mm, Allen wrench 2.5 mm |
| 1.8 | 1 | Ethernet patch cable, 0.5 m, pre-installed |
| 1.9 | 4 | Caps for stainless steel wood screws |
| 1.10 | 4 | Stainless steel wood screws with hex head 6x50 mm |
| 1.11 | 4 | Stainless steel washers 6.4 mm |
| 1.12 | 4 | Screw anchors S8 |
| 1.13 | 2 | Cable retainer with bayonet catch (patch cable, Mini USB) |
| 1.14 | 1 | MicroSD card pre-installed (SDXC) |
| 1.15 | 1 | Lock plug Mini USB |

# Delivered Parts and Dimensions

## Camera Housing and Connectors

The MOBOTIX M26 consists of the camera in the weatherproof housing and the VarioFlex mount.

## Connectors

- Network (Ethernet network including PoE supply)
- Mini USB (e.g. for ExtIO)
- MxBus (only Mx-M26B variant)
- MxBus (for MOBOTIX expansion modules)

Make sure that the white ring remains in the lens cover as this ring reduces light reflections and prevents the camera LEDs from adding reflections to the images

Wall Mount

Weatherproof housing

Microphone

Lens and lens cover

Power/Status

Recording

Key

Speaker

*Rear (without weatherproof housing)*

Pressure vent

Ethernet

MxBus

USB

Retaining screws

| Note |
| --- |
| Note on fastening cables leading into the camera:<br><br>Cables passing in to the back of the camera (patch cable for the network connection and for Mini USB) are secured using a special cable retainer with bayonet catch.<br><br>When replacing this cable, ensure that the cable is properly seated in the port and that the retainer with the blue bayonet catch is locked (short clockwise turn until it clicks into place). |

### Removing the Cable Retainer

Rotate the bayonet catch anti-clockwise to the "open circle" symbol (see figure). The catch may be removed from the side. The cable can now be pulled out of the camera.

Open the cable retainer by rotating the bayonet catch to the marked position

Bayonet catch open

# Delivered Parts and Dimensions

<table>
<tr><td align="center"><strong>Caution</strong></td></tr>
<tr><td>Only use <strong><em>original MOBOTIX cable</em></strong> to connect the camera. Standard cables purchased from other suppliers do not meet the necessary specifications for proper protection (no longer weatherproof according to IP66).



*Ethernet patch cable*     *MiniUSB cable*
</td></tr>
</table>

MOBOTIX patch cables are available as accessories in different lengths (1 m, 2 m, 5 m and 10 m)

### Replacing the Cable Retainer

Insert the cable into the receptacle on the camera. Position the bayonet catch from the side (opening points to the right). Rotate the bayonet catch clockwise to the "filled circle" symbol (see figure). The cable is now properly retained.



Close the cable retainer by rotating the bayonet catch to the marked position

Bayonet catch closed

### 1.4.2 Dimensions for Wall Installation
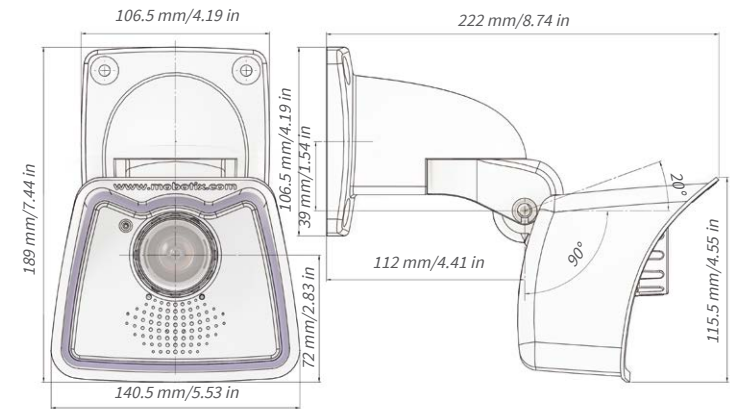


### 1.4.3 Dimensions for Ceiling Installation

^
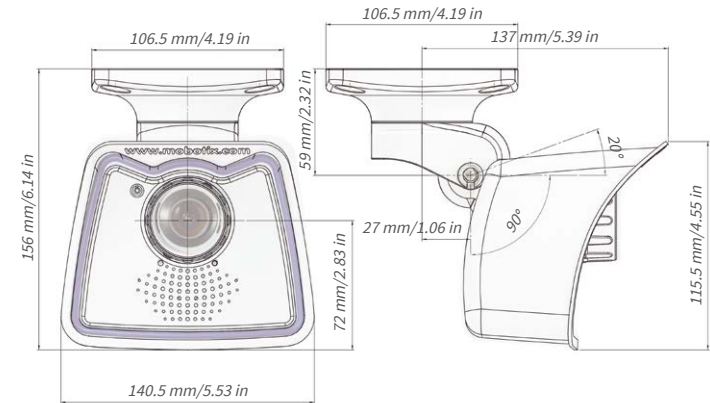
### 1.4.4 Dimensions of Wall Mount

106.5 mm/4.19 in

113 mm/4.45 in

106.5 mm/4.19 in

80 mm/3.15 in

99.5 mm/3.92 in

30 mm/1.18 in

61.5 mm/2.42 in

A

A

ø 6.4 mm/ 0.25 in

55 mm/2.17 in

77 mm/3.03 in

80 mm/3.15 in

51.5 mm/2.03 in

64.5 mm/2.54 in
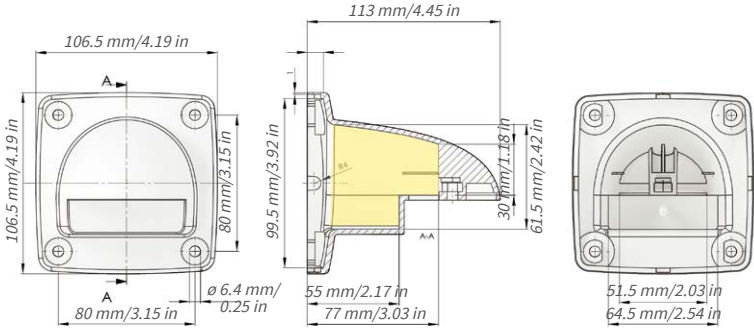
With the ceiling mount*, the size of the contact surface is identical to the wall/ceiling and to the position of the drill holes.

*Only in delivery if included in initial order!

### 1.4.5 Drilling Template Wall and Ceiling Mount

106.5 mm/4.19 in

A

106.5 mm/4.19 in

80 mm/3.15 in

A

ø 6.4 mm/ 0.25 in

80 mm/3.15 in
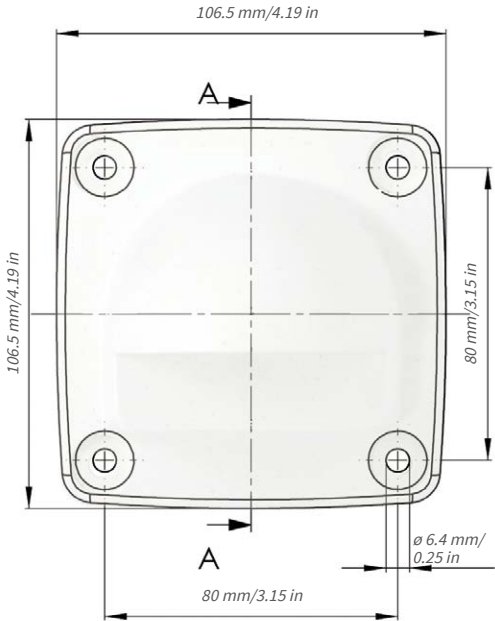
| Note |
| --- |

You can download the drilling template from **www.mobotix.com**, **Support > Download Center > Documentation > Drilling Templates**.

Make sure that the drilling template is not scaled or adjusted to the paper size when printing the PDF file (enlarged or reduced).

## 1.5    Available Accessories

### 1.5.1    Lens Cover with Glass Pane

**Order no.:** MX-M26-OPT-LCSG

As an additional accessory, the M26 with standard lens (M14 thread) can be supplied with a protective cover that has a glass pane instead of one made of plastic. This will improve the durability of the lens cover when used in extremely rough conditions (at sea, in sand storms, etc.). This lens cover also has a thread size that fits external filters (40.5 mm x 0.5 mm) available from photo shops. For example, you could install a polarization filter to cancel out the reflections from windowpanes or windshields. Using this lens cover together with the B036/B041 Super Wide Angle lenses is not recommended, since this lens cover produces shadows at the image borders. The (longer) cover supplied with M26 models with the CSVario lens is equipped with the glass pane as standard.

*MX-M26-OPT-LCSG*

*MX-M26-OPT-LCGL*

### 1.5.2    Pole Mount

**Order no.:** MX-MH-SecureFlex-ESWS

If you are intending to mount the camera to a pole, you should consider using the MOBOTIX Pole Mount for M26 cameras. This mount is made of 3 mm powder-coated stainless steel (white) and has been designed specifically for outdoor use. The supplied stainless steel straps allow the mount to be attached to poles with diameters between 60 mm and 180 mm (2.4 in to 7.1 in). By design, the pole mount does not allow the use of a flush-mounted wall outlet.

### 1.5.3    MiniUSB Cable to MiniUSB (Straight/Angled)

**Order no.:** MX-CBL-MU-EN-STR-05/2/5 (straight/angled)

Only cables with **angled** plugs can be used for the M26

The MOBOTIX MX-232-IO-Box can be connected directly to the M26 with this cable, which is up to five meters long.

### 1.5.4   MiniUSB Cable to MiniUSB (Angled/Angled)

Order no.: MX-CBL-MU-EN-EN-PG-05/2/5
(angled/angled)

The MOBOTIX ExtIO can be connected directly to the M26 with this cable, which is up to five meters long.

### 1.5.5   MiniUSB Cable to USB-A Socket

Order no.: MX-CBL-MU-EN-AB-05/2/5

USB-based storage media (for example, USB hard drives) can be connected directly to the M26 with this cable, which is up to five meters long.

### 1.5.6   Ethernet Patch Cable for Bayonet Catch

Order no.: MX-OPT-CBL-LAN-1/2/5/10
(length: 1 m/2 m/5 m/10 m)

The MOBOTIX-developed special cable can be installed in a waterproof manner and has an integrated sealing gasket. Every M26 ships with a 0.5-m-long cable as standard, which can be exchanged for a patch cable up to 10 m in length.

### 1.5.7   NPA-PoE-Set

Order no.: MX-NPA-PoE-EU and MX-NPA-PoE-INT (Version EU and Version INT)
Order no.: MX-CBL-NPA-BAT-2 (battery cable for mobile voltage sources)

This is a multifunctional PoE injector according to the IEEE 802.3af standard – with three connectors (for network, camera/PoE device, PC), universal power supply unit with interchangeable adapter plugs and crossover function. The NPA-PoE-Set connects and remotely supplies a M26 with power via an Ethernet cable up to 100 m in length. The blue adapter can also be connected to mobile voltage sources from 12 to 57 V DC by means of an additionally available battery cable. The "EU" version of the NPA-PoE-Set is supplied as standard with a European adapter, while the "INT" version includes four adapters (EU, USA, UK, AUS).

### 1.5.8  MX-Overvoltage-Protection-Box

Order no.: MX-Overvoltage-Protection-Box-RJ45
Order no.: MX-Overvoltage-Protection-Box-LSA

Weatherproof network connector (protection class IP65, –30 to 60°C/–22 to 140°F) **with surge protection of up to 4 kV for MOBOTIX IP cameras**, ideal for replacing the MX-Patch-Box.

At the same time, the MX-Overvoltage-Protection-Box provides a weatherproof connection of a camera's patch cable to a network patch cable (**-RJ45** variant) or a network installation cable (**-LSA** variant).

### 1.5.9  MX-NPA-Box

Order no.: MX-OPT-NPA1-EXT

The MX-NPA-Box is a weatherproof PoE injector conforming to the IEEE 802.3af standard and is designed to connect external voltage sources (12 to 57 V DC) to a MOBOTIX camera.

The MX-NPA-Box is equipped with the Patch-Box's weatherproof and extremely compact exterior housing (protection class IP65, –30 to 60°C/–22 to 140°F), which means it can also be installed in the space of the Outdoor Wall Mount. Interfaces of the MX-NPA-Box: Camera via patch cable, Ethernet via LSA+ and external power supply via terminal connector (12 to 57 V DC possible).

### 1.5.10  MX-GPS-Box

Order no.: MX-OPT-GPS1-EXT

The MX-GPS-Box primarily serves as a high-precision time source for systems without an Internet connection. In addition, it can provide triggering based on GPS events (reaching or moving away from a specified position; exceeding or not reaching a specified speed). This interface box can be attached to all MOBOTIX cameras with an MxBus interface.

The MX-GPS-Box is equipped with the same compact housing as the other interface boxes (protection class IP65, –30 to 60°C/–22 to 140°F). This interface box should not be installed inside of other wall mounts, but on the exterior of the building with a large section of open sky above it. This ensures the best possible reception from GPS satellites and thereby the highest possible accuracy of the received GPS data. The maximum length of the MxBus wiring (0.8 mm diameter wires) is 50 m/55 yd.

### 1.5.11 MX-232-IO-Box

Order no.: MX-OPT-RS1-EXT

This box provides the signal inputs and outputs as well as the RS232 (serial) interface. It replaces the connections that were handled on the older camera models via a D-Sub 15-HD connector. The MX-232-IO-Box (protection class IP65, −30 to 60 °C/−22 to 140 °F) can be attached to all MOBOTIX cameras with an MxBus or USB interface. The maximum length of the MxBus wiring (0.8 mm diameter wires) is 50 m/55 yd. If the MiniUSB connector is used, the maximum cable length is 5 m/16 ft.

### 1.5.12 ExtIO Expansion Module

Order no.: MX-ExtIO

The device, which is suitable both for on-wall and in-wall installations, contains a powerful speaker, microphone, infra-red motion sensor, ambient temperature sensor, two input and two output contacts and two illuminated keys. It is ideal for door communication, elevators, access control systems, etc. The ExtIO is suitable for use as direct connection to the S15 via a MiniUSB cable (max. 5 m), which can be ordered separately, or as a network connection via the PoE switch.

### 1.5.13 Mx2wire+ Media Converter

Order no.: MX-2wirePlus-Set-PW

The Mx2wire+ system allows an Ethernet network with PoE to be set up via two-wire cables, which saves users from having to lay several hundred meters of Ethernet cable. For example, an existing two-wire cable of an analog video cam-era can be reused to connect a high-resolution and modern IP network camera. Mx2wire+ is delivered in the standard wall outlet frame in different designs; however, it can also be used with the available on-wall socket that is included.

### 1.5.14 Security Screw Set with Allen Bit

Order no.: MX-OPT-SEC-SCREWS-SET

Use this triple set of security screws for plugs (4 pcs 6x50) and for machine threads (4 pcs M6x15, 4 pcs M6x30) to securely attach the VarioFlex foot of the wall mount. The Allen bit supplied with the set (1/4 in drive with hole for security pin) fits regular power screwdrivers.
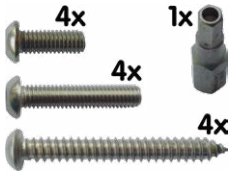
### 1.5.15 Other Accessories

Since the range of accessories for the MOBOTIX system keeps growing, you should visit the MOBOTIX website **www.mobotix.com** in the **Products > Accessories** section to see the entire list of available accessories.



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## 1.6    MOBOTIX Software

### 1.6.1   Integrated Camera Software (Firmware)

MOBOTIX cameras and connected MxBus modules operate with built-in firmware whose functions are accessed by the MOBOTIX **MxManagementCenter** remote stations and **MOBOTIX MxBell**.

The M16 models therefore also feature a variety of functions that are integrated in the firmware: from motion detection and long-term storage right through to alarm notification via video IP telephony. The virtual PTZ functions allow you to continuously zoom into or out of a MOBOTIX camera image using either the mouse wheel or a joystick.

When recording image or video sequences, you can choose to store either the section of the live image that is visible or the full sensor image (full image storage). This also allows you to examine parts of an image or video that had not been visible in the live image section on display at the time of the recording.

Unlike in the camera systems from other manufacturers, there is no need to buy and install additional software on your computer thanks to the MOBOTIX firmware that can be accessed directly in a web browser via the camera IP address. Instead of using a web browser, you can also download the free **MxManagementCenter** video management software from the MOBOTIX website (**www.mobotix.com > Support**) to quickly display multiple cameras on one monitor or on an entire video wall, switch alarms with sound or conveniently search for an event. The **MOBOTIX MxBell** for iOS and Android devices (iOS 11/Android 5.0 and higher) is also available free of charge from the **App Store/Google Play** for your mobile applications.

Download free of charge from **www.mobotix.com**

No license fees!
Free updates!
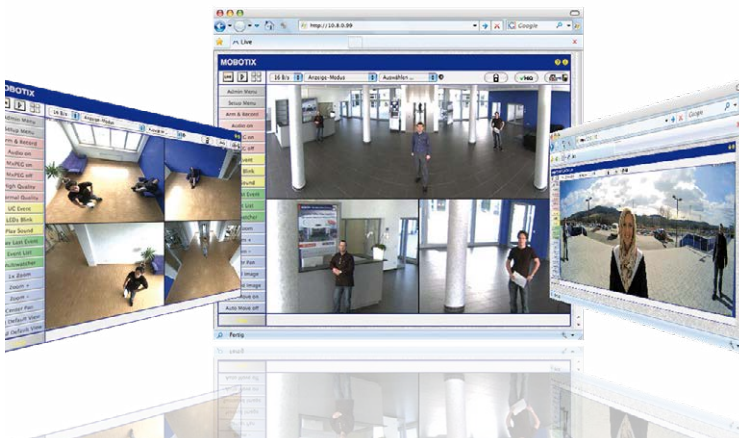
### 1.6.2 MxManagementCenter

MxManagementCenter (MxMC) is a completely new development that focuses on a unique and intuitive user experience. Single and double click, drag&drop, support of several screens and direct view of events and alarm messages are just some of the many advantages of the new software.

MxManagementCenter is perfectly designed in combination with MOBOTIX cameras representing the decentralized concept at its best. MxMC allows controlled recording access via the camera or later directly to the NAS.

A unique feature is the adaptive bandwidth management supporting quality search even over mobile networks with very limited bandwidth. MxMC is 100% free of charge, requiring no license or update costs and at the same time having no limits in terms of users, screens and cameras.

**MxManagementCenter – simple operation of the most important camera functions:**

- Integration of an unlimited number of cameras
- Camera groups with representation in Grid and Graphic views, Grid views with a focus window and many controls
- Optical and audible alarming of new events
- Instant Player that allows for quick viewing of the latest events during live video monitoring operation
- Easy use of multiple monitors by double-clicking on the live image, grid or event image
- Door station functions (intercom, open door, turn light on/off, etc.)
- Subsequent distortion correction of hemispheric camera images - in live images and in recordings

Download free of charge from **www.mobotix.com**

No license fees!
Free updates!

### 1.6.3 MOBOTIX MxBell

Never miss another visitor, thanks to push notifications! Use MOBOTIX MxBell on your smartphone or tablet to receive notifications from the doorbell of a MOBOTIX IP Video Door Station and live views from MOBOTIX cameras. This app helps you open the door and enables hands-free talking, automatic camera search, a live view, camera connection via SSL and display of the connection status.

**Our new MOBOTIX MxBell is here!**

The update scores with its new playback function, which makes it possible to search through the recorded events for the integrated Door Stations and cameras at a specific time point and play back the individual clips. In addition, the Grid view will simultaneously display up to four cameras, which in particular is a great advantage for small installations.

- Never miss another visitor, thanks to push notifications.
- Displays doorbell messages from MOBOTIX IP Video Door Stations.
- Live views from MOBOTIX IP cameras with gesture-controlled PTZ function.
- Open the door from anywhere, hands-free talking.
- Automatic camera search, live view and camera connection using SSL.
- Displays the connection status.
- Supports remote connections and mobile data.
- iOS 11/Android 5.0 and higher

Free download from **App Store/Google Play**

No license fees!
Free updates!



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## 2    INSTALLATION

Although the MOBOTIX M26 has been primarily designed for installation on walls and ceilings, it can also be installed on a mounting pole using the appropriate MOBOTIX accessories. The different installation options are described in *Section 2.2, «Mounting the Camera with Wall Mount»* and the following sections, while the drilling templates are available from **www.mobotix.com**, **Support > Download Center > Documentation > Drilling Templates**.

## 2.1    Preparing the Installation

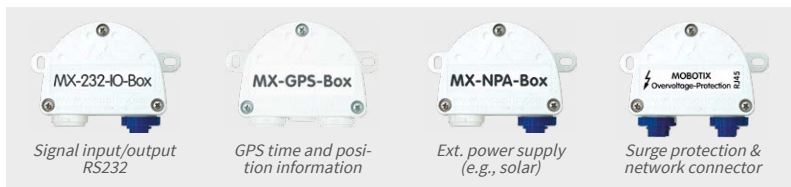Before mounting the MOBOTIX M26, the following questions should be answered:

1. Where will the camera be mounted?
2. Which other mounting options are available?
3. How is the camera connected to the network and how is the power supplied?
4. How are the connections furnished from the building?
5. What cabling considerations are necessary?

The following sections contain answers to each of these questions. If you have more detailed questions, please ask your MOBOTIX partner directly or contact the MOBOTIX support. To find the contact data, please open **www.mobotix.com** and the **Support** section.

### 2.1.1    Mounting Options: Wall, Ceiling, Pole

Like all MOBOTIX cameras, the M26 is **extremely flexible** in terms of how and where it can be installed. An M26 can be used for both indoor and outdoor applications. In fixed or mobile applications – constantly changing locations or in/on vehicles of any kind. The M26 cameras are **weatherproof according to IP66** and can work reliably in temperatures ranging from –30 to 50 °C/–22 to 122 °F without extra housing, heating or fan. A practical sun protective cover is integrated into the extremely resistant housing, which is made of UV-resistant special-purpose plastic.

Thanks to the camera's unique VarioFlex mounting system (supplied as standard), the camera can be mounted quickly and easily on any wall, ceiling or even a round pole of up to 18 cm diameter (when combined with the stainless steel pole mount). The VarioFlex mounting system allows a wide positioning range in both the horizontal and vertical directions (rotating and tilting) to enable precise adjustment to suit the area to be monitored. **The wall mount also fits directly over flush-mounted RJ45 sockets (without the frame) and MOBOTIX interface boxes** to fully conceal the cable, thus improving the security of the installation.



| MX-232-IO-Box | MX-GPS-Box | MX-NPA-Box | MOBOTIX Overvoltage-Protection |
|---|---|---|---|
| Signal input/output RS232 | GPS time and position information | Ext. power supply (e.g., solar) | Surge protection & network connector |

Wall mount

Ceiling mount*

+20°

360°

Central joint    -90°

Weather protection

Mounting to a Wall                    Mounting to a Ceiling
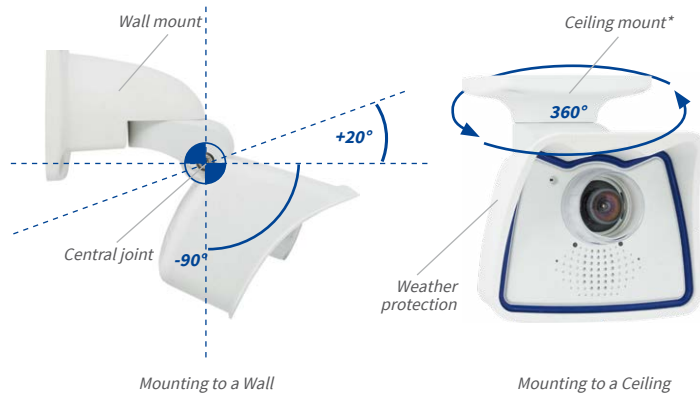
**\*The ceiling mount is only included if this had been specified when ordering the camera!**

**Turning/tilting mounted to wall**
• horizontally: 180°
• vertically: -90° to +20°

**Turning/tilting mounted to ceiling**
• horizontally: 360°
• vertically: -90° to +20°

The VarioFlex mount consists of a central joint, which is directly screwed into place with the weatherproof M26 housing, and a wall and ceiling mount, which is fastened to the central joint with just one screw. In addition to being easy to install, the VarioFlex mount enjoys the advantage of a **completely concealed cabling** and high impermeability to water and dust (IP66). Wall and ceiling mounts are designed so that they can be mounted over conventional flush-mounted sockets (without the frame) or cavity sockets and conceal them completely. In addition, the wall mount easily covers a MOBOTIX interface box.



Space for RJ45 wall outlet/concealed cabling

VarioFlex wall mount with concealed cabling, covering flush-mounted sockets and MOBOTIX Interface boxes

Before attempting to mount the camera to a wall or ceiling, make sure that you have found the best camera position. It is important that the camera's field of view is not obstructed in any way. Once the camera has been mounted to a wall or ceiling, you can fine-tune its position. If the monitored area changes from time to time or the camera has to be installed in a different location, the camera lens can be exchanged in just a few easy steps and used, without having to upgrade to new video software.

## Mounting to a Wall

The M26 can be mounted to the wall of a building or structures, even mobile surfaces, for both indoor and outdoor use. The camera is mounted using the pre-installed **VarioFlex mount (supplied as standard)**, which is easily secured using the four enclosed screws and screw anchors (depending on the surface, it can also be mounted without screw anchors directly over the flush-mounted socket). The Ethernet connection cable of the camera has already been guided through the mount and simply needs to be connected with the network cable (e.g., by using an MX-Overvoltage-Protection-Box). By adjusting the VarioFlex mount as required, the captured image area can be precisely adjusted to the desired practical application. **The camera can be turned or tilted 180° horizontally and 110° vertically (from –90° to +20°).**
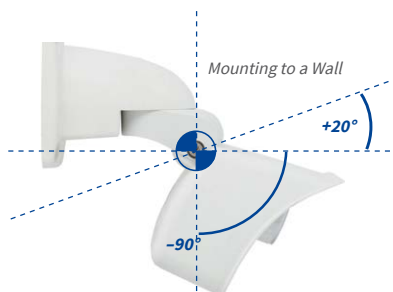
**Wall-mounted**
• horizontally: 180°
• vertically: -90° to +20°



*Mounting to a Wall*

**+20°**

**−90°**

## Mounting to a Ceiling

By exchanging the wall mount for the ceiling mount* (delivered upon request), the M26 is ready to be **mounted to ceilings in just a few easy steps** thanks to the VarioFlex system. This mounting option is of particular benefit when monitoring rectangular rooms with a single camera. In such cases, the Super Wide Angle lenses B036 and B041 allow the room to be monitored almost entirely by an M26 mounted to the ceiling in one of the corners. Using the software-driven PTZ, you can easily zoom in on image details in either the live image or the recording. **The camera can be turned or tilted 360° horizontally and 110° vertically (from –90° to +20°).**

*The ceiling mount is only included if this had been specified when ordering the camera!

**Ceiling-mounted**
• horizontally: 360°
• vertically: -90° to +20°



*Mounting to a Ceiling*

**360°**

**Mounting the Camera with Pole Mount**

Especially when using the camera in mobile outdoor scenarios (e.g., for surveillance of construction sites), the camera is often installed on round poles. In such cases, MOBOTIX recommends using the virtually indestructible pole mount (MX-MH-SecureFlex-ESWS) that is available as accessory for the M26. This pole mount is made from white, powder-coated stainless steel and is used in combination with the pre-installed VarioFlex wall mount of the camera.

You can attach the mount to poles with diameters between 60 mm and 180 mm/2.4 in to 7.1 in. Best results are obtained when using high metal poles, since they allow running the network cabling inside, well-protected from tampering. For more detailed information on the installation process, see *Section 2.2, «Mounting the Camera with Wall Mount»* and the following sections, while the drilling templates are available from `www.mobotix.com`, **Support > Download Center > Documentation > Drilling Templates**.

### 2.1.2 Mounting with Hemispheric Lens B016

The camera must be correctly positioned at the wall or ceiling in order to be able to use the high-resolution hemispheric image display option of the M26 with hemispherical B016 lens. The entire hemisphere of the room in front of the camera is then effectively monitored.

**High-Resolution Panorama Images**

The M26 with B016 lens is primarily suited to providing an excellent **overview in the form of a high-resolution panorama image,** and less suitable for more exact details**.** For active operation, the camera should be mounted at an (out of direct reach) **height ranging from 2.50 m to 3.50 m**. Facial recognition up to **1.50 m (5 ft)** distance to the object is very good and up to **3 m (9.8 ft)** is still sufficient**.** Objects can be recognized even at distances of **5 m and more from the camera**. During installation, ensure that the camera is focused on the most important areas of the room as directly as possible, in order to optimize image quality and to provide the desired level of detail recognition. This applies above all to wall and ceiling installations that must be carried out at greater heights for technical or other reasons (over doors, windows, etc.). Only by tilting the camera appropriately can the lens capabilities be fully utilized.

Identification      Recognition      Perception

2.5 to 3.5 m/8 to 11.5 ft

Camera focus (best image quality)

1.50 m/5 ft

3 m/10 ft

5 m/16.4 ft
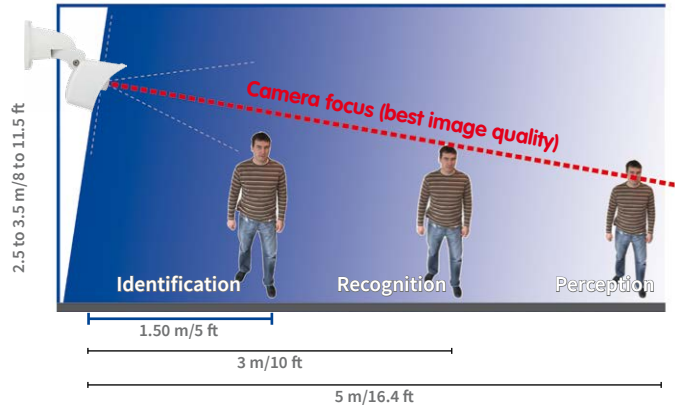
MOBOTIX recommendation



MOBOTIX original image of 180° panorama (B016 lens)



2.5 to 3.5 m/8 to 11.5 ft

**Mounting at the center of the wall**
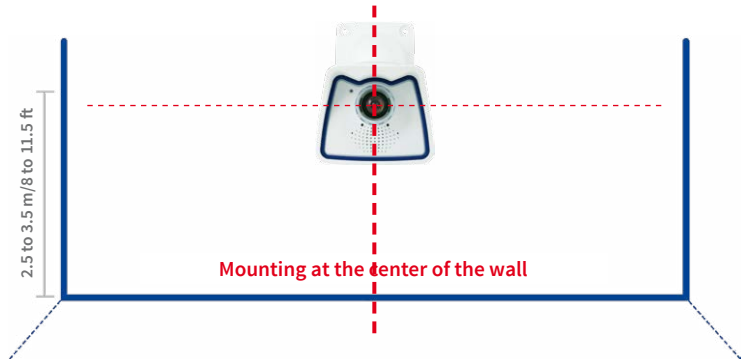
### Allround View

Thanks to its hemispheric lens, a single M26 can monitor an entire room right including the four corners (360° Allround View). The camera's ideal position is on the ceiling in the center of the room. Rooms with a square floor area of up to approx. 40 m² (48 yd²) in general allow recognizing details even at the borders of the full image. If you would only like to know if persons enter a room or for monitoring specific objects, rooms with more than 100 m² (120 yd²) floor area can be monitored using a single camera.

Captures an entire room
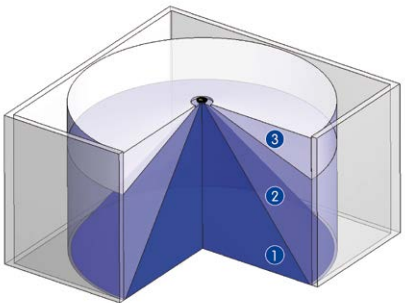


**Image quality** (precision) diminishes as the distance of an object to the camera focal point increases: 1 very good, 2 good, 3 satisfactory

Furthermore, the "camera view from top to bottom" can also be achieved by mounting the camera to a wall or a pole at a tilt of 90°.
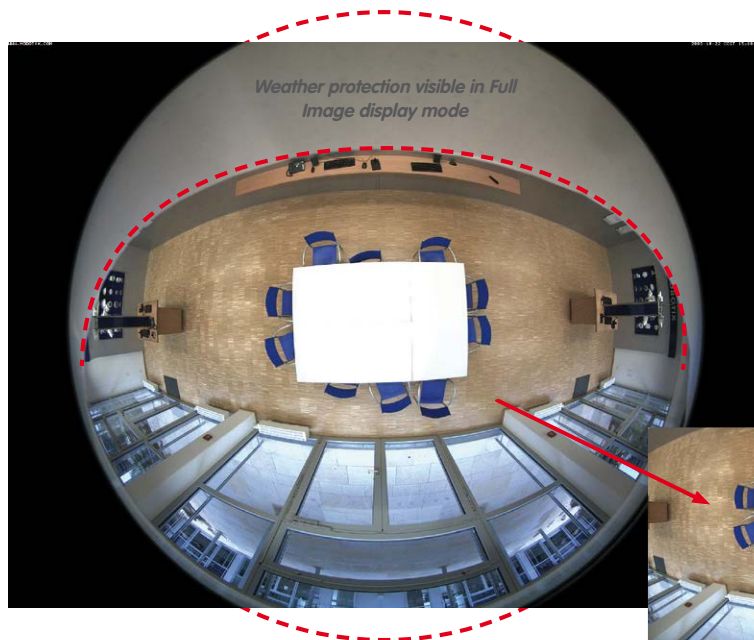


By panning/tilting/zooming the image, the concealed area can be completely removed from the image

| Note |
| --- |
| Part of the captured image area (especially in full image display mode) is concealed behind the protective cover of the M26 housing. For this reason, M26 cameras with B016 lens should be adjusted so that the concealed areas are not those that are supposed to be monitored. By panning/tilting/zooming the image, the concealed area can be completely removed from the image. |

### 2.1.3   Network Connection and Power Supply, UPS

#### Power Over Ethernet (PoE Conforming to IEEE 802.3af)

All M26 models are supplied with power using the PoE standard. The Network Power Adapter (MX-NPA-PoE-Set) may be used for smaller installations. For larger installations, it is worth investing in a PoE capable supply device available on the market.

*PoE adapter*

*MX-NPA-PoE*

*LAN or Power*                                                                *PC or Power*

*When directly connecting to the computer, the PoE adapter replaces a cross-over cable*

LAN/Power          PC/Power

Camera

*Camera*

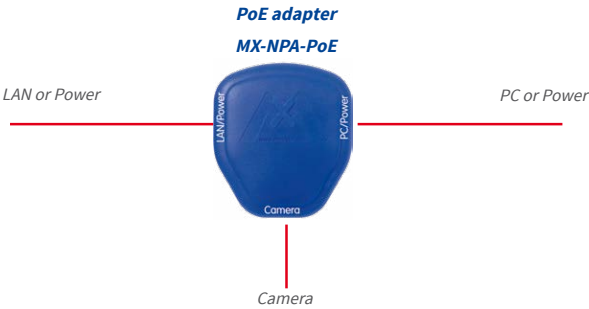The **maximum length** of the network cable for power supply over an Ethernet cable is **100 m**. The Mx2wire+ media converter set (available as an accessory) can be used to extend the range of an Ethernet connection up to 500 m in length (maximum transmission speed for a 500-m cable: 45 Mbps and 12 W for the PoE device).

| Note |
| --- |
| The MOBOTIX M26 can be powered by switches or routers which support the PoE (Power-over-Ethernet) standard and conform to IEEE 802.3af. |

**Advantages of PoE power supply:**

- Allows setting up centralized backup power supply via the network.
- Reduces energy consumption.
- No extra network connection for camera required.

### Using Uninterruptible Power Supplies (UPS)

You should install an uninterruptible power supply (UPS) in order to maintain a continuous power supply even when utility power fails. These devices also provide full protection against electrical surges and voltage fluctuations, enhancing the reliability of the system as a whole.

UPS units not only protect the camera against power failures, they also protect all other connected network devices against damage from voltage peaks and lows

When using a more powerful 19" rack-mounted UPS, you can also protect all other network components (for example, switches, routers, PoE switches, etc.).

Since MOBOTIX cameras do not require any heating, even during winter, the average power consumption of less than 5 watts is very low. This, in turn, means that you can centralize the UPS-protected power supply by injecting power into the Ethernet cables (max. 100 m). This kind of protected power supply can be used either with MOBOTIX PoE products (MX-NPA-PoE + Universal Power Supply) or with PoE-compliant switches according to IEEE 802.3af.

PoE switch

PC/server

RAID

UPS

### 2.1.4  Preparing the Camera Connections, MX-Overvoltage-Protection-Box

Once the camera position, the position of the cable outlets and the method of power supply have been decided upon, the cabling can be installed. Before installing the MOBOTIX M26, you should make sure that the network connections have been properly tested so that the proper functioning of the camera is guaranteed.

If the camera is to be installed outdoors, you should also install the MOBOTIX **MX-Overvoltage-Protection-Box** (optional accessory). This interface box not only provides **overvoltage protection of up to 4 kV for MOBOTIX IP cameras**, it also provides simple and weatherproof connection of the cameras to a network patch cable (**-RJ45** variant) or a network installation cable (**-LSA** variant).

For additional information on the MX-Overvoltage-Protection-Box, open the **Products > Accessories > Interface Boxes** section on **www.mobotix.com**.
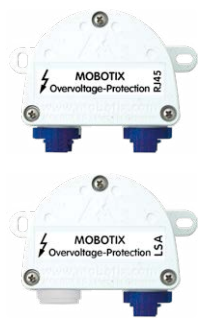
### 2.1.5   Wiring, Fire Prevention, Lightning and Surge Protection

When installing the wiring inside or outside of buildings, make sure you always adhere to the relevant regulations on wiring, fire prevention and protection against lightning.

MOBOTIX cameras are protected against the effects of small electrical surges by a range  of measures. These measures, however, cannot prevent the camera from being damaged when stronger electrical surges occur. Particular care should be taken when installing the camera outside to ensure proper **protection against lightning**, as this also protects the building and the entire network infrastructure.

MOBOTIX recommends having MOBOTIX cameras installed only by certified specialists accustomed to installing network devices and having proper respect for the applicable regulations regarding lightning protection and fire prevention as well as the current technology for preventing damages from electrical surges.

#### Guidelines for Wiring

- **Data cable**: Make sure you only use double-shielded CAT5 or higher cable (**S/STP**) for Ethernet connections.
- **Outdoors**: Installing the camera outdoors requires special precautions and measures regarding the cables as well as lightning and surge protection (see below).
- **Wire lengths**: The cable segments must not exceed the maximum allowed cable lengths in order to ensure proper data transfer (see *Section 2.7*).
- **Avoiding induction**: When running data cables parallel to existing regular power lines or high-voltage wires, make sure you observe the minimum distances to the power cables.

#### Fire Prevention

When installing the power lines to the camera, make sure you always adhere to the country-specific regulations (e.g. VDE in Germany, IEEE in the USA) in effect on wiring and fire prevention at the site of the installation.

#### Lightning and Surge Protection

In order to avoid damage to MOBOTIX cameras from overvoltages, you should always install the MX-Overvoltage-Protection-Box. This competitively priced and weatherproof network connector provides reliable protection against overvoltages of up to 4 kV; the box is easily installed in the Outdoor Wall Mount, for example (see *Section 1.5.8, «MX-Overvoltage-Protection-Box»*).

More information is available at an institution such as the International Electrotechnical Commission (IEC, `www.iec.ch`) or at a manufacturer of protection devices against lightning and electrical surges, such as Dehn (`www.dehn.de`).
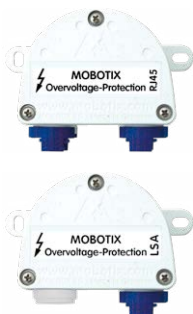
## 2.2    Mounting the Camera with Wall Mount



The M26 is a versatile camera designed for use in indoor and outdoor applications. The camera must always be installed with the VarioFlex mount, which has been prepared at the factory for wall mounting and allows the cabling to be concealed. The best camera position for the selected lens must be found before mounting the camera to the wall (see *Section 2.1.1, «Mounting Options: Wall, Ceiling, Pole»* and *Section 2.1.2, «Mounting with Hemispheric Lens B016»*). Once the camera has been mounted to the wall, you can fine-tune its position. **Please read the notes on protecting the camera against condensation (see** *Section 3.6.1*).

See *Section 3.6.1, «Protecting the Camera Against Condensation»*
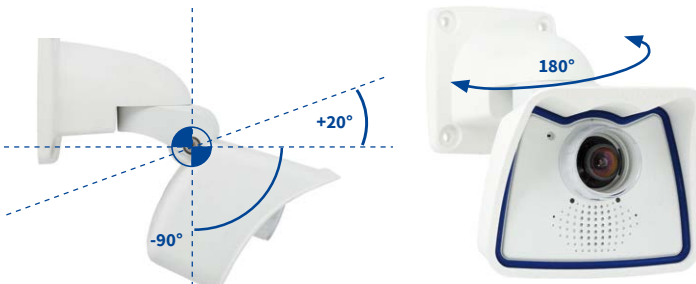


### 2.2.1    VarioFlex Wall Mount

Using the VarioFlex Wall Mount, the camera can be precisely panned, both **horizontally and vertically**, to suit the area that is to be monitored.

**When mounted to a wall, the camera can be turned or tilted** as follows:

- horizontally: 180°
- vertically: 110°



Turning/tilting mounted to wall:
• horizontally: 180°
• vertically: 110°

MX-Overvoltage-Protection-Box in Wall Mount

In order to ensure a flush finish with the surface, connect the camera patch cable to the **network cable using a standard adapter** that is protected in the wall mount or install an MX-Overvoltage-Protection-Box, which is easily installed in the cavity of the VarioFlex wall mount. For additional information on the MX-Overvoltage-Protection-Box, open the **Products > Accessories > Interface Boxes** section on **www.mobotix.com**. Note that you can also **install a flush-mounted socket with RJ45 connectors**. In this case, make sure that the outlet lines up with the upper rim of the mount later on.
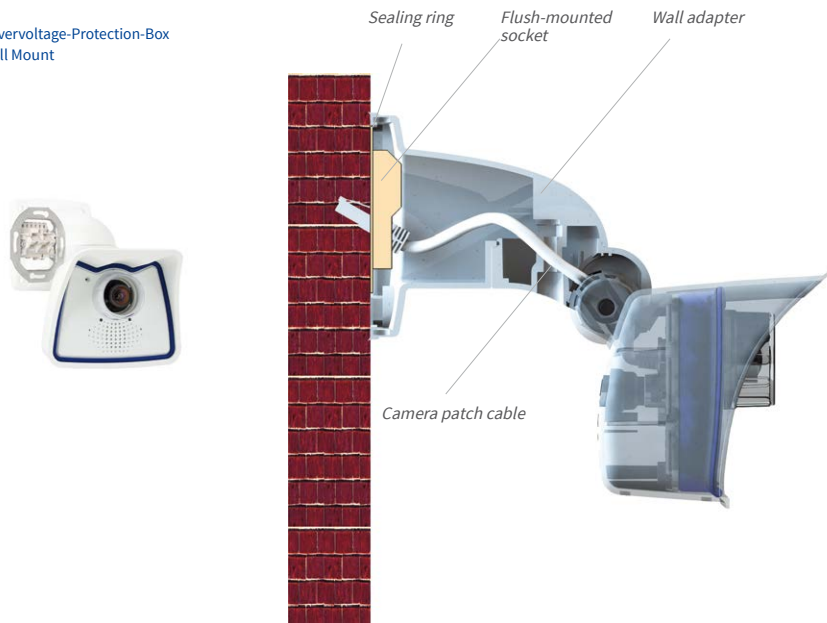


*Sealing ring*      *Flush-mounted socket*      *Wall adapter*

*Camera patch cable*

Pliers to break out cable guides



When installing **on-wall cabling**, breaking out one of the four possible openings in the base of the wall mount will ensure that the cables can be fed neatly into the camera. The connection to the camera patch cable can be established using a suitable adapter within the wall mount

**Caution: If using the wall mount outdoors, only use the opening at the bottom to prevent water from entering the mount!**

**Procedure**

1. **Install and prepare the network connection:** The pre-installed camera patch cable must be connected with the on-site network cable. The connection can either be established using an installed flush-mounted socket with RJ45 connector or – in the case of a protruding network or patch cable – using the MX-Overvoltage-Protection-Box. In both cases, the connection is well protected and is neither accessible nor visible from the outside.

2. **Drill the holes:** Use the drilling template for the camera (available from `www.mobotix.com`, **Support > Download Center > Documentation > Drilling Templates**). Drill the holes for the supplied screw anchors. Screw anchors do not have to be fitted if the surface is made of wood. To secure the mount, the supplied stainless steel hex head screws will later be screwed directly into the surface. In order to facilitate screwing in wood, the positions should first be predrilled using a 2 mm drill bit, for example (drilling depth just slightly less than screw length).

*No screw anchors are required in wooden surfaces*
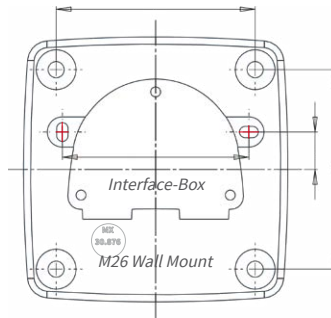
3. **Attach wall seal:** Place the white rubber seal with the groove on the edge of the wall mount.

4. **Connect the cable:** Connect the on-site network cable to the camera patch cable using an adapter or insert the patch cable into the RJ45 outlet. When using an MX-Overvoltage-Protection-Box, follow the installation instructions supplied with the product. You can download the PDF file from the MOBOTIX website `www.mobotix.com` in the **Support > Download Center > Documentation > Manuals** section. Make sure that the cables are not bent or squashed.

*Additional seal possible (e.g., heat shrink tube)*

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Screw caps for fastening screws

5. **Attach the camera:** Place the wall mount over the drill holes and hold it against the wall. Then use the four screws each with a washer and tighten them using the appropriate wrench. Do not overtighten the screws as this may damage the plastic mount. Check that the screws are securely in place and place the white caps on the screw heads. Then position the camera as described in *Section 3.2*.

6. **Clean the lens cover:** Once you have removed the white protective foil fixed to the front of the lens cover, clean the cover that has already been screwed on with a clean soft cotton cloth for optimal image results. The cover does not have to be removed.

7. **Establish a connection to the camera, check the image:** Establish a connection to the camera as described in *Section 3.1, «Manual and Automatic Operation – Overview»* and the following sections. The live image from the camera should be visible on the computer monitor. Check the image section on the computer monitor.

| **Note** |
| --- |
| Make sure that you always use the ***VarioFlex Mount*** with ***ceiling adapter\**** when ***installing to ceilings*** (see *Section 2.3, «Mounting the Camera with Ceiling Mount\*»*). <br><br> \*The ceiling mount is only included if this had been specified when ordering the camera! |

## 2.3     Mounting the Camera with Ceiling Mount*



The M26 is an allround camera designed for use in indoor and outdoor applications. The camera is always installed together with the VarioFlex mount, which has been prepared at the factory for wall mounting and can be converted to a ceiling mount with just few single touches. The best camera position for the selected lens must be found before mounting the camera to a ceiling, or to an overhang or balcony (see *Section 2.1.1, «Mounting Options: Wall, Ceiling, Pole»* **and** *Section 2.1.2, «Mounting with Hemispheric Lens B016»*). Once the camera has been mounted to the wall, you can fine-tune its position. **Please also read the notes on protecting the camera against condensation (see** *Section 3.6.1***).**

See *Section 3.6.1, «Protecting the Camera Against Condensation»*



*The ceiling mount is only included if this had been specified when ordering the camera!

### 2.3.1   VarioFlex Ceiling Mount

Using the VarioFlex Ceiling Mount (available upon request), the camera can be precisely panned, **both horizontally and vertically**, to suit the area that is to be monitored.

When mounted to a ceiling, the camera can be **turned or tilted** as follows:

- horizontally: 360°

- vertically: 110°



Turning/tilting mounted to ceiling:
• horizontally: 360°
• vertically: 110°

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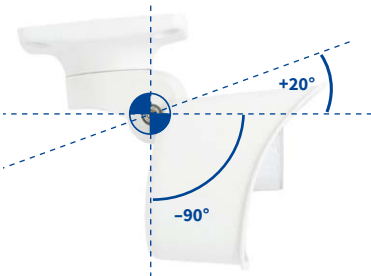
In addition, a cavity or flush-mounted socket can be installed for the network cable protruding from the ceiling, which allows sufficient space to connect the network cable with the camera patch cable using a standard adapter.
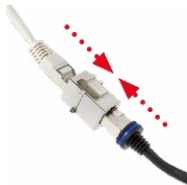
**Standard adapter for connecting cables**
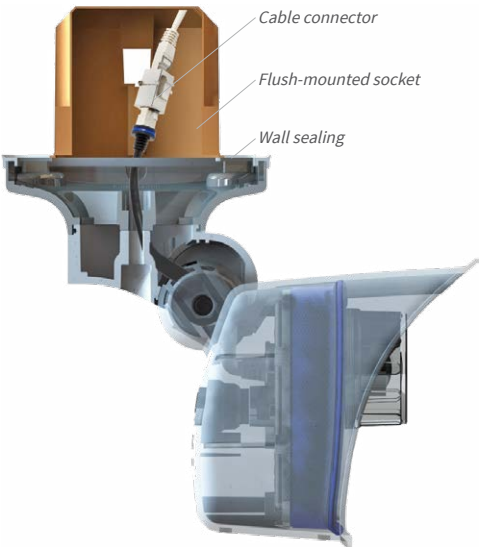
**Additional sealing of wall mount with silicone recommended (at the wall sealing), if surface is not even**

*Cable connector*

*Flush-mounted socket*

*Wall sealing*

**Pliers to break out cable guides**

When installing **on-wall cabling**, breaking out one of the four provided openings in the base of the ceiling mount will ensure that the cables can be fed neatly into the camera. The camera patch cable must be connected to the network cable using a suitably sealed adapter.
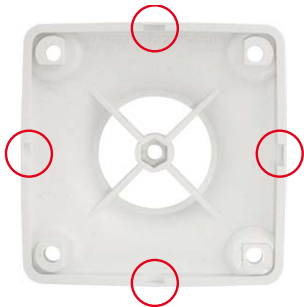
**Procedure**

1. **Convert to ceiling mount:** Simply remove the lock screw on the central joint and exchange the wall mount for the supplied ceiling mount. Before fastening the ceiling mount to the central joint (using the screw of the wall mount), the patch cable is guided through one of the four openings.

2. **Install and prepare the network connection:** Guide the pre-installed camera patch cable through one of the four openings in the ceiling mount. This will be connected later with the network cable using a suitable adapter, for example, in a pre-installed cavity socket.

3. **Drill the holes:** Use the drilling template for the camera (available from **www.mobotix.com, Support > Download Center > Documentation > Drilling Templates**). Drill the holes for the supplied screw anchors. Screw anchors do not have to be fitted if the surface is made of wood. To secure the mount, the supplied stainless steel hex head screws will later be screwed directly into the surface. In order to facilitate screwing in wood, the positions should first be predrilled using a 2 mm drill bit, for example (drilling depth just slightly less than screw length).
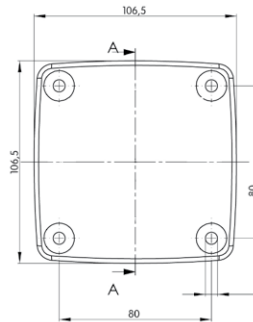
No screw anchors are required in wooden surfaces

4. **Attach ceiling seal:** Place the white rubber seal with the groove on the edge of the ceiling mount.

5. **Connect the cable:** Connect camera patch cable via connector. Make sure that the cable is not bent or squashed.

Screw caps for fastening screws

6. **Attach the camera:** Place the ceiling mount over the drill holes, use the four screws each with a washer and tighten them using the appropriate wrench. Do not overtighten the screws as this may damage the plastic mount. Check that the screws are securely in place and place the white caps on the screw heads. Then position the camera as described in *Section 3.2*.

7. **Clean the lens cover:** Once you have removed the white protective foil fixed to the front of the lens cover, clean the cover that has already been screwed on with a clean soft cotton cloth for optimal image results. The cover does not have to be removed.

8. **Establish a connection to the camera, check the image:** Establish a connection to the camera as described in *Section 3.1, «Manual and Automatic Operation – Overview»* and the following sections. The live image from the camera should be visible on the computer monitor. Check the image section on the computer monitor.

| Note |
|---|
| Make sure that you always use the ***VarioFlex mount*** with ***wall adapter*** when ***installing to walls*** (see *Section 2.2, «Mounting the Camera with Wall Mount»*). |

## 2.4    Mounting the Camera with Pole Mount (Accessory)



If you are intending to mount the camera on a pole, you should consider using the MOBOTIX M26 Pole Mount. This mount is made of 3 mm powder-coated stainless steel (white) and has been designed specifically for outdoor use. The supplied stainless steel straps allow attaching the mount to poles with diameters between 60 and 180 mm (2.4 to 7.1 in). By design, the Pole Mount does not allow using a flush-mounted wall outlet. In order to ensure a weatherproof connection of the network devices, it is recommended to use an MX-Overvoltage-Protection-Box, which is easily installed in the cavity of the VarioFlex wall mount. For additional information on the MX-Overvoltage-Protection-Box, open the **Products > Accessories > Interface Boxes** section on `www.mobotix.com`.

The camera is always installed together with the VarioFlex mount, which has been prepared at the factory for wall mounting and which is easily attached to the Pole Mount. The best camera position for the selected lens must be found before installing the camera (see *Section 2.1, «Preparing the Installation»*). Once the camera has been mounted to the pole, you can fine-tune its position.

### 2.4.1 Pole Mount (MX-MH-SecureFlex-ESWS)

Using the pre-installed VarioFlex Wall Mount, which is secured to the pole mount simply using four screws and nuts, the camera can be precisely panned, both horizontally and vertically, to suit the area that is to be monitored.

**When mounted to a pole, the camera can be turned or tilted** as follows, just like wall installation:

• horizontally: 180°

• vertically: 110°

Turning/tilting mounted to pole:
• horizontally: 180°
• vertically: 110°
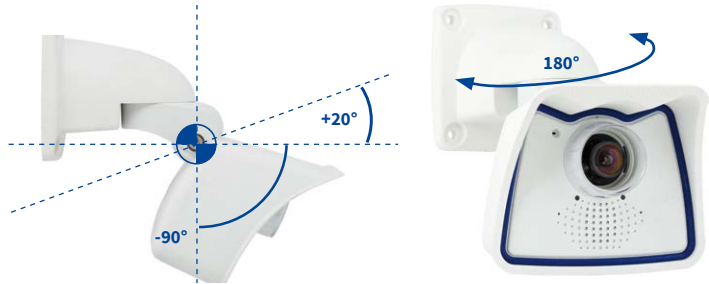
**Pole Mount Dimensions**

Height: 174 mm/6.85 in

Width: 140 mm/5.51 in

Depth: 45 mm/1.77 in

**Scope of Delivery and Required Parts**

Please first check that all the components supplied with the Corner and Pole Mount Set are present in the original packaging.
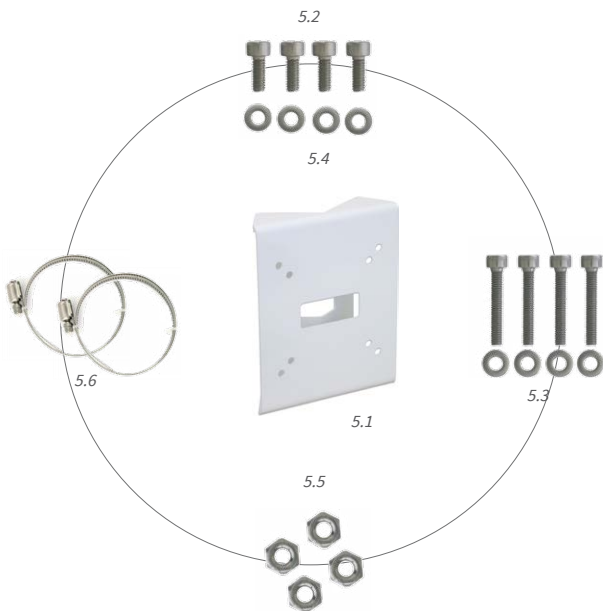


| Item | Count | Part Name |
|------|-------|-----------|
| 5.1 | 1 | Pole Mount |
| 5.2 | 4 | Stainless steel screws with hex head M6x20 mm |
| 5.3 | 4 | Stainless steel screws with hex head M6x35 mm (not used) |
| 5.4 | 8 | Stainless steel washers |
| 5.5 | 4 | Stainless steel lock nuts M6 |
| 5.6 | 2 | Stainless steel straps |

In addition, you will need the screw caps for fastening screws supplied with the M26 (see *Section 1.4, «Delivered Parts and Dimensions»*, item M.10).



Screw caps M.10

**Procedure**

1. **Prepare the cable:** Guide the on-site network cable from behind through the middle opening of the pole mount. Ideally, the cable should be guided directly from the pole into the cavity socket of the VarioFlex Wall Mount, where it is connected with the camera patch cable via an adapter (e.g., the MX-Overvoltage-Protection-Box) to conceal the cabling.



2. **Prepare the straps:** Guide the two stainless steel straps through the pole mount. The pole must have a diameter between 60 mm and 180 mm.



3. **Attach pole mount:** Place the straps around the pole and tighten them using the screwdriver. If required, clip the ends of the stainless steel straps.



4. **Apply rubber seal:** Place the white rubber seal with the groove on the edge of the wall mount.



5. **Connect the cable:** Connect the on-site network cable to the camera patch cable using an adapter or insert the patch cable into the RJ45 outlet. When using a MX-Overvoltage-Protection-Box, follow the installation instructions supplied with the product. You can download the PDF file from the MOBOTIX website **www.mobotix.com** in the **Support > Download Center > Documentation > Manuals** section. Make sure that the cables are not bent or squashed.

6.  **Attach the camera:** Place the wall mount over the predrilled positions in the pole mount and tighten it using the supplied M6x25 mm screws (item 2.2), washers (item 2.4) and M6 hex nuts (item 2.5). Place the white caps on the screw heads. Then position the camera as described in *Section 3.2*.



Screw caps for fastening screws

7.  **Clean the lens cover:** Once you have removed the white protective foil fixed to the front of the lens cover, clean the cover that has already been screwed on with a clean soft cotton cloth for optimal image results. The cover does not have to be removed.

8.  **Establish a connection to the camera, check the image:** Establish a connection to the camera as described in *Section 3.1, «Manual and Automatic Operation – Overview»* and the following sections. The live image from the camera should be visible on the computer monitor. Check the image section on the computer monitor.

| Note |
|---|
| Make sure that you always use the ***VarioFlex mount*** with ***wall adapter*** when ***installing to poles***. Der VarioFlex Ceiling Mount is **not** to be used. |

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## 2.5    Adjusting the Camera and Exchanging the Lens

### 2.5.1   Adjusting the Camera

1. Establish a connection to the camera as described in *Section 3.2, «First Images and the Most Important Settings»*. The live image from the camera should be visible on the computer monitor.

2. **Loosen the screws on the VarioFlex mount using the supplied Allen wrench** so that you can easily turn and tilt the camera.

3. Display the desired camera section on the computer monitor, then turn and tilt the camera until you have found the best position and sharpness. Retighten the screws of the VarioFlex mount to prevent the position of the camera from changing.

4. If required, clean the lens cap's surfaces using a clean, lint-free cotton cloth.

For more detailed information on the OnScreen Control, see Section 3.5
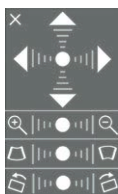


Horizontal correction



Rotate image up to -30°



Rotate image up to +30°

### 2.5.2   Correcting the Image Horizon (for B016 Lens Only)

The M26-Sec with hemispheric B016 lens allows the correction of an uneven image horizon via OnScreen Control that was possibly caused by the installation position. The image horizon can be adjusted by up to 30 degrees clockwise or counterclockwise and can be optically straightened by clicking on the corresponding icons (see image).
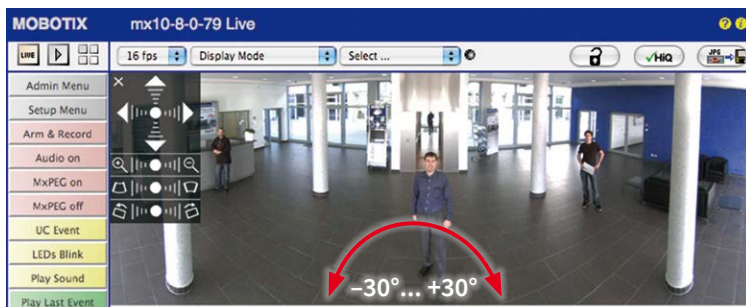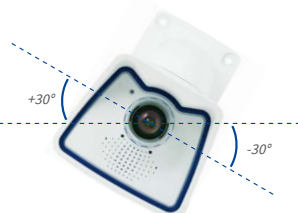
### 2.5.3   Exchanging the Lens

The M26 can be shipped from the factory with seven MOBOTIX standard lenses (B036, B041, B061, B079, B119, B237, B500) with the CSVario lens or the hemispheric B016 lens. This procedure applies equally for all lenses.

Only lenses with CS or C mounts may be used with the CSVario version of the M26. MOBOTIX lenses with M14 thread cannot be used. Similarly, the standard versions of the M26 can only take the standard MOBOTIX lenses with M14 thread. The hemispheric B016 lens, C Mount and CS Mount lenses cannot be used. Upgrading to other model

**Proceed as follows to change a lens:**

1. Unmount the **lens cover by turning it counter-clockwise**.

2. Remove the **lens** by turning it counter-clockwise.

3. **Screw the new lens** (if present) back into the camera and restore the **power supply** of the camera.

4. **Adjust the image sharpness** according to the camera's live image on the computer monitor. Make sure that you do not screw in the lens too far or by using excessive force, since doing so may damage the lens mount.
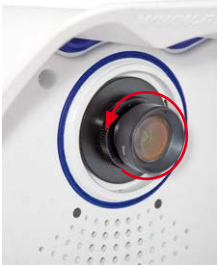
5. **Screw the lens cover onto the lens again** and clean it, if required, using a clean, lint-free cotton cloth.

The focusing aid provides a visual aid when setting the image sharpness of a MOBOTIX camera lens (see the camera online help, *topic «The Live Screen of the MOBOTIX Camera»*, section «The Focusing Aid of the Camera»).

The white ring in the lens cover prevents the camera LEDs from adding light reflections to images

## 2.6 Replacing the MicroSD Card

The camera must be taken down to remove, insert or replace a MicroSD card. To avoid data loss, be sure to deactivate MicroSD card recording in the camera software and reboot the MOBOTIX camera before removing the card.

| Caution |
| :---: |
| A MicroSD card may only be removed from the camera after you have deactivated Recording to SD Card and rebooted the camera. Failing to do so may lead to loss of data! Make sure that the card is not write-protected! |

### 2.6.1 Removing the MicroSD Card

1. **Deactivate recording:** Recording to MicroSD card must be deactivated (**Admin Menu > Storage on External File Server / Flash Device**). If MicroSD card recording is still active, deactivate recording and reboot the camera. *Section 3.4, «MicroSD Card Recording»*, contains more information on this topic.



2. **Remove camera from the weatherproof housing:** Remove the two lock screws from the weatherproof housing and then remove the camera from the housing. In doing so, do not pull too hard on the lens cover. If required, use the long side of the 5 mm Allen wrench to carefully push the camera out of the housing from behind through the screw holes.

Bayonet catch open



Push-push operation: only remove the MicroSD card after first gently pushing it in



3. **Remove the connection cables:** The connected cables (patch cable, MiniUSB) must be removed from the camera first by rotating and opening the bayonet catch (MxBus see *Section 2.7.6*).



4. **Remove the back of the camera and take out the MicroSD card:** Remove the four screws from the back plate using the supplied 2.5 mm Allen wrench and carefully lift off the back plate. Gently push on the MicroSD card in the card slot of the camera. The card is released from the slot and can be removed from the camera.

Click!



To use the camera without a MicroSD card, continue by mounting the back plate (see step 2 in *Section 2.6.2*).

### 2.6.2 Inserting the MicroSD Card

1. **Insert the MicroSD card:** Push the MicroSD card into the card slot as shown, until an audible and perceptible click indicates it is in place.

2. **Mount the back plate:** Replace the back plate of the camera housing, ensuring that the back plate screw holes are correctly positioned above the thread inserts.

3. **Screw the back plate tight and replace the connection cables:** Place the four Allen screws back into the back plate and tighten the screws using the supplied 2.5 mm Allen wrench. The previously removed cables must now be reconnected (see *Section 2.7.5* and *Section 2.7.6*).

Bayonet catch closed

4. **Attach the camera:** Re-attach the camera to the weatherproof housing using the two lock screws. Make sure that none of the cables are bent or squashed.

5. **Activate recording:** If you have inserted a MicroSD card that has already been MxFFS formatted, you can activate recording under **Admin Menu > Storage on External File Server / Flash Device**. Once the camera has been rebooted, it automatically activates recording.

6. **If you have inserted a new MicroSD card**, it must first be formatted as described in *Section 3.4, «MicroSD Card Recording»*.

## 2.7 Network and Power Connection

### 2.7.1 Notes on Cable Lengths and Power Supply

- Power is supplied to the camera via the camera Ethernet connection (patch or installation cable). We recommend using a MOBOTIX PoE adapter or another similar high-quality PoE product to loop-in the power supply:

  – **One camera:** with the PoE adapter (MX-NPA-PoE or MX-NPA-Box)

  – **Multiple cameras:** with PoE products conforming to IEEE 802.3af (PoE switch)

- The **maximum length** of the network cable for power supply over an Ethernet cable is **100 m**.

- Make sure that you only use switches or routers that support the **10/100 Mbps network interface** of the camera.

- We highly recommend using uninterruptible power supplies (UPS) to provide backup power.

- If you are using IEEE 802.3af or IEEE 802.3at (PoE+) Power-over-Ethernet network components to supply power to MOBOTIX cameras, make sure, if possible, that these components do not have a fan. Since the power consumption of MOBOTIX cameras is very low compared to other products, the reliability of the entire system is increased, thus extending the life of these components.

| Caution |
|---|
| **Max. power consumption of attached extension modules:** The power consumption of all attached *MxBus modules* must *not exceed 2.5 W*. When attaching modules to the MxBus connector *and* the USB socket, the *power consumption of all attached modules must not exceed 3 W*, *if the camera is powered by PoE class 3*. If *PoE class 2* is used, *the camera cannot power any peripheral devices!*<br><br>For information on changing the PoE class, see *Section 2.7.8, «Variable PoE»*. |

### 2.7.2 Network Cabling For M26 With Patch Cables

Using a patch cable and an MX-Overvoltage-Protection-Box or MX-NPA-Box offers the following advantages:

- Quick installation/deinstallation
- No shortening of cable even when installing/deinstalling several times
- Hose-proof/dust-proof connection in accordance with IP66
- Additional protection against overvoltages of up to 4 kV when using the MX-Overvoltage-Protection-Box.

**Connecting the Patch Cable to an MX-Overvoltage-Protection-Box, an MX-NPA-Box or a Standard Network Outlet**

To establish the network connection of the camera using an MX-Overvoltage-Protection-Box or an MX-NPA-Box, remove the blue bayonet catch and the blue sealing plug from the right-hand side of the box. Insert the MOBOTIX patch cable into the box and fasten the cable using the blue bayonet catch.

For additional, information on how to install an *MX-Overvoltage-Protection-Box* or an *MX-NPA-Box*, open the **Products > Accessories > Interface Boxes** section on **www.mobotix.com**.
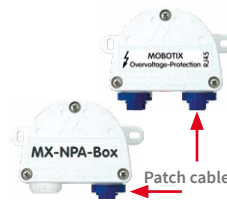
When using a standard network outlet (only for indoor installations), insert the MOBOTIX patch cable of the M26 directly into the network outlet.

If additional cables are required inside the housing, they must be connected as described in *Section 2.7.6, «Connecting a USB Cable»* and *Section 2.7.7, «Connecting a Two-Wire MxBus Cable»*.

### 2.7.3 Power Supply Using a Switch

1. Connect the factory pre-installed cable of the camera to the **camera** connector of the PoE adapter.

2. Connect the **LAN/Power** connector of the PoE adapter to the Ethernet connector of the switch/router or the Ethernet port.

3. Plug the RJ45 connector of the power supply unit into the **PC/Power** connector of the PoE adapter.

*IP addresses in the figure are shown only as an example*
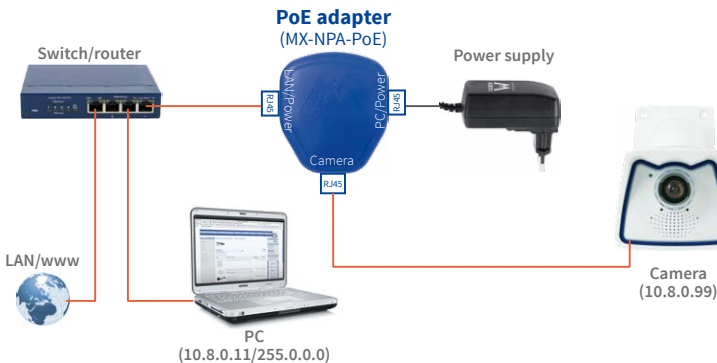
*For the M26 you should use the blue MX-NPA-PoE-Set or the MX-NPA-Box* – previous MOBOTIX network power accessories, such as the NPA-Set, Power-Box and Power-Rack (MX-NPA-Set, MX-NPR-4 and MX-NPR8/20) are not suitable for use with the M26

### 2.7.4 Power Supply When Connected Directly to a Computer

1. Connect the factory pre-installed cable of the camera to the **camera** connector of the PoE adapter.

2. Connect the **PC/Power** connector of the PoE adapter to the Ethernet port of the computer.

3. Plug the RJ45 connector of the power supply unit into the **LAN/Power** connector of the PoE adapter.

IP addresses in the figure are shown only as an example

The PoE adapter replaces the crossover cable when directly connecting to a computer

**For the M26 you should use the blue MX-NPA-PoE-Set or the MX-NPA-Box** – previous MOBOTIX network power accessories, such as the NPA-Set, Power-Box and Power-Rack (MX-NPA-Set, MX-NPR-4 and MX-NPR8/20) are not suitable for use with the M26!
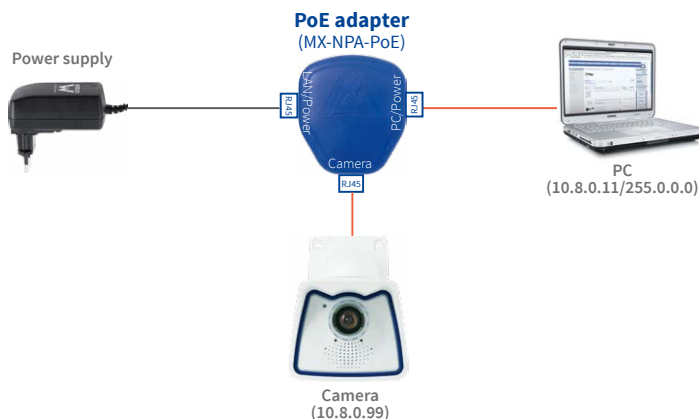


**Power supply**

**PoE adapter**
(MX-NPA-PoE)

LAN/Power    RJ45

PC/Power    RJ45

Camera
RJ45

**PC**
(10.8.0.11/255.0.0.0)

**Camera**
(10.8.0.99)

### 2.7.5 Power Supply with Power-Over-Ethernet Products

Connect the factory pre-installed cable of the camera to a PoE port of the PoE switch/router. The switch/router must support the PoE standards IEEE 802.3af or IEEE 802.3at.

IP addresses in the figure are shown only as an example

**LAN/www**

**PoE/PoE+ switch/router**

**PC**
(10.8.0.11/255.0.0.0)

**Camera**
(10.8.0.99)

### 2.7.6  Connecting a USB Cable

Using the USB plug (red circle in figure), you can attach existing expansion modules, such as the MOBOTIX ExtIO (USB), the MX-232-IO-Box or external USB hard drives to the camera in a weatherproof and well-protected manner.



Only use USB cables with **angled** plugs for connecting USB cables to the M26!



**Procedure**

1.  In case the camera had already been installed, remove the camera so you can access the connectors on the back.

2.  ***Remove bayonet catch and USB plug***: Turn the bayonet catch to the left (red arrow in figure), take it off and remove the blue USB plug.







3.  ***Insert USB plug***: Push the MOBOTIX cable with the angled MiniUSB plug into the connector (red circle in figure).
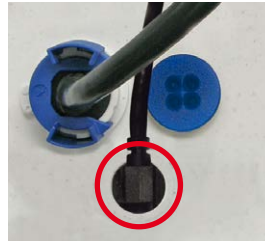


4.  ***Attach bayonet catch***: Again attach bayonet catch and turn it clockwise until it gently snaps shut (see figure).



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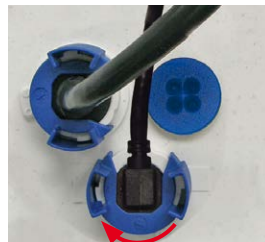
### 2.7.7 Connecting a Two-Wire MxBus Cable

You can use such a cable to connect additional MOBOTIX modules (e.g., the MX-GPS-Box or the MX-232-IO-Box) to the M26.

The length of the entire MxBus wiring must not exceed 50 m/55 yd.

Note that you can attach two MxBus cables (each having two wires) to the MxBus connector (red circle in figure). Take care not to switch the polarity of the wires. It is recommended to use the same wire color for +/– for the entire MxBus system (e.g., red = +, blue = –).

**Procedure**

1. In case the camera had already been installed, remove the camera so you can access the connectors on the back.

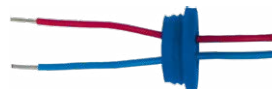2. **Prepare MxBus cable**: Remove the blue single wire plug. Strip 5 mm (1/5 in) of insulation from the wire ends of the MxBus cable, then push each wire into one of the four holes in the single wire plug (this prevents humidity from entering the camera).

Single-wire plug

3. **Connect MxBus cable**: Push back the blue single wire plug so that you can easily attach the MxBus cable. Attach the MxBus wires by firmly pushing the wires into the corresponding connectors.

MxBus connector

If you need to remove one of the wires, unlock the connector by pressing on the orange-colored area using a small screwdriver, then pull out the wire.

4. **Close the MxBus connector**: Carefully press the single wire plug into the connector socket and twist the MxBus wire pairs.

### 2.7.8 Variable PoE

The power consumption of the camera depends on the functions in use as well as any peripheral devices connected (see table). PoE classes 1, 2 or 3 may be selected in the browser-based user interface in order to optimally adjust the camera to your system design (PoE switch in use, emergency power concept, etc.).

| PoE Power Level Classes (IEEE 802.3af Standard) | | |
|---|---|---|
| **Class** | **Max. power consumption** | **Camera operating mode and peripheral devices** |
| 1 | 0.44 W–3.84 W | LowPower mode; no peripheral devices (available soon) |
| 2 | 3.84 W–6.49 W | Normal mode; max. 1 W for MxBus peripheral devices |
| 3 | 6.49 W–12.95 W | FullPower mode; max. 2.5 W for MxBus peripheral devices (for example, MX-GPS-Box and MX-232-IO-Box to MxBus), max. 4 W for peripheral devices to MxBus and USB interface |

| Caution |
|---|
| If the total power consumption of the camera and peripheral devices exceeds the power provided by the PoE switch for the specified class, the switch can disconnect the camera from the power supply. ***In this case, the camera will only be accessible again once the peripheral devices have been disconnected from the camera and the camera has been restarted.*** |

The default setting is usually fine, and nothing needs to be changed. However, the PoE power class must be changed in the browser if a higher or a lower power class is required for your application:

Variable PoE: Multiple cameras can be operated simultaneously from the same switch

1. Select **Admin Menu > Network Setup > Ethernet Interface** (for experts).

2. Click on **Change** under **Power Supply**.

3. A **Power Wizard** will appear to guide you through the PoE configuration steps.

4. Next, restart the camera: Disconnect the camera from the power supply. Then reconnect it, for example, by disconnecting and ten reconnecting the Ethernet cable at the PoE switch.



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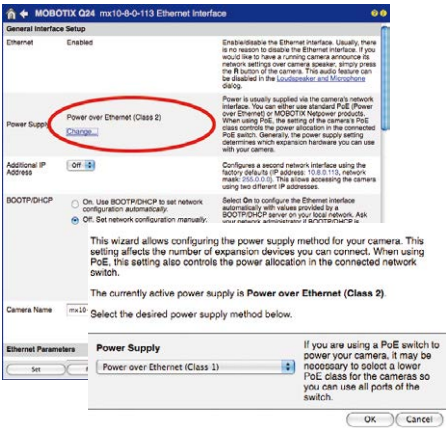
## 3    OPERATING THE CAMERA

### 3.1    Manual and Automatic Operation – Overview

MOBOTIX cameras do not require any extra software. Thus, you can set up and operate the MOBOTIX camera using a JavaScript-enabled browser on all common operating systems (such as Windows, Linux, Macintosh, etc.). As an alternative, you can also use the MOBOTIX application MxManagementCenter. Follow these steps to set up the camera:

1. **Connect the camera to the network.**

   Power is supplied directly via the Ethernet cable (see *Section 2.7, «Network and Power Connection»*)

2. **Establish a connection to the camera and adjust the network settings, if required.**

   By factory default, MOBOTIX cameras are booting as DHCP client with an additional fixed IP address in the 10.x.x.x range (e.g., 10.16.0.128). Local computer networks usually have IP addresses in the 172 or 192 ranges. Depending on whether a DHCP server is present on the local network (e.g., a DSL router) or if the network has been set up to use fixed IP addresses, there are several possibilities for establishing a connection to the camera and to change its network parameters:

   • **Network with DHCP server**

   – **Using a browser:**

     If you know the IP address that the DHCP server assigned to the camera, simply enter that address in the browser address bar to directly connect to the camera (see *Section 3.2.2, «First Images and the Most Important Settings in the Browser»*).

   – Using MxManagementCenter:

     With MxManagementCenter, you can show and integrate the camera without having to know its current IP address (see *Section 3.2.3, «First Images and Network Parameter Configuration in MxMC»*).

   • **Network with fixed IP addresses**

   In order to access the camera, it must have an IP address within the range of the local network. To set the camera's network parameters, you can use one of these methods:

   – **Manually using a browser:**

     First, you need to change the network parameters of your computer (see *Section 3.2.1, «Manually Setting Up the Network Parameters in a Browser»* and following …).

   – **Integration into MxManagementCenter with automatic adjustment of the camera's IP address:**

     The camera is displayed in MxManagementCenter despite the fact that the IP address is not part of the local network. The application allows reconfiguring the network parameters accordingly (see *Section 3.2.3, «First Images and Network Parameter Configuration in MxMC»*).

3. **Configure the camera.**

Using the web-based user interface or MxManagementCenter.



Camera software
in the browser

## 3.2    First Images and the Most Important Settings

Once the MOBOTIX camera has been connected to the network, you need to set up the camera's network interface accordingly. This step involves setting up and checking the network parameters of the camera. If your network has an active DHCP server or is already using an IP address in the `10.x.x.x` range with a `255.0.0.0` network mask, you do not need to change the camera's network parameters. You can access the camera directly (see *Section 3.2.2*). If your network or computer does not use an IP address in the 10.x.x.x range (for example, in the 192 or 172 ranges), you should follow one of the following methods for changing the camera's network parameters:

- **Manual Setup** (see *Section 3.2.1*)

- **Automatic setup using MxManagementCenter** (see *Section 3.2.2, «First Images and the Most Important Settings in the Browser»*)

| Note |
|------|
| We will use a camera with the factory address `10.8.0.99` in the following examples. Replace this IP address with the IP address of your camera. You will find the IP address of your camera on a small sticker on the camera. Make sure that the IP addresses used in the following examples are not already being used by other devices in the network. |

*Pressing the key (see Section 1.4.1, «The M26 Camera») will prompt the camera to announce its current IP address on the camera speaker*

### 3.2.1   Manually Setting Up the Network Parameters in a Browser

You need a computer that is using a `10.x.x.x` IP address in order to manually set up the network parameters of the MOBOTIX camera. The computer's network parameters usually have to be changed for this purpose.

**1. Change the Network Parameters of Your Computer:**

**Windows (XP, Vista and 7):**

1. Open **Start > Settings > Control Panel > Network Connections**. Clicking on **Properties** opens the dialog box shown.

2. Double-click on **Internet Protocol (TCP/IP)**. On the **General** tab, activate the *Use the following IP address* option. Enter an IP address in the 10.x.x.x range in this field (for example, `10.8.0.11`).

*Entry in "Subnet mask" field: 255.0.0.0*

3. Once all dialog boxes have been closed, the computer will have the IP address `10.8.0.11`.

**Windows 8.1/10:**

1. Open **Start > Settings > Control Panel > Network Connections**. Clicking on **Properties** opens the dialog box shown.

2. Double-click on **Internet Protocol (TCP/IP)**. On the **General** tab, activate the *Use the following IP address* option. Enter an IP address in the 10.x.x.x range in this field (for example, `10.8.0.11`).

3. Once all dialog boxes have been closed, the computer will have the IP address `10.8.0.11`.
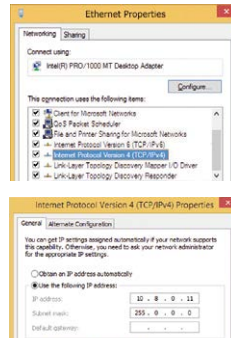
Entry in "Subnet mask" field: 255.0.0.0

**Linux/Unix:**

1. Open a terminal as `root` user.

2. Enter the following command: `ifconfig eth0:1 10.8.0.11`

3. The computer is now also using the IP address `10.8.0.11`

**Mac OS X:**

1. Open **System Properties > Network.**

2. Select **Ethernet**. In the **Configuration** field, select **Manual** and enter a `10.x.x.x` IP address (for example, `10.8.0.11`).

3. Click on **Apply** on the bottom right-hand side of the dialog box to assign the computer the IP address `10.8.0.11`.

**2. Set Up the Target Network Parameters of the MOBOTIX Camera:**

1.  Open a web browser on the computer and enter the default IP address of the MOBOTIX camera in the address bar of the browser (for example, `10.8.0.99`). Pressing Enter displays the user interface of the MOBOTIX camera (see also *Section 3.2.2, «First Images and the Most Important Settings in the Browser»*).

2.  Click on the **Admin Menu** softbutton in the user interface of the MOBOTIX camera. The Quick Installation starts automatically once the *admin* user has logged on.
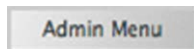
    **Note**: The Quick Installation can also be executed at a later stage by opening **Admin Menu > Network Setup > Quick Installation**.

3.  Enter the target network parameters of the camera on the appropriate page of the Quick Installation assistant.

    **Note**: The network parameters can also be modified retrospectively via **Admin Menu > Network Configuration > Quick Installation.**
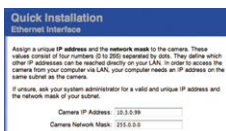
4.  Once you have completed the Quick Installation and rebooted the camera, the new network parameters will be activated. The camera can now be connected to the target network and, if required, further configured.

### 3.2.2 First Images and the Most Important Settings in the Browser

Once the MOBOTIX camera has been connected to the power supply and to the network, you can access the user interface with the live camera image in the web browser. Internet Explorer, Firefox, Safari or any other graphical browser with activated JavaScript is suitable. It does not matter which operating system is used.

After entering the camera's IP address in the browser's address bar, you will see the live view of the MOBOTIX camera with its user interface controls, such as softbuttons, buttons for the different camera screens, pull-down menus (Quick Controls), icons for accessing the online help and the camera status, and status information elements.
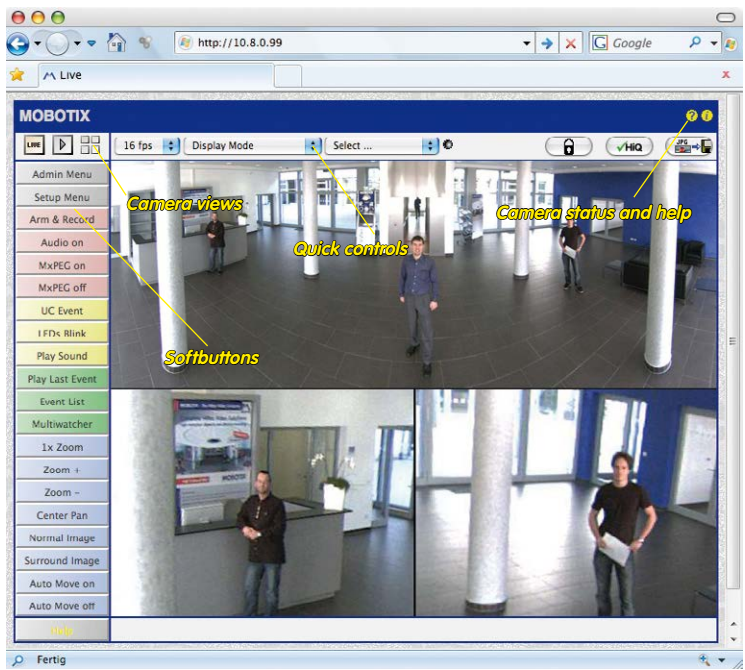


| Note |
| --- |
| **Default access data for the administration menu** |
| • User name: ***admin*** |
| • Password: ***meinsm*** |
| (Note that you need to change the password upon your first login – camera release V5.1.x and higher.) |

### Camera Views: Live, Player, MultiView

LIVE

Live view:
http://<camera IP>/
control/userimage.html

The MOBOTIX camera automatically displays the **live** screen when it starts up (factory default setting). You can set a different start page in **Admin Menu > Language and Start Page** (for example, the **Guest** screen) to allow a restricted access to the live image.
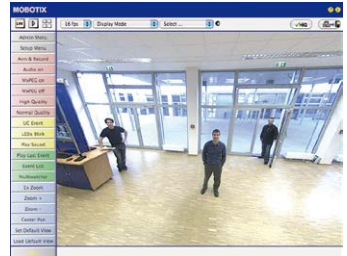
Player screen: http://<camera IP>/control/player

The other available standard screens include **Player** (playback of recorded images and video sequences) and the **MultiView** screen (displays several cameras with live or recorded images).

MultiView screen:
http://<camera IP>/
control/multiview

Guest screen: http://<camera IP>/cgi-bin/
guestimage.html

**MultiView** allows you to view several cameras via a "proxy" camera (especially useful if you want to access your cameras from outside of the network with reduced bandwidth) and the **PDA** mode provides a special screen for mobile devices.
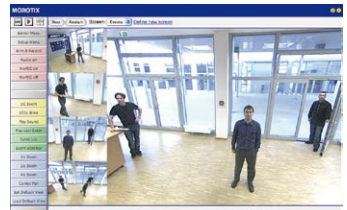
| Note |
| --- |
| For more information on camera screens, see the online help of the camera's user interface in the browser. |

### 3.2.3  First Images and Network Parameter Configuration in MxMC

**Installing and Starting MxManagementCenter**

Download the current version of MxManagementCenter from the MOBOTIX website (**www.mobotix.com > Support > Download Center > Software Downloads** in the **MxManagementCenter** area). Double-click the shortcut for the program or the program file.

**Finding Cameras**

When starting MxManagementCenter for the first time, the configuration wizard opens and automatically starts searching for MOBOTIX cameras. The number of found cameras is shown next to the Add button. This number is updated automatically if the number of MOBOTIX cameras on the network has changed (i.e., by connecting new/disconnecting existing cameras)..

Download MxManagementCenter for free from **www.mobotix.com**



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.



MxManagementCenter automatically monitors and displays the operating status of all cameras. Cameras that are not on the same subnet as the computer are indicated by the 🔗 Icon (Camera not in the same network as the computer). Likewise, the cameras that have an unknown password or for which no user name/password combination has been specified in MxManagementCenter will be displayed with the icon 🔒 (Camera is password-protected).

**Reconfiguring Network Addresses of Cameras**

Using Bonjour*, MxManagementCenter finds not only cameras on the same network as your computer, but also MOBOTIX cameras located in other subnets (status: 🔛). In such a case, you would not be able to establish any connection to cameras in a different network or subnet.

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. To do so, you have to select the respective camera and then click on the 🔛 button at the bottom of the program window.

The **Network Setting** dialogue opens.
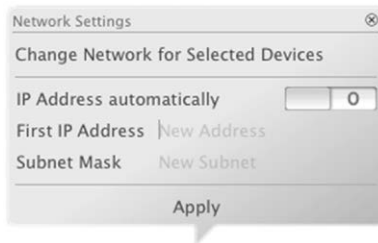


If you have assigned a fixed IP address to your computer, you will certainly prefer to assign fixed IP addresses to the cameras. To do so, enter the IP address and the subnet mask. The IP address is incremented automatically for each selected camera.

When you click on **Apply**, the selected cameras are automatically reconfigured and they are located in the same subnet as the computer.

### Adding Cameras

After a camera has been reconfigured, it has the status **Accessible** and can be integrated into MxManagementCenter.

Select the desired cameras (use **Cmd-click** to select several cameras). If the cameras are password-protected **1**, click on **Edit User and Password** **2** and enter the user name and password.
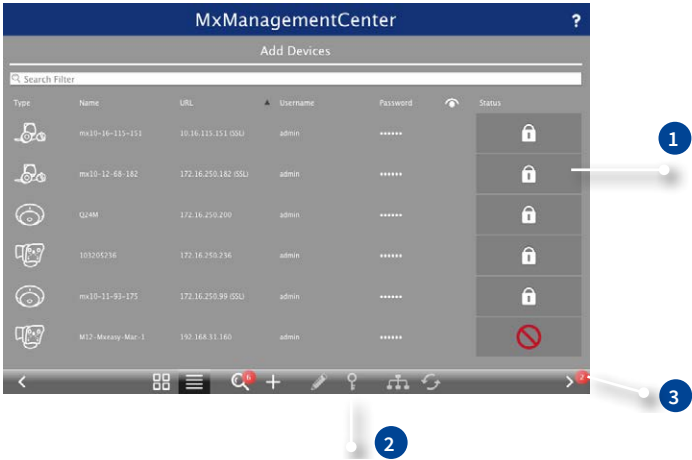


The number of selected cameras is shown on the **Next** button **3**. Move to the next page and click on **Finish**.

For more information, see the **MxManagementCenter Tutorial**, which can be downloaded as a PDF file from the MOBOTIX website: **www.mobotix.com > Support > Download Center > Documentation > Brochures & Guides > Tutorials**.

### 3.2.4 Start 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.

**Preparing the Camera**

- Disconnect the camera's power supply.
- Make sure that you have suitable item such as a paper clip at hand, *but never use sharp or pointed objects!*
- Reconnect the power supply of the camera.

**Activating the Boot Menu**

The right LED lights up red 5 to 10 seconds after establishing the power supply and will stay on for 10 seconds. Briefly press the key by inserting the paper clip into the hole indicated by the red circle in the figure. The camera enters the boot menu, ready for selecting one of the Start Options.

The LED now flashes once and repeats the flash signal after pausing for one second (the number of flashes indicates the current boot option). To go to the next boot option, briefly press the key again (< 1 sec). After the last boot option, the camera returns to the first option (LED flashes once).

LED default settings:

*1* Power (on),
 Error (flashing)
*2* Recording (flashing)

| LED flashes | Boot Option | Meaning | Audio Confirmation* |
|---|---|---|---|
| 1 x | — | This option is not used on this camera model. | — |
| 2 x | Factory Defaults | Starts the camera with factory defaults (factory default IP address, users and passwords will not be reset). | Boing |
| 3 x | 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 |
| 4 x | Recovery System | Starts the camera with the recovery system, e.g., in order to recover from a failed update of the camera software. | Alarm Sound |

*Only on cameras with audio option and installed speaker.

**Selecting a Boot Option**

Press the key longer (> 2 sec). The camera confirms the selection by flashing rapidly three times. You can now remove the paper clip. After 20 sec, the camera will confirm the selection by playing a sound according to the table above.

If nothing is selected, the camera will resume its normal boot process after a certain time.

| Starting the Camera with Factory Default (Network) Settings |
| --- |

If you use the camera's **boot option 2** to load the factory configuration, this configuration is not automatically saved in the camera's flash memory. When the camera is next rebooted without using **boot option 2**, the last stored configuration will be used. To permanently store the new configuration in the camera's flash memory, open **Admin Menu > Store**. 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.

Make sure you store the default network configuration to the permanent flash memory

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 settings.

| Starting the Camera with an Automatic IP Address (DHCP) |
| --- |

Starting the camera using **boot option 3** and an automatic IP address (DHCP) is only **temporary**. The network configuration of the camera can be permanently set to DHCP (factory setting) under **Admin Menu > Ethernet Interface**.

Make sure that the network has a functioning DHCP server when starting the camera with DHCP support. If this is not the case, the camera cannot obtain a valid IP address and will use its last IP address.

In case of an error, the camera uses its last IP address

You should also make sure that the cameras always obtain the same IP addresses by permanently assigning the MAC addresses of the cameras to the desired IP addresses.

*Tip*: Briefly pressing the **key of the camera** will announce the current IP address via the speaker.
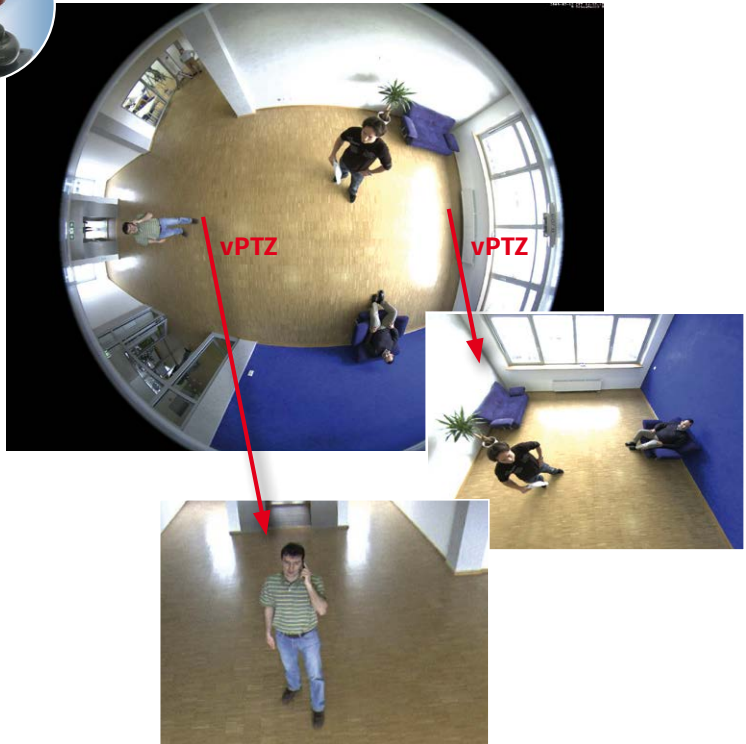
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### 3.3    Virtual PTZ and Full Image Recording

#### 3.3.1    Preparing the Virtual PTZ Function

The virtual PTZ function allows you to use a mouse or joystick to continuously zoom in on images from the selected video source and "virtually" move the enlarged image section within the entire image sensor area.

Greater ease of use through a joystick



**Operation Using The Mouse And Scroll Wheel**

The vPTZ function of the M26 can be controlled in the browser using the mouse. This position becomes the new image center by clicking on any position on the image displayed on the monitor. The image moves accordingly and the image distortion is automatically corrected. The **scroll wheel** can be used to control the zoom function. This functionality is disabled in the default settings of the camera and must therefore first be activated. To do this, go to ***Setup Menu > vPTZ Settings***, disable **Lock Mouse Wheel Zoom**, click on **Set** and then on **Close** to save your settings. You can now use the scroll wheel to zoom + (roll upwards) or zoom – (roll downwards).

**Operation Using USB Joystick**

A standard USB joystick can drastically improve vPTZ operation for the user – in the browser and in MxManagementCenter. Please first install the joystick on the PC according to the manufacturer's instructions.

In order to use a USB joystick in the browser, make sure that you have a PC with a Windows operating system and the latest version of Internet Explorer and that the **"ActiveX" mode in the camera software (browser) is activated:**

- Switch to **Browser** in the Quick Control.

- Under **Browser**, select the option **ActiveX** in the field to the right. The USB joystick can then be used until the browser is closed.

- To store the setting permanently, ActiveX must be activated in the **Admin Menu**. To do so, use **Language and Start Page** in the Admin Menu.

- Under the page options, select the **ActiveX** operating mode.

- Store the settings permanently in the camera by clicking on **Set** and **Close**.

- The joystick can now be used.
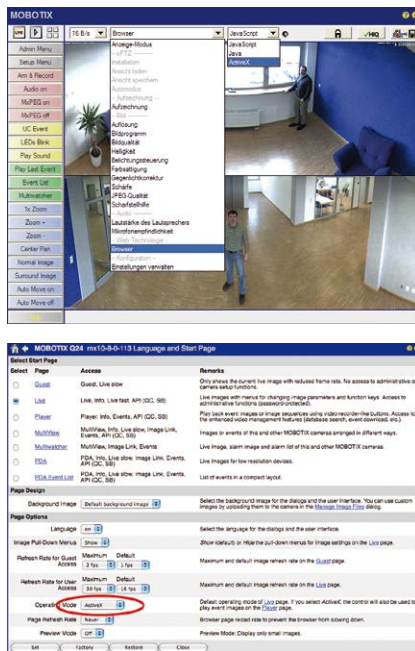




| Notes |
|---|
| You will find more information and details on vPTZ in the camera's online help topic *«vPTZ Settings»*. |

### 3.3.2 Full Image Recording

It is possible to record a **full image**, regardless of the live image stream that is being displayed. This ensures that the recording always contains the full image of the lens used, even though the operator may have used the vPTZ features to zoom into the image in order to examine a specific detail.



| Live image | Stored full image | Analysis in stored full image |
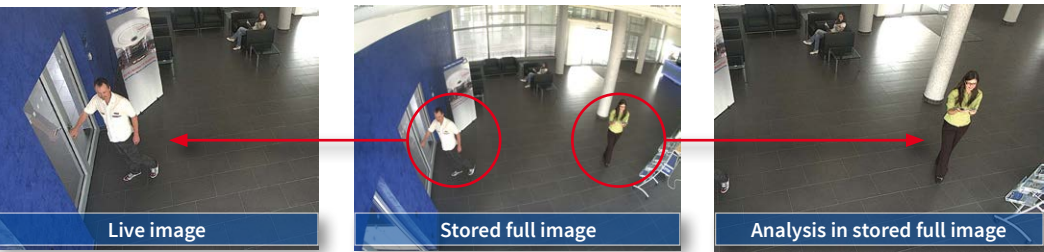
Stored full image: Original camera image without distortion or image correction

This means that you can use the vPTZ features in VGA resolution to pan, tilt and zoom in the live image while the camera is, for example, recording full images at 1 fps in MEGA or 6MP resolution.

In **MxManagementCenter**, the recorded full images may be prepared for the user with the vPTZ functions (for example, panning and zooming in on an image detail such as a doorway).

If **full image recording is not activated**, only the last displayed live image will be saved (save what is seen). The **main benefit** of live image storage is to ensure that the full power of the camera processor is used for live image correction and maximum frame rates. The **main advantage of full image recording** lies in the special functionality of the D14D, in that it can always ensure the availability of a maximum size (full) image for later searches, despite vPTZ actions carried out on the live image. The mechanical limitations of motor-driven PTZ cameras mean that they simply **cannot** provide this unique advantage to the user!

| Notes |
|---|
| **Post-event search in the full image:** If you are using Full Image Recording on D14D cameras, you should use at least MEGA resolution when storing. This will facilitate later searches in **MxManagementCenter**. The advanced distortion correction features require this function to deliver satisfactory image quality. |
| **Full image recording on:** Due to the increased processing time, full image recording reduces the data rate of the live image stream, which may drop by around 10 to 30 percent. We therefore recommend reducing the frame rate for storage as much as possible to affect the live image stream as little as possible. |
| **Full image recording off:** The event that triggered a video motion (VideoMotion VM) window may not be in the recorded sequences while the window was not displayed at the time. |

## Activate/Deactivate Full Image Recording in the Browser

To configure this feature, open the **Setup Menu > Event Control > Recording** dialog box and activate or deactivate the **Full Image Recording** option.

### 3.3.3 Special Configuration in the Browser

Thanks to its hemispherical lens, the MOBOTIX M26 provides certain special configuration options for the image settings. Depending on where the camera is mounted (ceiling or wall) and on the live image display preferred by the user, certain important basic settings and, if necessary, their adjustment must be configured when a M26 is first installed.

**Configuration of the M26 Basic Parameters**

Complete the steps described below in the browser window:

1. **Log onto the camera and boot it** as described in *Section 3.2, «First Images and the Most Important Settings»*.

2. **Select mounting position wall/ceiling/floor**: Click on **Installation** in the Quick Control panel and then select **Wall**, **Ceiling** or **Floor** according to the mounting position of the camera. **Ceiling** always means that the orientation of the camera or sensor module is from **top to bottom** and for **Floor**, the camera or sensor module's orientation is from **bottom to top**.
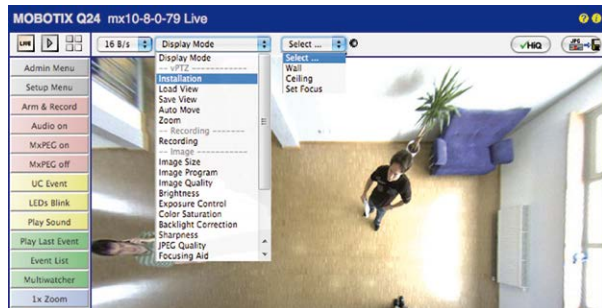


As a result, you will get a **perspective-corrected panorama view** for each image sensor matching the specified mounting position. Panorama view is set as a factory default and it can be changed as described below.

3. Switch to the **Display Mode** Quick Control.

4. Set the mode that you want to be the standard view. For demonstration purposes, the descriptions below describe the typical display mode for the wall mount and the ceiling mount, **Panorama** and **Surround** respectively. Every other display mode can be operated in the same way.

**Wall-Mounted: Setting and Correcting the Standard View "Panorama"**

1. In the **Display Mode** Quick Control, select the option **Panorama**. Examine the image that is now displayed. If the section meets your expectations, no further adjustment is necessary, and panorama configuration is complete. To change the image section to meet your specific expectations, continue with Step 2.
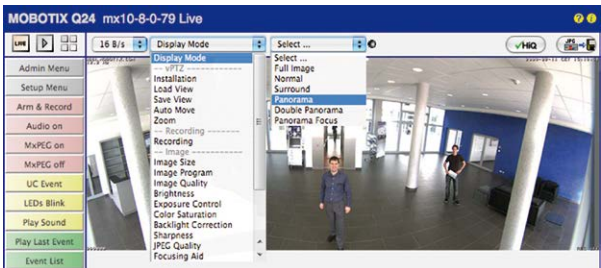


Camera live image *without* MOBOTIX panorama correction with Quick Controls visible

---

| Note |
| --- |
| The currently visible image section may differ from the desired image section due to the installation position or any accessories in use, for example. However, it is not necessary to physically move the camera, as in this case the browser alone can be used to adjust the visible panorama image by zooming, panning and tilting. Tilted vertical lines may also be optically straightened to the image edges using the panorama correction function. These tilted lines are primarily caused if the camera or sensor module is tilted (for example, due to mounting with 15° wedges) or if the image tilt is modified. |

2. Click on the **lock icon**. Clicking on the lock once opens it (lock clasp is raised). The lock prevents execution of later vPTZ actions, which could also unintentionally modify the view you configure. This holds for all overview display modes, that is, also for Panorama/Focus, Double Panorama and Surround.



Open lock
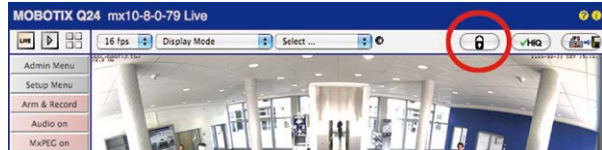
3. A new **icon for processing the panorama image** appears in the top left corner of the camera image. Enlarge the image by clicking on the icon once (OnScreen Control appears).



Click on the icon

4. Using the **OnScreen Control** visible in the live camera image, you can now change the displayed live camera image as desired (panning, tilting, zooming, rotating and panorama correction; see fig. on the right). When doing so, the vPTZ function using the mouse or joystick is deactivated.
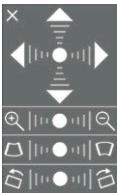


Camera live image **with** panorama correction with OnScreen Control visible
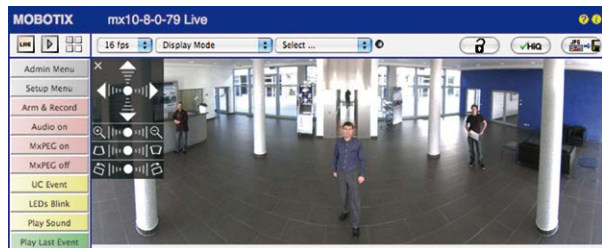
5. After you have modified the desired setting, close the control panel (x in the top left hand corner).

6. **Click on the lock icon again** to close it (lock clasp is down). The panorama image setting is then locked until the camera is next restarted.

| Caution |
|---|
| To permanently save the standard image setting defined for the M26, go to the **Store Complete Configuration** option in the **Manage Settings** Quick Control. The settings will then remain in effect, even after rebooting. |

**Functions of the M26 OnScreen Control**



Close — Tilt up
Pan to the left — Pan to the right
Tilt down
Zoom
Panorama correction
Image tilt correction
Default setting
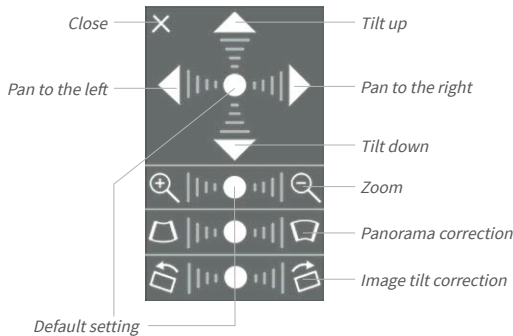
To use the OnScreen Control, click on the arrows in the top area for shifting the image section. In the bottom areas, which are displayed when needed, click to the left and/or right of the center point.

The same applies for every area: **The further away that you click from an area's center point, the greater the change triggered**. To reset an area, click on its center point again.

During panorama correction, clicking between the two trapezoid symbols straightens the left or right tilting lines, which are best visible at the edges of the image section.

Depending on the mounting position (ceiling, wall, floor), panorama correction and mounting error correction may not be available!





Bring columns together at the **top** (necessary to correct the example on the left)



Bring columns together at the **bottom**

### Ceiling-Mounted: Set North (User-Defined North Direction)

Once the camera has been mounted on to the ceiling, you need to specify its North direction. This is not the "true" direction of North but rather the **main line of sight or the focus** of the camera or sensor module. It serves as a reference for the North direction in the **Surround** and **Double Panorama** display modes (the **Ceiling** option was already selected in the **Installation Type** Quick Control).

1. In the case of a double image, click on the corresponding sensor module (camera image) and select the **Normal** option from the **Display Mode** Quick Control.



For vPTZ use and the configuration of a USB joystick, see *Section 3.3.1*

2. **Rotate the live image** in the desired direction using the mouse or a joystick connected to the computer.

3. In the **Installation** Quick Control, select the **Set North** option.
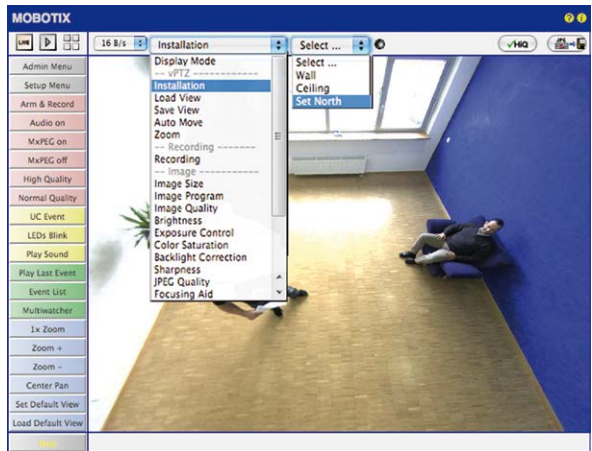


4. Store the desired North direction permanently by first activating the checkbox and then clicking on **Yes**.
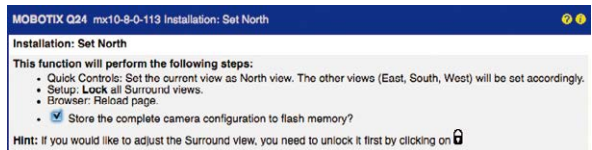


5. You have now set the North direction for the **Surround** and **Double Panorama** display modes. In the next step, you can set these views as the standard view for the camera live image.



*Caution*: No OnScreen Control is available in "Double Panorama" mode

In the **Display Mode** Quick Control, select the option **Surround** or **Double Panorama**. You can fine-tune the views using the vPTZ via mouse or joystick and, as described above, by unlocking and locking the standard view using the lock icon (open lock, correct display and close lock again).
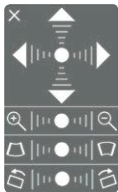
| **Note** |
| --- |
| For each of the *subviews* (*North*, *East*, etc.), the **OnScreen Control** on the side can be used to adapt it (open lock, click on subview, adapt view, click on next subview, adapt view and close lock again). |

## 3.4 MicroSD Card Recording

### 3.4.1 Introduction

Flash-based storage devices (MicroSD cards, USB sticks and solid-state drives) do not contain any moving parts as compared to the commonly used hard drives. Flash-based storage devices are compact and highly resistant to moisture and vibrations. They feature low energy consumption and they do not lose any data in the event of a power failure, meaning that they are ideal for use with MOBOTIX cameras.

Flash memory devices: more robust than hard drives

**Number of Write/Delete Cycles Per Flash Storage Cell**

The number of write/delete cycles of every storage cell of a flash device is limited. The controller of the flash device automatically detects individual flash cells that are no longer functioning. The contents of the faulty cell will then be rebuilt using a checksum and will be moved to a properly working spare cell. The faulty storage cell will be marked as "bad" and will no longer be used. No data is lost in this process.

In addition, MOBOTIX cameras constantly monitor activated flash storage devices. MOBOTIX has developed a technology to test the wear of the flash device by logging the number of write/delete cycles (patent pending). The flash memory wear is automatically displayed in the status bar in the live camera image but it can also be viewed at any time in the **Admin Menu > Camera Status** dialog box.

**Conservative Memory Usage Thanks to MOBOTIX MxFFS File System**

MxFFS formatting of the MicroSD card means that MOBOTIX camera software will use the flash device as evenly as possible, thus allowing for the maximum possible number of write/delete cycles. This also means that all storage cells of the flash device will be written and deleted with the same frequency, if possible. MOBOTIX technology increases the life of the flash device considerably and also improves the security and the reliability of the storage process.

**Storage Requirements and Life Expectancy of MicroSD Cards**

The life expectancy of a MicroSD card increases proportionally to the storage capacity, since the camera software will execute fewer write/delete cycles on each storage cell. The first deletion will begin once the SD card has been filled to capacity (first full cycle).

All specifications are based on calculated averages

| 32 GB MicroSD Card: Storage Requirements | | | | | |
|---|---|---|---|---|---|
| | 6 fps CIF | 6 fps VGA | | 1 fps MEGA | 1 fps QXGA |
| | M-JPEG | M-JPEG | MxPEG | M-JPEG | M-JPEG |
| File size single image | 15 kB | 45 kB | – | 120 kB | 240 kB |
| Storage required per second | 90 kB | 270 kB | 75 kB | 120 kB | 240 kB |
| Storage required per 24 hrs | 7.8 GB | 23.5 GB | 6.5 GB | 10.4 GB | 20.8 GB |
| Time for one full cycle | 4 days | 1.3 days | 4.8 days | 3 days | 1.5 days |

| 4 GB MicroSD Card: Storage Requirements | | | | | |
|---|---|---|---|---|---|
| | 6 fps CIF | 6 fps VGA | | 1 fps MEGA | 1 fps QXGA |
| | M-JPEG | M-JPEG | MxPEG | M-JPEG | M-JPEG |
| File size single image | 15 kB | 45 kB | – | 120 kB | 240 kB |
| Storage required per second | 90 kB | 270 kB | 75 kB | 120 kB | 240 kB |
| Storage required per 24 hrs | 7.8 GB | 23.5 GB | 6.5 GB | 10.4 GB | 20.8 GB |
| Time for one full cycle | 12 hours | 4 hours | 14.4 hours | 9.2 hours | 4.4 hours |

| Caution |
|---|
| The MicroSD card's service life depends on production quality and frequency of use. Set the type of recording (event-controlled or continuous recording, frame rate, resolution) according to your specific requirements.<br><br>We recommend changing the pre-installed, high-quality MicroSD card once a year if you have it constantly set to continuous recording. |

## Monitoring The Cell Wear Of Flash Storage Devices (Patent Pending)

MOBOTIX uses its own technology for this purpose and has a pending patent. You can view the flash wear in the status bar of the live image or by opening **Admin Menu > Camera Status**. In addition, the camera can also send a warning message (for example, via e-mail) as soon as a critical error is detected when data is written to the SD card (**Admin Menu > Error Notification Function.**). The MicroSD card can then be replaced to ensure that any existing data is not lost.

| File Server / Flash Device | |
|---|---|
| Type | SD Flash Card |
| File System | MxFFS |
| Flash Wear | 1% |
| Transfer Buffer Usage | 0% (Ø: 0%, max: 0%) |
| Lost Event Images | 0 |
| Sequences | 1 (1 files) |
| Newest Sequence | 1970-01-01 01:00:00 #0 |
| Oldest Sequence | 1970-01-01 01:00:00 #0 |
| Current Usage | 4.0 MBytes (0.4%) |
| Max. Size | 936 MBytes |

### 3.4.2 Formatting the MicroSD Card

Before a MOBOTIX camera can store image and video sequences on a MicroSD card, the card needs to be formatted as MxFFS (MicroSD cards supplied by MOBOTIX are already MxFFS-formatted). The following steps are necessary to format a storage device (**Admin Menu > Storage on External File Server / Flash Device**):

1. Make sure that there is a MicroSD card in the card slot of the MOBOTIX camera.

2. Click **Format** in the **SD Memory Card** line.

3. Note down the characters shown in the **Encryption password** field or enter your own password. Next, click **OK**.

   **Note**: The **Secure deletion – Slow** option will ensure that any data on the MicroSD card is overwritten completely so that the data cannot be recovered in any way. However, keep in mind that this kind of safe formatting takes considerably more time.

4. In the next dialog box, enter the user name and the password of a user of the **admins** group and click **OK** to confirm.

   The MOBOTIX camera now starts formatting the card. It takes 5 to 12 minutes to format an 8 GB MicroSD card if the **Secure deletion – Slow** option is disabled. If **Secure deletion – Slow** is enabled, this may take anywhere between 3 and 14 hours.

Once the formatting has been completed, you can activate the MicroSD card for recording (see next section).

Format SD card:
**Admin Menu > Storage on External File Server / Flash Device**

The **Secure deletion – Slow** option takes several hours. You can also use suitable applications on Windows, Linux/UNIX and Mac OS X systems to repartition and safely erase the SD card.

| Caution |
| --- |
| Make sure that you always wait until the formatting process has been completed before accessing the camera again. If the Secure deletion – Slow option is disabled, this usually takes just a few minutes. You can only access the MicroSD card once MxFFS formatting has been completed. |
| Formatting with the **Secure deletion – Slow** option enabled takes several hours. You can also use suitable applications on Windows, Linux/UNIX and Mac OS X systems to repartition and safely erase the MicroSD card. |

### 3.4.3   Activating Recording

Follow these steps to activate the recording to a MicroSD card that has already been MxFFS-formatted (**Admin Menu > Storage on External File Server / Flash Device**):

1.  Make sure that there is a MicroSD card in the card slot of the MOBOTIX camera.

2.  Make sure that the MicroSD card is formatted in MxFFS format.

3.  Activate the **SD Flash Card** option.

4.  Click on **Set** and then **Close** to store the configuration.

5.  Reboot the MOBOTIX camera (**Admin Menu > Reboot Camera**).

Once the camera has rebooted, make sure that the camera displays the **FR   REC** symbols in its live image. If this is the case, the camera uses the MicroSD card as recording target. If not, you must activate the recording (see below).

#### Activating the Recording

If the **FR   REC** symbols are not visible in the live image after rebooting, you need to activate the recording using one of the following methods in the web browser:

*   Automatic activation by clicking on the **Arm & Record** softbutton. Confirm this in the Easy Dialog by clicking on the **Yes** button.

*   Manual activation via the Quick Control **Recording** > **Recording on** or in **Setup Menu > Recording**.

#### Encryption and Authentication

All video data stored on the MicroSD card is encrypted to ensure security at all times. The password for this is defined during the card's formatting procedure and needs to be entered for authentication whenever the recordings are accessed (see next section).

### 3.4.4 Accessing Data on the MicroSD Card

The following options facilitate access to the stored image and video sequences on a MicroSD card:

- **In the web browser:** Play back the recorded event images without audio directly from the MicroSD card using the Playback view of the camera software.
- **In MxManagementCenter:** Play back the recorded video sequences with audio by accessing the MicroSD card in the MOBOTIX camera via the camera or with a direct access to the MicroSD card via a card reader connected to the computer (coming soon).

| Caution |
| --- |
| When using the MicroSD card from one MOBOTIX camera in another MOBOTIX camera, you need to make sure that the time on the original camera is in sync with the new camera. We recommend using automatic time synchronization via a time server (**Admin Menu > Date and Time**). |

### 3.4.5 Deactivating Card Recording

Follow these steps to deactivate the memory on a MicroSD card (**Admin Menu > Storage on External File Server / Flash Device**):

1. Activate the **None** option.

2. Click on the **Set** button at the bottom of the dialog box and then on **Close**.

3. Reboot the MOBOTIX camera (**Admin Menu > Reboot Camera**).

Once the camera has rebooted, make sure that the symbol **FR REC** is no longer visible in the bottom right-hand corner of the live image. You can now safely remove the MicroSD card from the camera (see *Section 2.6, «Replacing the MicroSD Card»*).

| Caution |
| --- |
| A **MicroSD card may only be removed from the camera after you have deactivated the recording** to MicroSD card and **rebooted the camera**. *Failing to do so may lead to data loss!*<br><br>Removing connected flash storage devices from the camera without properly deactivating them may lead to data loss and/or destroy certain areas of the storage device. This is limited to 4 MB of lost data per incident due to MxFFS formatting. |

### 3.4.6   Using a MicroSD Card in a Different MOBOTIX Camera

A MicroSD card containing recorded video data from a MOBOTIX camera can be inserted into any MicroSD card-enabled MOBOTIX camera. Once a MicroSD card recording has been activated (requires a reboot), the ”new” MOBOTIX camera automatically synchronizes with the card and resumes recording. No data is lost in this process. Make sure that you deactivate MicroSD card recording before removing the card and then reboot the MOBOTIX camera.

If the MicroSD card's contents are encrypted, you need to enter the same password in the ”new” camera in the **Admin Menu > Storage on External File Server / Flash Device** dialog box. Otherwise, the camera cannot access the MicroSD card.

### 3.4.7   Limitations on Warranty When Using Flash Storage Media

MOBOTIX will not assume any responsibility for flash storage devices (for example, MicroSD cards or connected USB storage devices) delivered with or integrated into MOBOTIX cameras. The same applies to damage to flash storage devices or damage resulting from the use of devices that are not supplied by MOBOTIX.

## 3.5    Configuration in the Browser
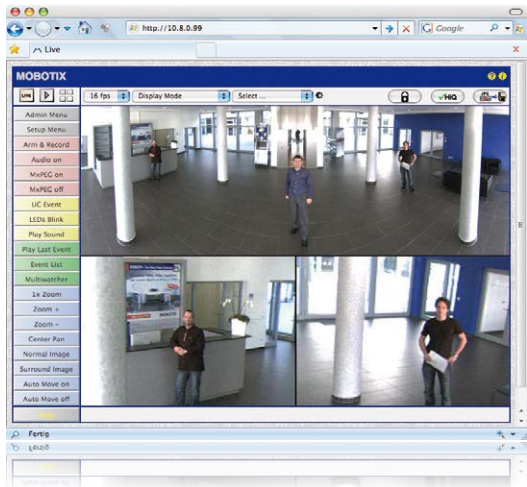


### 3.5.1   Overview

A MOBOTIX camera can be completely configured using a JavaScript-enabled browser on all common operating systems (such as Windows, Linux, Apple, etc.). The camera provides a HTML-based user interface for this purpose. The camera executes the changes you make to the camera configuration via HTTP commands using programs and scripts of the embedded software. The settings are stored in the camera's flash memory.

This section contains an overview of the basic browser settings of the MOBOTIX camera as well as further configuration options. Detailed information on the software functions is provided in the camera's online help.

### Basic Settings

**Admin Menu**

**Setup Menu**

- **Administering the camera:** You can modify the camera configuration in the Admin Menu or the Setup Menu.

  – **Admin Menu:** This menu contains the basic configuration dialog boxes of the camera (for example, passwords, interfaces, software updates).

  – **Setup Menu:** This menu contains the dialog boxes for configuring the image, event and recording parameters. Some of these settings can be changed using the corresponding Quick Controls in the live view.

- **Resetting changes:** If you would like to reset some larger changes in one dialog box without resetting the complete configuration, you can use the **Default** button at the bottom of the dialog box to reset only this dialog box's settings to the factory defaults. If you would like to reset all image settings, you can do so using the **Manage Settings > Restore Image Settings** Quick Control in the live image of the camera.

Make sure to permanently store changed parameters!

- **Storing changes permanently:** Once you have finished configuring the camera, you should always store the settings in the camera's permanent memory. You can do so in each dialog box (clicking on the **Set** button at the bottom of each dialog box will temporarily implement the change; when you click **Close**, you will be asked to store the complete configuration in the camera's permanent memory) or in the Admin Menu (**Admin Menu > Store current configuration into flash memory**). The **Configuration** section of the Admin Menu provides more functions for storing, copying and managing camera settings. For more information on this topic, refer to the online help for the specific dialog boxes.

Automatic time synchroni-
zation using a time server

- **Time tasks and time synchronization:** Apart from a multitude of possibilities for controlling the camera using time (time tables, holiday and vacation, scheduled tasks, etc.), the camera can also synchronize its internal clock. This allows you to manually synchronize the camera with a computer or automatically using a time server or another MOBOTIX camera. The camera can use either NTP time servers or Time Protocol servers. For more information on this topic, refer to the online help for the specific dialog boxes.

**More**: Display
advanced features

**Less**: Hide advanced
features

- **The "More" and "Less" buttons:** When opening some of the camera dialog boxes, the camera only shows the most important parameters. These dialog boxes have a **More** button in the bottom right-hand corner. Click it to display additional options. If all options are displayed, click on the **Less** button to hide the additional options.

### 3.5.2   General Browser Settings

- **Run the Quick Installation:** After booting a new MOBOTIX camera, accessing the administration menu for the first time will automatically start the Quick Installation assistant (**Admin Menu** button). The Quick Installation assistant helps you in setting the most important parameters of the camera. For security reasons, you should set your own administrator password and disable public access to the camera.

- **Disable public access:** Guest users are only allowed to access the Guest screen of the camera without entering a password. If this is not required, you should deactivate public access (**Admin Menu > Quick Installation** or **Admin Menu > Users and Passwords**).

- **Add users and assign access rights:** Similar to a computer operating system, you can add users and user groups and assign the desired rights (**Admin Menu > Users and Passwords**, **Admin Menu > Group Access Control Lists (ACL)**). This approach allows individual access rights to be assigned or denied to camera-specific features based on the user groups.

- **Deactivate the automatic reboot:** In its factory state, every MOBOTIX camera will automatically reboot at 3:36 a.m. every day. All images in the camera's storage buffer will be deleted during this reboot. Images stored on external file servers, internal flash storage, or SD cards will NOT be affected by this reboot. Make sure that you deactivate the automatic reboot if this is not desired (**Admin Menu > Time Tasks**).

- **Optimize the image settings:** The factory image settings of MOBOTIX cameras deliver excellent images for most application scenarios and should therefore not be changed. If you do wish to make changes, your changes should be minor and gradual. You should, however, set an image program according to the application scenario of the camera. Image programs provide a quick and simple method for adjusting the camera to the application scenario as they perform several configuration steps at once (**Image Programs** Quick Control).

- **Set the resolution of the live image:** By default, all MOBOTIX cameras are factory-set to an image resolution of 640x480 pixels. You can select the desired resolution using the **Resolution** Quick Control.

- **Adjust the exposure:** The automatic exposure control of the MOBOTIX camera uses individually configurable exposure windows to determine the best image exposure. Open the **Exposure Control** Quick Control and select a predefined set of exposure windows. If required, you can also define custom exposure windows (**Setup Menu > Exposure Settings**).

- **Activate event control and recording:** By default, the MOBOTIX camera's event control is disabled. Click on the **Arm & Record** button to activate event control. This will activate motion detection and recording. Cameras with integrated flash memory (MOBOTIX R models and models with an SD card) will automatically use the flash memory to store image and video data (recording target). If desired, you can set additional events and adjust the settings of the recording and storage parameters (**Setup Menu > Event Settings**, **Setup Menu > Recording** and **Admin Menu > Recording to External File Server / Flash Device**).

- **Set up actions/messaging:** Upon detecting an event, the MOBOTIX camera can trigger alarms. These alarms can be adjusted to your needs and you can assign them to a specific event: playing back an alarm sound on the camera speaker, showing the visual alarm in the camera live image, sending an e-mail or network message with the alarm image, placing a phone call, uploading an alarm image to an FTP server, switching a signal output line of the camera (for example, for switching on the lights/opening a door).

  For the settings, see **Setup Menu > Action Group Overview**. The actions to be performed are defined and used in these action groups in the form of "action profiles." The different action profiles can also be defined in the following areas: Admin Menu in the Hardware Configuration (profiles for signal output), Transfer Profiles (FTP, e-mail, network messages) and Sound and VoIP Telephony (sound profiles, VoIP profiles). For more information, refer to the online help for the **Action Group Overview** dialog box.

- **Activate shock detector:** The M26 is also equipped with a shock detector as standard. If, for example, the camera's housing receives a blow, it automatically registers it and sends a notification via a network message or telephone call. A general advantage is that MOBOTIX cameras are extremely tough because of the absence of mechanical moving parts. This allows them to stay fully operational when they are subject to strong vibrations. Open the **Setup Menu > Event Control > Environment Events > Edit** dialog box if you would like to activate the shock detector (and any other sensors).

## 3.6    Additional Notes

### 3.6.1    Protecting the Camera Against Condensation

Due to its robust and carefully constructed design and the lack of mechanical moving parts, the M26 has some outstanding weatherproof features and is resistant to moisture and dust. Certified according to the **IP66 standard**, the camera is even resistant to water jets but is **not completely airtight**. Installation environments that experience **frequent changes in temperature and humidity may cause condensation to occur and build up** in the cavities of the camera mount through which outside air flows.

Condensation is caused when the temperature of warm moist air, which can absorb less water in a cooler state, falls below dew point. The condensation is the water that condenses when it meets the cool surface of an object.

To prevent condensation from building up, MOBOTIX recommends **drilling a hole corresponding to the size of the space in question** in -only- the lower of the two positions pictured here and breaking through the outermost housing wall before mounting the camera.

Before drilling, separate the camera from its housing by removing the two Allen lock screws in order to prevent damage occurring to the camera or the cabling.

Use 4 mm drill bit

Before drilling, remove the camera from the housing

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Depending on the later tilt of the camera, drill through the front or rear drain hole of the camera's weatherproof housing.

*TILT (UP)*

Camera tilted upwards: **Drill through rear** drain hole

Camera tilted downwards: **Drill through front** drain hole

*TILT (DOWN)*

When cleaning the camera with a water jet, do not use high-pressure cleaners. The drain holes should be sealed with adhesive tape during cleaning.

### 3.6.2 Password for the Admin Menu

Accessing the Administration Menu of the camera (**Admin Menu** softbutton) is only possible after entering a user name and password.

- Factory default user name is ***admin***.
- Factory default password is ***meinsm***.

(Note that you need to change the password upon your first login – camera release V5.1.x and higher.)

The **Quick Installation** assistant automatically appears when the Administration Menu is accessed for the first time. It provides an easy method to adjust the basic camera settings to the current application scenario. For security reasons, we highly recommend changing the default administrator password after the camera has been properly configured.

Enter the user name and password exactly as shown above. Note that all entries are case-sensitive.

| Caution |
|---|
| Make sure that you store information on **user names and passwords** in a secure place. If you lose the administrator password and cannot access the administration menu, the password can only be reset at the factory. This service is subject to a fee! |

### 3.6.3 Permanently Deactivating the Microphone

Deactivating a camera's microphone may be necessary in order to protect the privacy of persons at a workplace or for other reasons. You can permanently and irreversibly deactivate the microphone in the **Admin Menu > Loudspeaker and Microphone** dialog box.

| Caution |
|---|
| This **deactivation occurs in the camera module itself and cannot be reversed**, even at the factory. Deactivating the microphone will also deactivate all functions that are making use of the microphone. |

### 3.6.4 Using the Start Options of the Camera

- To **reset the camera to factory settings and to use the factory IP address**, please use **boot option 2** as described in *Section 3.2.4, «Start Options of the Camera»*.

- To start the camera as a **DHCP client and to automatically obtain an IP address**, please use **boot option 3** as described in *Section 3.2.4, «Start Options of the Camera»*.

| Note |
|---|
| All defined users are deleted and the admin password is reset to the factory default when you reset the camera using **Admin Menu > Reset**. Use **boot option 3** as described in *Section 3.2.4, «Start Options of the Camera»*. |

### 3.6.5 Activating Event Control and Motion Detection

In its default configuration, the camera's event control and video motion detection features are not enabled. In order to activate event-controlled recording, open **Setup Menu > General Event Settings** and activate the Arming switch. Another method is to click on the **Arm & Record** softbutton in the browser's user interface. The camera displays the motion detection window in the live image (dotted frame in the center) and the camera automatically stores images as soon as the motion detection window detects movements.



*If the dotted rectangle in the live image is visible, the camera is armed*

### 3.6.6 Deactivating Text and Logo Options

As camera arming is deactivated in the camera's default configuration (see preceding section), the MOBOTIX camera only displays the text `WWW.MOBOTIX.COM`, the time stamp and the MOBOTIX logo at the top of the image. Once the camera arming has been activated, the text at the bottom of the live image (event, action, messaging and recording symbols) will also appear.

You can deactivate the status bar at the bottom of the live image and the text bar in the top left-hand corner by setting Text Display in the **Setup Menu > Text & Display Settings** dialog box to **Off**. Setting Text Display to **Date and Time** will only display the time stamp in the live image. To hide the logo in the live image, open **Admin Menu > Logo Profiles** and set **Logo Display** to **Deactivated**.

### 3.6.7 Deactivating the Camera Reboot

By factory default, the MOBOTIX camera automatically reboots once a week between 3 a.m. and 4 a.m. The reason for this is that in some rare cases, external influences (for example, radiation at high altitudes) can sometimes lead to camera malfunctions. The automatic reboot will refresh the camera's memory and will ensure proper operation without requiring any interaction on the part of the user. If desired, you can deactivate the automatic reboot of the camera in the **Admin Menu > Time Tasks** dialog box.

### 3.6.8 Browser

Current Internet browsers (Internet Explorer, Mozilla Firefox, Safari, Google Chrome, Opera, etc.) with enabled JavaScript can display the camera's live images with their standard settings.

### 3.6.9 Cleaning the Camera and Lens

If the lens becomes dirty during the installation process, clean the lens using a lint-free cotton cloth. Make sure that the lens is still in focus after cleaning and adjust its focus if required.

**Cleaning the Lens Cover:**

- Always mount and unmount the lens cover using a soft cotton cloth in order to protect it from being scratched and from getting dirty.
- You should clean the lens cover at regular intervals. Always use a soft, lint-free cotton cloth for this purpose.
- 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.

### 3.6.10 Legal Notes

**Legal aspects of video and sound recording**

You must comply with all data protection regulations for video and sound monitoring when using MOBOTIX products. Depending on national laws and the installation location of the M26, 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 valid regulations and comply with these laws. MOBOTIX AG is not liable for any illegal use of its products.

### 3.6.11 Safety Warnings

**Installation Instructions:**

- This product must not be used in locations exposed to the dangers of explosion.
- Make sure to install this product as shown in *Chapter 2, «Installation»* of this manual.
- When installing this product, make sure that you are only using genuine MOBOTIX parts and MOBOTIX connection cables.
- Make sure that you are installing this product on a solid surface that provides for a sturdy installation of the fixing elements used.

**Electrical installation:** Electrical systems and equipment may only be installed, modified and maintained by a qualified electrician or under the direction and supervision of a qualified electrician in accordance with the applicable electrical guidelines. Make sure to properly set up all electrical connections.

**Electrical surges:** MOBOTIX cameras are protected against the effects of small electrical surges by numerous measures. These measures, however, cannot prevent the camera from being damaged when stronger electrical surges occur. Special care should be taken when installing the camera outside of buildings to ensure proper protection against **lightning**, since this also protects the building and the whole network infrastructure.

**Max. power consumption of attached extension modules:** The power consumption of all attached *MxBus modules* must *not exceed 2.5 W*. When attaching modules to the MxBus connector *and* the USB socket, the *power consumption of all attached modules must not exceed 3 W*, *if the camera is powered by PoE class 3*. If *PoE class 2* is used, *the camera cannot power any peripheral devices!*

**Never touch the lens:** Due to the high performance of the M26, the area of the image sensor **can get quite hot**, especially when the ambient temperature is also high. This does not affect the proper functioning of the camera in any way. For this reason, the product must not be installed within the reach of persons without the lens cover.

**Power off before opening the camera:** Make sure the power supply is disconnected before opening the camera (i.e., for installing or replacing sensor modules and SD cards).

**Network security:** **MOBOTIX** products include all of the necessary configuration options for operation in Ethernet networks in compliance with data protection laws. The operator is responsible for the data protection concept across the entire system. The basic settings required to prevent misuse can be configured in the software and are password-protected. This prevents unauthorized parties from accessing these settings.

### 3.6.12 Online Help in the Browser

For more information, see the News and Functional Overview pages in the online help of the camera's browser interface. Click on the ? icon to open the camera's online help. Furthermore, detailed information on the camera and its current configuration is displayed in the **Camera Status** dialog box. Click on the i icon to open the relevant page.



### 3.6.13 Declaration of Conformity

The products of MOBOTIX AG are certified according to the applicable directives of the E.U. and other countries. You can find the declarations of conformity of the products of MOBOTIX AG under **www.mobotix.com**, **Support > Download Center > Documentation > Certificates & Declarations of Conformity**.

### 3.6.14 RoHS Declaration

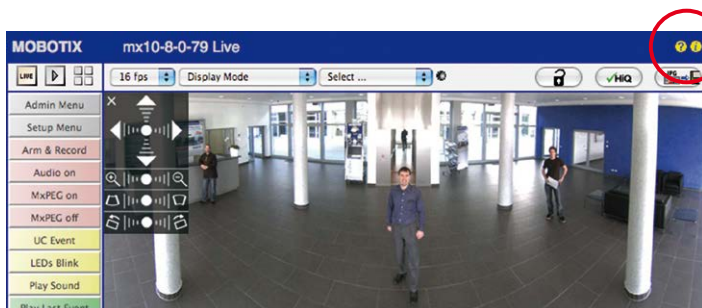The products of MOBOTIX AG are in full compliance with Art. 5 of the German Electrical and Electronic Equipment Act and the E.U. Directive 2011/65/EU on the Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment (RoHS) as far as they are subject to these regulations. (You can find the MOBOTIX RoHS Declaration under **www.mobotix.com**, **Support > Download Center > Documentation > Brochures & Guides > Certificates**.)

### 3.6.15 Disposal

Electrical and electronic products contain many reusable materials. For this reason, we would ask 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 may not be disposed of with 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).

### 3.6.16 Disclaimer

Neither MOBOTIX AG nor any subsidiary of MOBOTIX AG will assume any responsibility for damage resulting from improper use of its products or failure to comply with the manuals and 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 **COS** link at the bottom of every page.

**Notes**

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# MOBOTIX
## Beyond**Human**Vision

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You can find the latest version of this and other documents (e.g., declarations of conformity) at `www.mobotix.com` in the **Support > Download Center > Documentation > Manuals** section.

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Technical specifications subject to change without notice!

Camera Manual
# M26 Allround

Beyond**Human Vision**

**MOBOTIX**