

# Quick Installation

**MOBOTIX c71 NurseAssist** *powered by Kepler Vision Technologies*

© 2024 MOBOTIX AG



# Table of Contents

---

<b>Table of Contents</b> .....	<b>2</b>
<b>Before You Start</b> .....	<b>5</b>
Support .....	6
MOBOTIX Support .....	6
MOBOTIX eCampus .....	6
MOBOTIX Community .....	6
Safety Notes .....	7
Legal Notes .....	7
<b>Notes on System Security</b> .....	<b>11</b>
<b>Protective Measures</b> .....	<b>12</b>
Notes on Cable Laying .....	12
Fire Protection .....	12
Lightning and Surge Protection .....	12
<b>Drilling Template</b> .....	<b>15</b>
Drilling Template c71 .....	16
<b>Scope of Delivery</b> .....	<b>21</b>
MOBOTIX c71 NurseAssist: Scope of Delivery .....	22
Mounting Supplies: Scope of Delivery .....	23
In-Ceiling Set: Scope of Delivery .....	24
<b>Technical Specifications</b> .....	<b>25</b>
Order Information .....	26
Hardware .....	26
Image and Video Properties .....	27
Specifications .....	28
General Software Features .....	30
Further Video Analysis .....	31
Video Management Software .....	31
Dimensions .....	32
In-Ceiling Set D7x_Q7x .....	33
<b>Mounting</b> .....	<b>35</b>
Adjusting the Camera Lens .....	36
Focusing the Camera Lens .....	36
Mounting Options .....	36
Mounting the Camera Without Accessories .....	36
Mounting with the In-Ceiling Set .....	38

---

Connecting the Camera .....	40
Connecting a USB-C Device .....	40
Connecting the Camera to the Network .....	41
<b>Operating the Camera .....</b>	<b>43</b>
Getting Started .....	44
Network Settings .....	44
Windows .....	45
Mac .....	46
Linux / Unix .....	46
Network Settings on the Camera in the Webbrowser .....	46
Network Settings on the Camera in MxMC .....	47
<b>Camera Software in the Browser .....</b>	<b>49</b>
Access the Camera in the Web Browser .....	50
Basic Settings .....	50
<b>Maintenance .....</b>	<b>53</b>
Replacing the microSD card .....	54
Cleaning the Camera .....	55



## Before You Start

This section contains the following information:

<b>Support</b> .....	<b>6</b>
<b>Safety Notes</b> .....	<b>7</b>
<b>Legal Notes</b> .....	<b>7</b>

# Support

## MOBOTIX Support

If you need technical support, please contact your MOBOTIX dealer. If your dealer cannot help you, he will contact the support channel to get an answer for you as quickly as possible.

If you have internet access, you can open the MOBOTIX help desk to find additional information and software updates.

Please visit [www.mobotix.com](http://www.mobotix.com) > [Support](#) > [Help Desk](#).



## MOBOTIX eCampus

The MOBOTIX eCampus is a complete e-learning platform. It lets you decide when and where you want to view and process your training seminar content. Simply open the site in your browser and select the desired training seminar.

Please visit [www.mobotix.com/ecampus-mobotix](http://www.mobotix.com/ecampus-mobotix).



## MOBOTIX Community

The MOBOTIX community is another valuable source of information. MOBOTIX staff and other users are sharing their information, and so can you.

Please visit [community.mobotix.com](http://community.mobotix.com).



## Safety Notes

- This camera must be installed by qualified personnel and the installation should conform to all local codes.
- This product must not be used in locations exposed to the dangers of explosion.
- Do not use this product in a dusty environment.
- Protect this product from moisture or water entering the housing.
- Install this product as outlined in this document. A faulty installation can damage the product!
- Do not replace batteries of the camera. If a battery is replaced by an incorrect type, the battery can explode.
- This equipment is not suitable for use in locations where children are likely to be present.
- External power supplies must comply with the Limited Power Source (LPS) requirements and share the same power specifications with the camera.
- When using a power adapter, the power cord shall be connected to a socket-outlet with proper ground connection.
- To comply with the requirements of EN 50130-4 regarding the power supply of alarm systems for 24/7 operation, it is highly recommended to use an uninterruptible power supply (UPS) for backing up the power supply of this product.

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

### Declaration of Conformity

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

## RoHS Declaration

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

## Disposal

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

## Disclaimer

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

### Disclaimer under European law

This product has software for detecting certain human behavior. When used as intended in accordance with the relevant installation and usage instructions, the product can detect certain behaviors (in particular the position/change of location (a person is in bed/next to the bed)) and trigger an automatic alarm.

However, the product is not technically able to preventively detect, treat and/or prevent falls, accidents and any resulting injuries. The software used in the product is a non-autonomous aid with no diagnostic, preventive or therapeutic effect and no self-learning function. Supervision and monitoring of the persons captured by the camera remain entirely the responsibility of the user. Violations of the duty of supervision are at the user's own risk. The manufacturer of the product is not responsible or liable for this. The user is responsible for creating the technical system requirements necessary to operate the product and for the lawful use of the product. In particular, the user is obliged to comply with all applicable statutory provisions, including those governing the collection, processing and use of (personal) data. The manufacturer and the software supplier are not legally responsible for the information and use by the contractual partner and/or the user of the product.

All information on this product, its function and use is based on current (technical) knowledge. This information merely describes the properties of the product and is intended as a guide. A legally binding assurance of a certain quality or suitability for a certain purpose as well as other guarantees, warranties and / or assurances cannot be derived from this, unless expressly agreed otherwise. It is the sole responsibility of the contractual partner and / or the user to check whether the product is suitable for the specific purpose intended by the user. We recommend that the product be tested for its suitability for the intended purpose before use.



Claims for damages caused by the use or non-use of the information in this document are generally excluded, unless there is a case of intentional or grossly negligent action by the manufacturer or any other case of mandatory statutory liability.

### **Disclaimer under US law**

The Software embedded in the Product can perceive different elements of human behavior. If installed, maintained, serviced and used pursuant to the Product manual and manufacturer's guidelines, the Software can recognize and analyze human behavior, in particular the location and movement of a person (e.g. if a person is lying in bed or next to the bed) and dispatch an automatic alert.

While the Product can increase patient safety and improve clinical outcomes, it cannot predict or avert falls, accidents and potential injuries resulting from falls or other accidents.

The Software [implemented in the Product] enables nurses or other caregivers to monitor a person but is not itself capable of autonomously monitoring and preventing falls and/or accidents and injuries nor can it diagnose or treat any medical conditions. While it empowers clinicians and care teams to remotely monitor and assess a person's location, the clinicians and/or care teams and caregivers (the "User") are solely responsible and liable for the monitored person and their well-being. WE THEREFORE EXPRESSLY DISCLAIM ANY LIABILITY ASSOCIATED WITH THE USE OF OR ACCESS TO OUR PRODUCT AND SOFTWARE.

The User of the Product and Software is responsible for ensuring that the hardware, software and services required to operate the Product and the Software meet the Products minimum requirements, including processing, speed, memory, client software and availability of dedicated Internet Access.

It is the User's responsibility to comply with all applicable local, state, national and foreign laws, rules, treaties and regulations in connection with the use of the Software and Product, including those related to data privacy, the Health Insurance Portability and Accountability Act of 1996 (HIPPA), international communications and the transmission of technical or personal data.

NO information contained in the Product is medical advice and should not be construed as such. INFORMATION RECEIVED VIA THE PRODUCT, SOFTWARE, OR SERVICES SHOULD NOT BE RELIED UPON FOR PERSONAL, MEDICAL, LEGAL OR FINANCIAL DECISIONS AND YOU SHOULD CONSULT AN APPROPRIATE PROFESSIONAL FOR SPECIFIC ADVICE TAILORED TO YOUR SITUATION.

UNLESS OTHERWISE AGREED IN WRITING BY MOBOTIX, THE PRODUCT, INCLUDING ALL ASSOCIATED SERVICES AND SOFTWARE, ARE PROVIDED ON AN "AS IS" AND "AS AVAILABLE" BASIS WITHOUT ANY WARRANTIES OF ANY KIND. MOBOTIX, TO THE FULLEST EXTENT PERMITTED BY LAW, DISCLAIMS ALL WARRANTIES, EXPRESS OR IMPLIED, INCLUDING ANY WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE OR USE, OR TITLE OR NON-INFRINGEMENT. MOBOTIX MAKES NO WARRANTIES ABOUT THE ACCURACY, RELIABILITY, COMPLETENESS, OR TIMELINESS OF THE PRODUCT, INCLUDING ANY MATERIALS, SERVICES, SOFTWARE, TEXT, GRAPHICS, AND LINKS ASSOCIATED WITH OR INCLUDED IN THE PRODUCT, OR THAT THE PRODUCT (OR ANY PART THEREOF) WILL BE ERROR-FREE OR THAT DEFECTS WILL BE CORRECTED. IN ADDITION, MOBOTIX DOES NOT WARRANT THAT THE PRODUCT (OR ANY PART THEREOF) IS APPROPRIATE OR AVAILABLE FOR USE IN ANY PARTICULAR JURISDICTION.

TO THE MAXIMUM EXTENT PERMITTED BY APPLICABLE LAW, IN NO EVENT SHALL MOBOTIX AND ITS (SOFTWARE) SUPPLIERS BE LIABLE FOR ANY DIRECT, INDIRECT, PUNITIVE, INCIDENTAL, SPECIAL, CONSEQUENTIAL DAMAGES OR ANY DAMAGES WHATSOEVER INCLUDING, WITHOUT LIMITATION, DAMAGES FOR LOSS OF USE, DATA OR PROFITS, ARISING OUT OF OR IN ANY WAY CONNECTED WITH THE USE OR PERFORMANCE OF THE PRODUCT AND/OR SOFTWARE, WITH THE DELAY OR INABILITY TO USE THE PRODUCT AND/OR SOFTWARE, THE PROVISION OF OR FAILURE TO PROVIDE THE SOFTWARE, OR FOR ANY INFORMATION, SOFTWARE, PRODUCTS, SERVICES AND RELATED INFORMATION OBTAINED THROUGH THE PRODUCTS, OR OTHERWISE ARISING OUT OF THE USE OF THE PRODUCT AND/OR SOFTWARE, WHETHER BASED ON CONTRACT, TORT, NEGLIGENCE, STRICT LIABILITY OR OTHERWISE, EVEN IF MOBOTIX OR ANY OF ITS SUPPLIERS HAS BEEN ADVISED OF THE POSSIBILITY OF DAMAGES. BECAUSE SOME STATES/JURISDICTIONS DO NOT ALLOW THE EXCLUSION OR LIMITATION OF LIABILITY FOR CONSEQUENTIAL OR INCIDENTAL DAMAGES, THE ABOVE LIMITATION MAY NOT APPLY TO YOU.

## FCC Disclaimer

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

# Notes on System Security

To protect the camera against security risks in data technology, the following measures are recommended after the installation has been completed:

MxManagementCenter:

- Menu **View > Wizards & Tools > Secure System:**
  - **Change camera factory default password:** ✓
  - **Enable encrypted HTTPS:** ✓
  - **Disable public access:** ✓
  - **User Management** (for all users):
    - **Force Complex Password:** ✓
    - **Log out on Inactivity:** After 5 min

User interface of the camera in the browser:

- **Admin Menu > Network Setup > Web Server:**
  - **Enable MxWeb:** –
  - **Enable intrusion detection:** ✓
  - **Notification threshold:** 10
  - **Timeout:** 60 minutes
  - **Block IP Address:** ✓

For more information on this new feature, please read the «Cyber Protection Guide» on [www.mobotix.com](http://www.mobotix.com) (under Support > Download Center > Documentation > Brochures & Guides > Cyber Security).

# Protective Measures

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

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

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

## Notes on Cable Laying

- **Data cable:** Only double-shielded CAT5 cable or better (S/STP) may be used as data cable for the Ethernet interface.
- **Cable length:** The individual cable sections must not exceed the maximum permissible lengths in order to ensure perfect data transmission.
- **Avoidance of induction:** Data cables may only be laid parallel to power or high-voltage lines if the prescribed minimum distances are observed.
- Only use MOBOTIX cables and connectors to ensure IP66 weather resistance.

## Fire Protection

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

## Lightning and Surge Protection

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

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

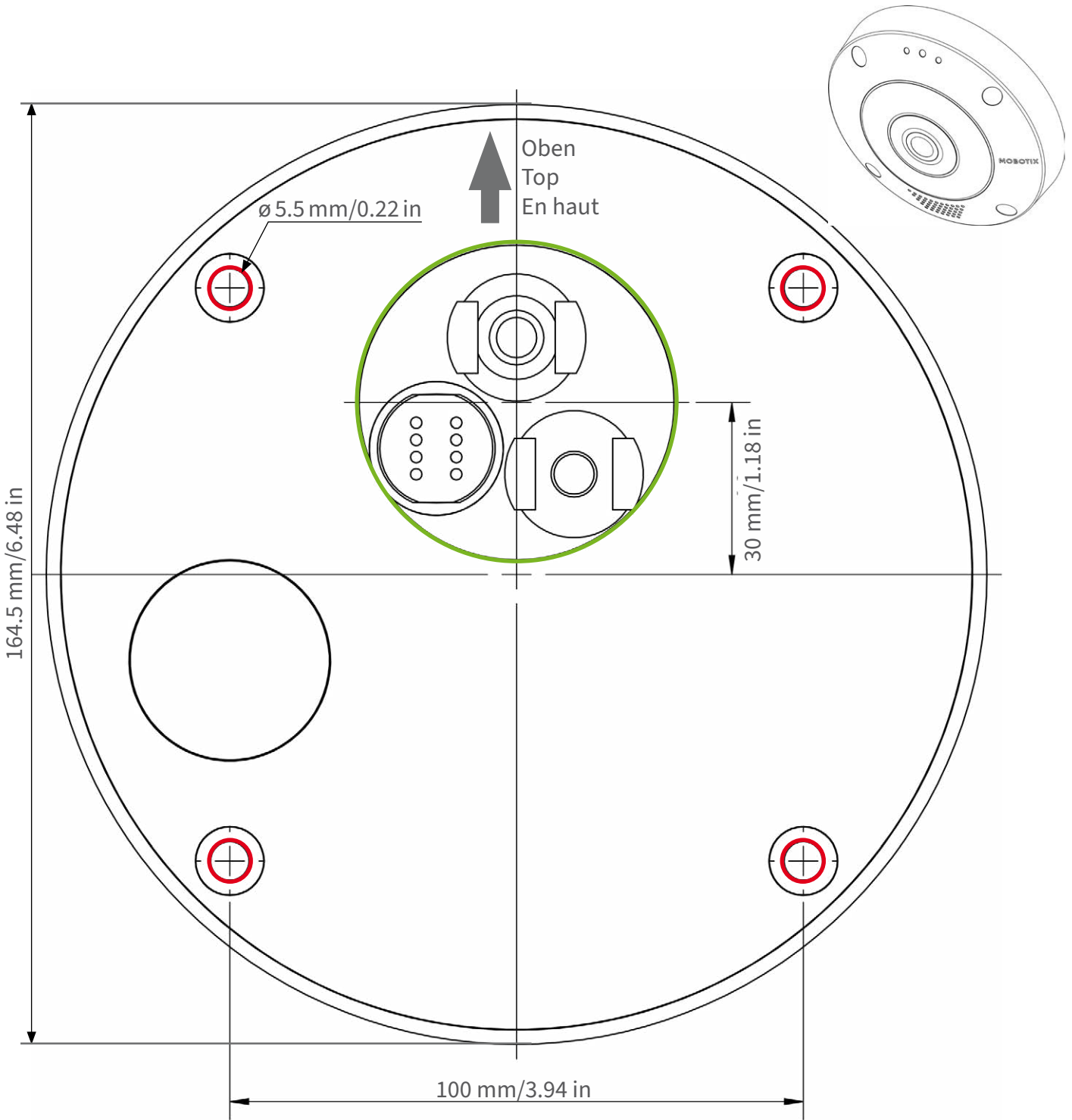


## Drilling Template

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

**NOTE!** Download the drilling template from the MOBOTIX website: [www.mobotix.com](http://www.mobotix.com) > [Support](#) > [Download Center](#) > [Marketing & Documentation](#) > [Drilling Templates](#).

**CAUTION!** Always print or copy the drilling template at 100% of the original size!

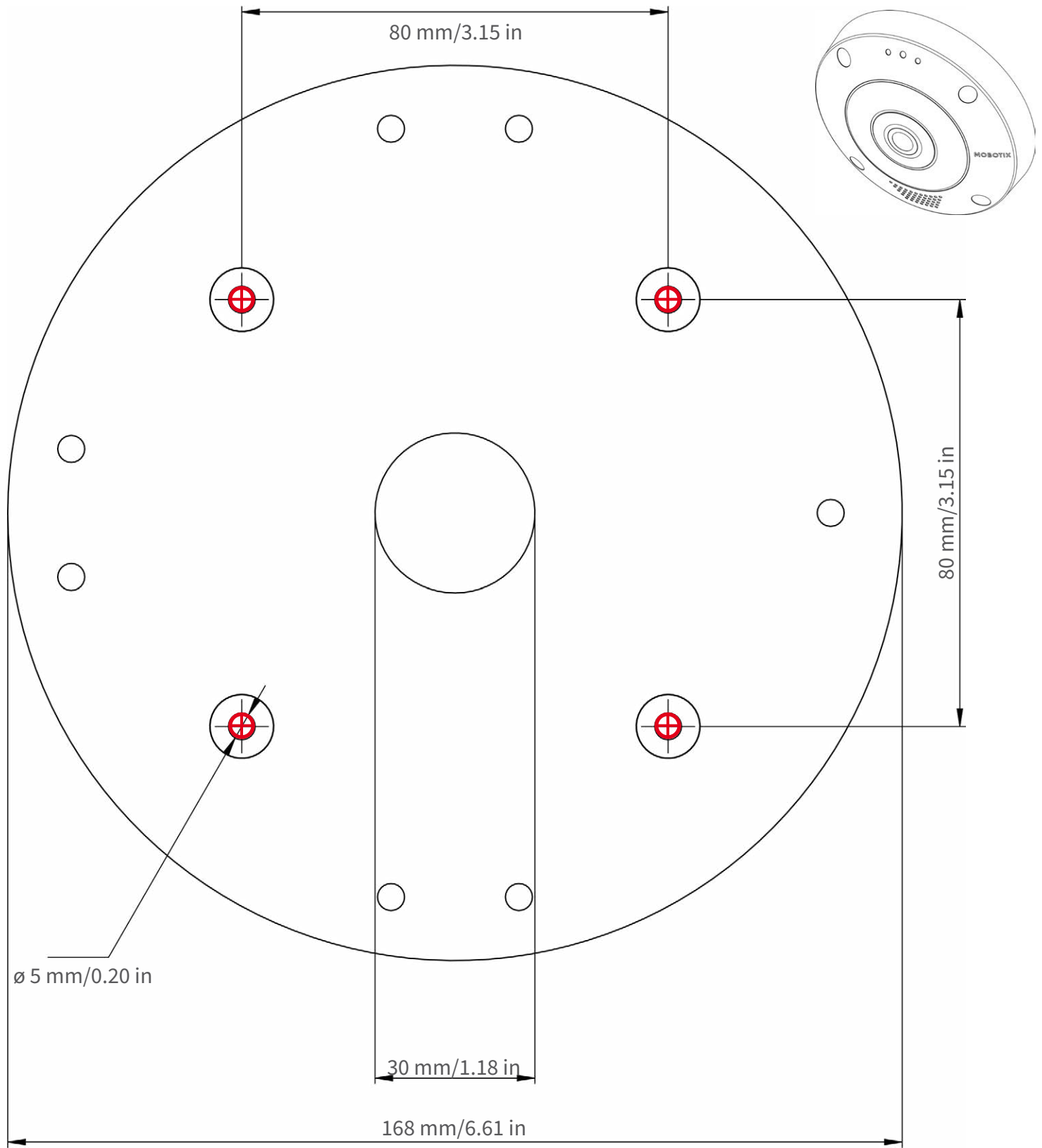


Ausschnitt für Kabel und Anschlüsse  
Cutout for cables and connectors  
Découpe pour les câbles et les connexions



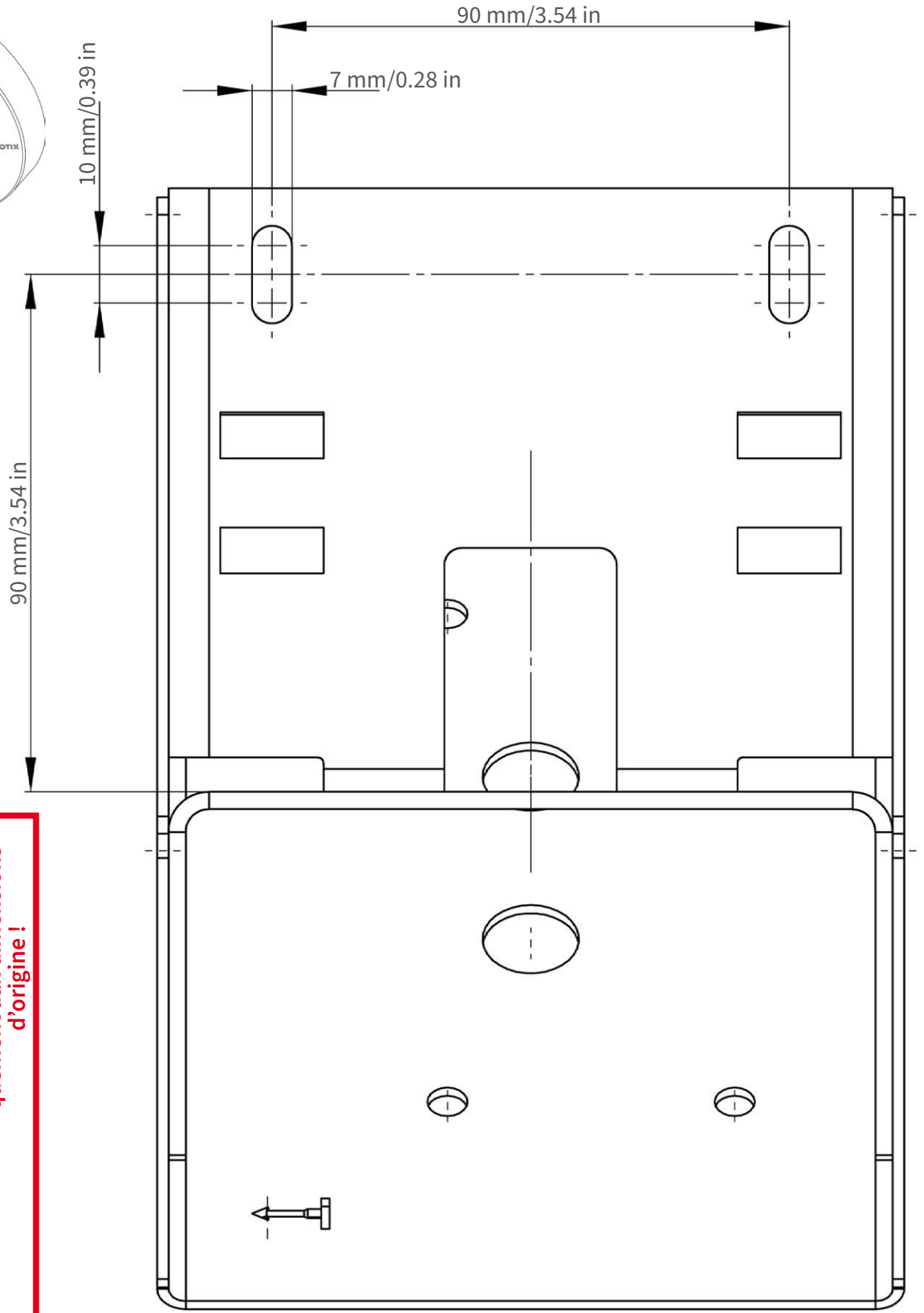
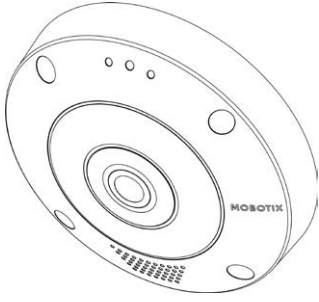
**Nur in Originalgröße kopieren oder ausdrucken!**  
**Always copy or print at 100% of original size!**  
**Copier ou imprimer uniquement aux dimensions d'origine !**





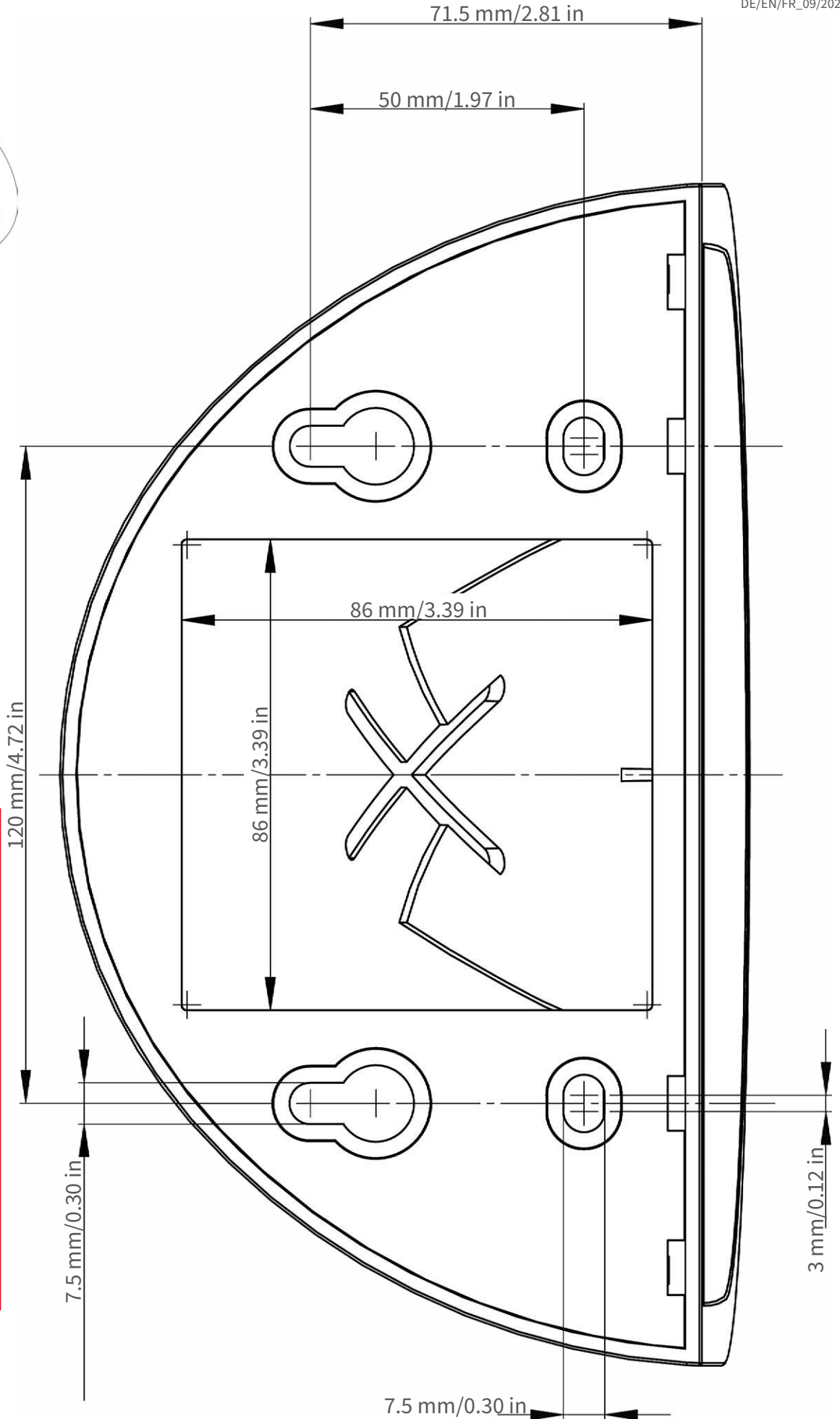


**Nur in Originalgröße kopieren oder ausdrucken!**  
**Always copy or print at 100% of original size!**  
**Copier ou imprimer uniquement aux dimensions d'origine !**

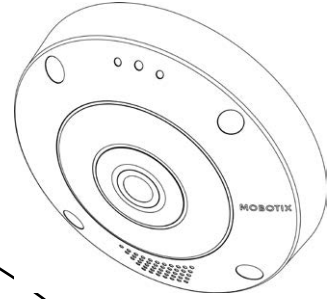


**Nur in Originalgröße kopieren oder ausdrucken!**  
**Always copy or print at 100% of original size!**  
**Copier ou imprimer uniquement aux dimensions d'origine !**





**Nur in Originalgröße kopieren oder ausdrucken!**  
**Always copy or print at 100% of original size!**  
**Copier ou imprimer uniquement aux dimensions d'origine !**



Ø 200 mm / 7.87 in



**Nur in Originalgröße kopieren oder ausdrucken!**

**Always copy or print at 100% of original size!**

**Copier ou imprimer uniquement aux dimensions d'origine !**

## Scope of Delivery

This section contains the following information:

<b>MOBOTIX c71 NurseAssist: Scope of Delivery</b> .....	<b>22</b>
<b>Mounting Supplies: Scope of Delivery</b> .....	<b>23</b>
<b>In-Ceiling Set: Scope of Delivery</b> .....	<b>24</b>

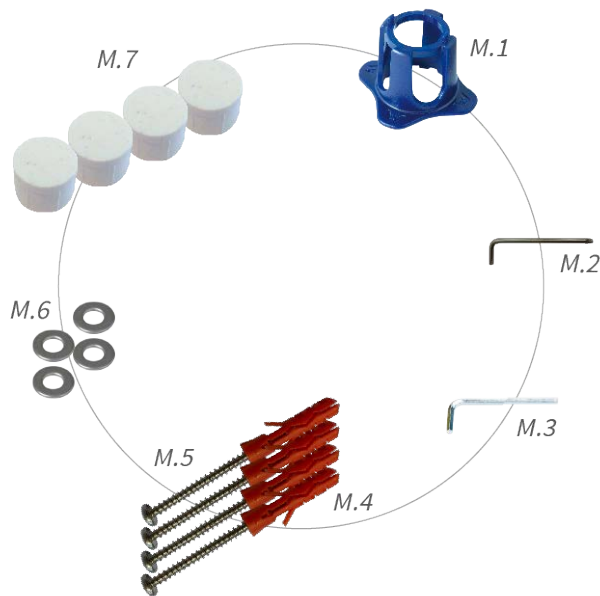
# MOBOTIX c71 NurseAssist: Scope of Delivery



## Scope of delivery MOBOTIX c71 NurseAssist Body

Item	Count	Description
1.2	1	USB plug, blue (installed)
1.3	1	Bayonet catch for USB port, blue (installed)
1.4	1	Ethernet plug, blue (installed)
1.5	1	Bayonet catch for Ethernet port, blue (installed)
1.6	1	Ethernet patch cable RJ45, 50 cm/19.7 in
1.7	1	SD card cover (installed)
1.8	1	SD card 8 GB (installed)
1.9	1	Mounting supplies (see <a href="#">Mounting Supplies: Scope of Delivery, p. 23</a> )
1.10	1	Camera Connection Flyer
1.11	1	Important Safety Information

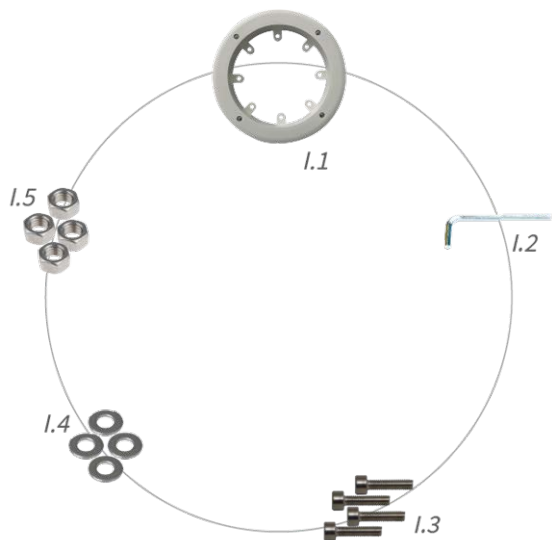
# Mounting Supplies: Scope of Delivery



## Scope of Delivery c71 NurseAssist Mounting Supplies

Item	Count	Description
M.1	1	c71 NurseAssist lens wrench, blue
M.2	1	Torx wrench 3.5 mm
M.3	1	Allen wrench 2.5 mm
M.4	4	Dowels 8 mm
M.5	4	Stainless steel pan head-screws 4.5x60 mm
M.6	4	Stainless steel washers Ø5.3 mm
M.7	4	Sealing plugs, white

# In-Ceiling Set: Scope of Delivery



## Scope of Delivery In-Ceiling Set

Item	Count	Description
I.1	1	In-Ceiling Set
I.2	1	Allen wrench 5 mm
I.3	4	Stainless steel Allen screws M6x30 mm
I.4	4	Stainless steel washers M6
I.5	4	Stainless steel hexagon nut M6

---



## Technical Specifications

This section contains the following information:

<b>Order Information</b> .....	<b>26</b>
<b>Hardware</b> .....	<b>26</b>
<b>Image and Video Properties</b> .....	<b>27</b>
<b>Specifications</b> .....	<b>28</b>
<b>General Software Features</b> .....	<b>30</b>
<b>Further Video Analysis</b> .....	<b>31</b>
<b>Video Management Software</b> .....	<b>31</b>
<b>Dimensions</b> .....	<b>32</b>

# Order Information

Name	MOBOTIX c71 NurseAssist powered by Kepler Vision Technologies
Order Code:	Mx-c71A-NurseAssist

# Hardware

Image sensor (DN)	4k (1:1) effective max. resolution 2144x2144
Light sensitivity	<ul style="list-style-type: none"> <li>▪ Color sensor (day): 0,1 lx @ 1/60 s; 0,005 lx @ 1 s</li> <li>▪ BW sensor (night): 0,02 lx @ 1/60 s; 0,001 lx @ 1 s</li> </ul>
Exposure control	Manual and automatic mode 1 s to 1/16,000 s
Operating temperature range	-10 to 50 °C/-14 to 122 °F
Internal DVR Storage	Internal microSD card (SDHC/SDXC), 8 GB out of the box, max. 1 TB.
Microphone/Speaker	Integrated Microphone: <ul style="list-style-type: none"> <li>▪ Sensitivity: -35 dB +/-4 dB (0 dB = 1 V/pa, 1 kHz)</li> </ul> Integrated Loudspeaker: <ul style="list-style-type: none"> <li>▪ 0.9 W at 8 Ohm</li> </ul>
Integrated illumination	850 nm IR, up to 15 m
Shock detector (tamper detection)	Yes
Max. power consumption	max. 25 W
Electrical surge protection	Available with MX-Overvoltage-Protection-Box (not part of the scope of delivery)
PoE standard	PoE Plus (802.3at-2009)/Class 4 (Class 3 can be enabled via HW switch. <b>Note:</b> IR illumination requires Class 4)
Interfaces	<ul style="list-style-type: none"> <li>▪ Ethernet 1000BaseT (RJ45 according to EIA/TIA-568B)</li> <li>▪ USB-C/USB2.0; High-Speed (<math>V_{out} = 5.1 V</math>, <math>I_{out} = 0.9 A</math>, <math>P_{out} = 4.5 W</math>)</li> </ul>

Mounting Options	Ceiling mountable
Dimensions (Ø x height)	164 x 47,5 mm
Weight	Gross weight: 1.040 g
Housing	Aluminum, PBT-30GF
Standard accessories	See <a href="#">MOBOTIX c71 NurseAssist: Scope of Delivery, p. 22</a>
Detailed technical documentation	<a href="http://www.mobotix.com">www.mobotix.com</a> > <a href="#">Support</a> > <a href="#">Download Center</a> > <a href="#">Marketing &amp; Documentation</a>
MTBF	80,000 hours
Certificates	EN 50121-4, EN 55032, EN 55035, EN 61000-6-1, EN 61000-6-2, EN 61000-6-3, EN 61000-6-4, EN 62368-1, EN 63000, AS/NZS CISPR32, 47 CFR Part 15b
Protocols	DHCP (client and server), DNS, ICMP, IGMP v3, IPv4, IPv6, HTTP, HTTPS, FTP, FTPS, NFS, NTP (client and server), RTP, RTCP, RTSP, SFTP, SIP (client and server), SMB/CIFS, SNMP, SMTP, SSL/TLS 1.3, TCP, UDP, VLAN, VPN, Zero-conf/mDNS
Manufacturer warranty	5 years

## Image and Video Properties

Available video codecs	<ul style="list-style-type: none"> <li>▪ H.264, H.265</li> <li>▪ MxPEG+</li> <li>▪ MJPEG</li> </ul>
Image resolutions	VGA 640x360, XGA 1024x576, HD 1280x720, FullHD 1920x1080, 4MP 2688x1512, 4K 1:1 2144x2144
Multi streaming	H.264, H.265 with triple streaming
Multicast stream via RTSP	Yes
Max. image resolution	4K (1:1) effective max. resolution 2144x2144 hemispheric image
Max. frame rate (fps)	MxPEG: 20@4k, H.264: 30@4k, H.265: 30@4k

# Specifications

## General App Information

Product Name	
Order Code	only available in a bundle with the MOBOTIX c71 NurseAssist camera (Mx-c71A-NurseAssist)
Supported MOBOTIX Cameras	MOBOTIX c71 NurseAssist (pre-installed)
Minimum Camera Firmware	v7.3.4.x
MxManagementCenter compatibility	<ul style="list-style-type: none"><li>min. MxMC v2.7</li><li>Configuration: Advanced Config license required</li><li>Event Search: Smart Data Interface license included</li></ul>

## General Features

App Features	<ul style="list-style-type: none"><li>monitoring of the well-being of patients in private rooms, corridors and common areas of Healthcare facilities</li><li>minimization of reaction times due to decentralized state-of-the-art fall detection</li><li>prevention of accidents through person down, person in bed and person out of bed event</li><li>simple and decent installation</li><li>GDPR compliant operation through event-controlled obscuring of live and recorded images</li><li>Consolidated event search via MxManagementCenter Smart Data Interface</li></ul>
Maximum number of detection areas	1
Recognized objects	Persons
Supported image sensor types	Day/Night (MOBOTIX c71 NurseAssist default)

---

MxMessageSystem supported	Yes
MOBOTIX Events	Yes
ONVIF Events	Yes (Generic Message event)

## Scene Requirements

Room size	max. 25m <sup>2</sup> assuming an almost square room (e.g. 5x5 m) by radius of 4 m - long and narrow rooms will not work.
Required installation position (camera)	ceiling-mounted
Recommended installation height (camera)	2,0m - 3,5m
Mounting distance from bed	0,5m - 3,0m
Mounting distance from wall	> 70cm

## Technical App Specifications

Synchronous / Asynchronous App	asynchronous
Simultaneous execution of other apps	No
Accuracy	min. 99% (considering scene requirement and no view blocking objects)
Processed frame rate	Typ. 0,20 fps
Alarm average time	Typ. 30 seconds

# General Software Features

Feature	Properties
Software features	<ul style="list-style-type: none"> <li>▪ H.264, H.265 Multistreaming</li> <li>▪ Multicast stream via RTSP</li> <li>▪ Digital pan, tilt, zoom/vPTZ (up to 8x zoom)</li> <li>▪ Genetec protocol integration</li> <li>▪ Programmable exposure zones</li> <li>▪ Snapshot recording (pre/post-alarm images)</li> <li>▪ Continuous recording</li> <li>▪ Event recording</li> <li>▪ Time-controlled flexible event logic</li> <li>▪ Weekly schedules for recordings and actions</li> <li>▪ Event video and image transfer via FTP and email</li> <li>▪ Playback and QuadView via web browser</li> <li>▪ Animated logos on the image</li> <li>▪ Master/Slave functionality</li> <li>▪ Privacy zone scheduling</li> <li>▪ Remote alarm notification (network message)</li> <li>▪ Programming interface (HTTP-API)</li> <li>▪ MxMessageSystem</li> </ul>
ONVIF compatibility	Profile G, S, T, (M with later firmware release)
Master/Slave functionality	Yes
Remote alarm notification	email, network message (HTTP/HTTPS), SNMP, MxMessageSystem, MQTT
DVR/image storage management	<ul style="list-style-type: none"> <li>▪ On internal microSD card</li> <li>▪ On external USB and NAS devices</li> <li>▪ Different streams for live image and recording</li> <li>▪ MxPEG+ only</li> <li>▪ MxFFS with buffered archive, pre- and post-alarm images, storage monitoring with error reporting</li> </ul>

Feature	Properties
Camera and data security	User and group management, SSL connections, IP-based access control, IEEE 802.1X, intrusion detection, digital image signature
Digitally signed firmware	Yes (to prevent firmware file tampering)

## Further Video Analysis

Feature	Properties
Video motion detection	Yes
MxActivitySensor	Version 1.0, 2.1, 3.0
MxAnalytics	Yes with a later FW release
MOBOTIX App support	Yes with a later FW release

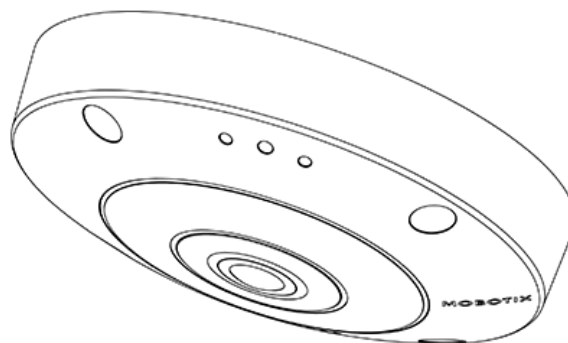
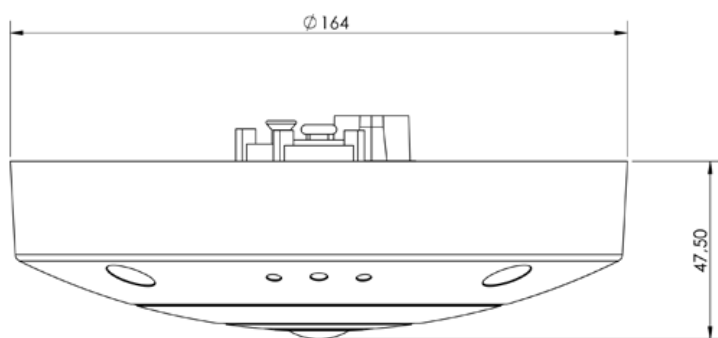
## Video Management Software

Feature	Properties
MOBOTIX HUB	Yes <a href="http://www.mobotix.com">www.mobotix.com</a> > <a href="#">Support</a> > <a href="#">Download Center</a> > <a href="#">Software Downloads</a>
MxManagementCenter	Yes (latest version recommended) <a href="http://www.mobotix.com">www.mobotix.com</a> > <a href="#">Support</a> > <a href="#">Download Center</a> > <a href="#">Software Downloads</a>
MOBOTIX Cloud	Streaming & Events supported
MOBOTIX LIVE App	Yes (available in Google Play Store (Android) and Apple App Store (iOS)).
3rd Party VMS Software	see ONVIF Profile S, T and G specification

## Dimensions

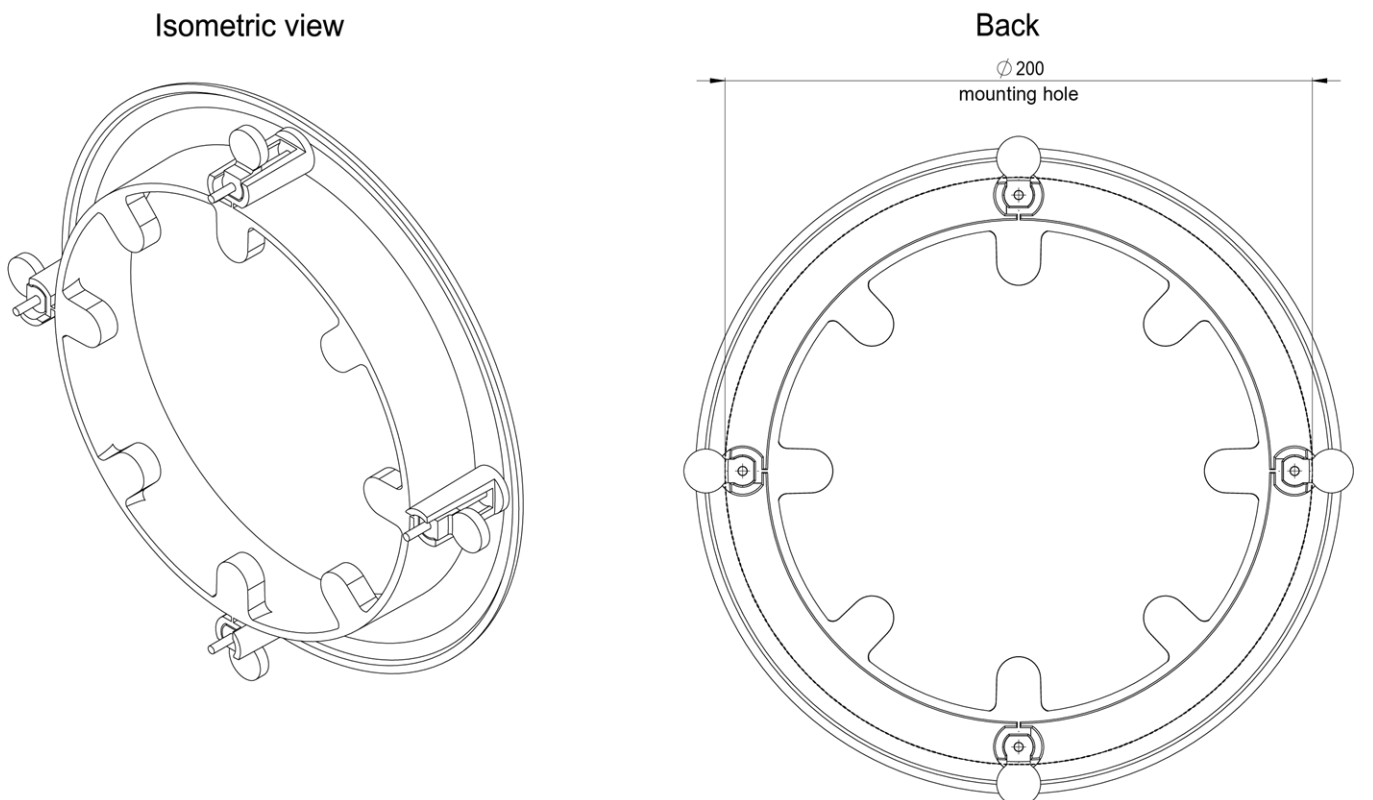
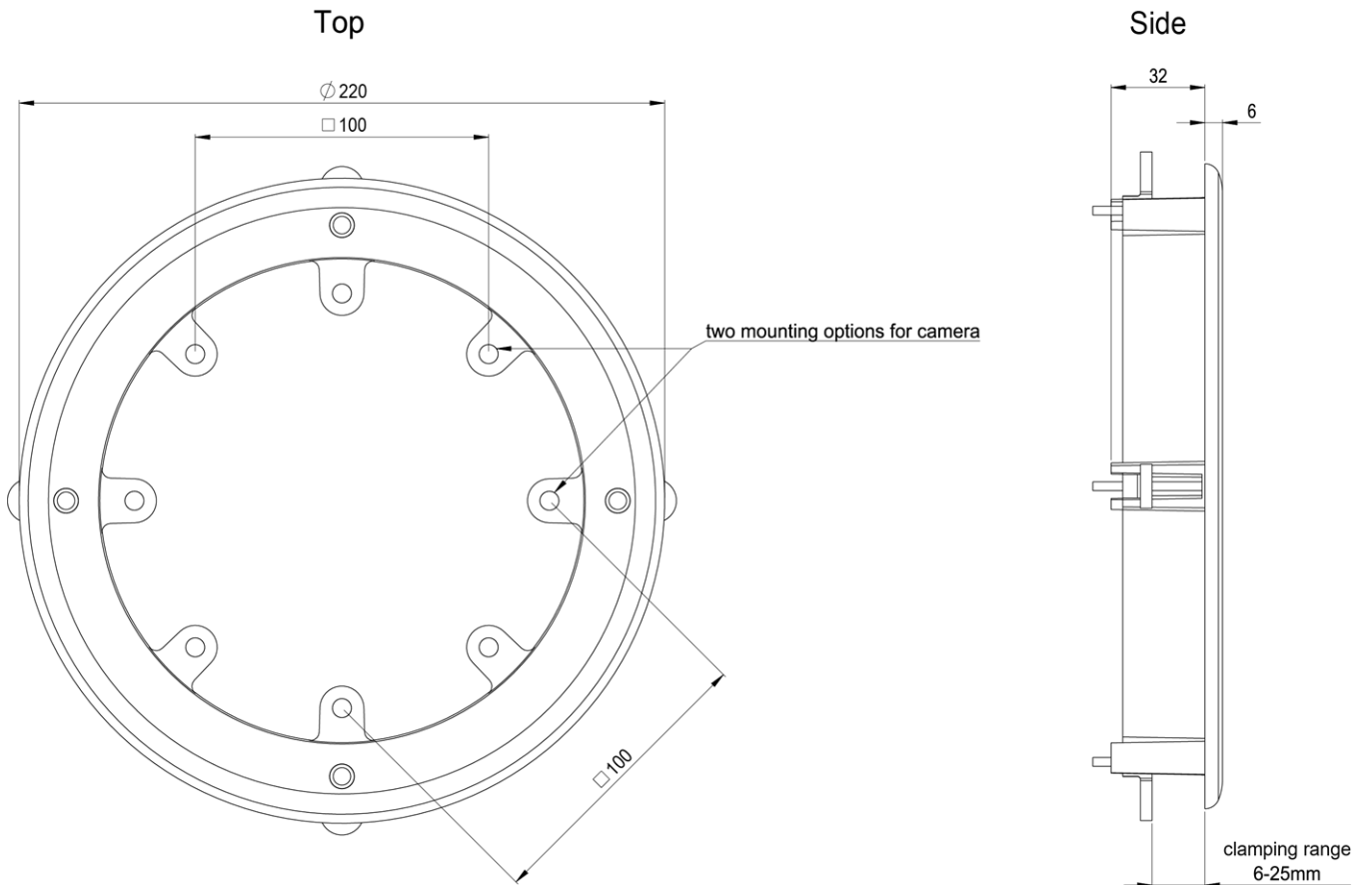
**NOTE!** Download the drilling template from the MOBOTIX website: [www.mobotix.com](http://www.mobotix.com) > [Support](#) > [Download Center](#) > [Marketing & Documentation](#) > [Drilling Templates](#).

**CAUTION!** Always print or copy the drilling template at 100% of the original size!





# In-Ceiling Set D7x\_Q7x





## Mounting

This section contains the following information:

<b>Adjusting the Camera Lens</b> .....	<b>36</b>
<b>Mounting Options</b> .....	<b>36</b>
<b>Connecting the Camera</b> .....	<b>40</b>

# Adjusting the Camera Lens

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

**CAUTION!** When adjusting the image focus or the field of view of the camera, always make sure that you can see the live image of the camera on your monitor. See [Camera Software in the Browser, p. 49](#).

## Focusing the Camera Lens

1. If required, clean the optical surfaces using a clean, lint-free cotton cloth.

## Mounting Options

You can mount the MOBOTIX c71 NurseAssist to any even surfaces.

**CAUTION!** The MOBOTIX c71 NurseAssist camera must be mounted on the ceiling. Only in this way is reliable observation of the nursing beds possible.

### Accessories for Mounting

- With the In-Ceiling Set, you can discreetly install the MOBOTIX c71 NurseAssist Camera in the ceiling with the connections and most components hidden inside the ceiling.

All mounting options provide concealed cabling, thus improving installation security.

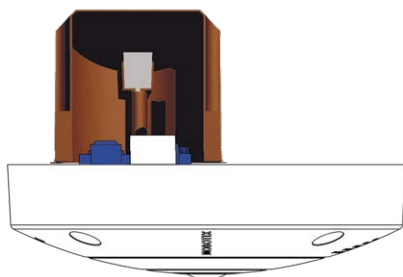
**CAUTION!** Installation only on flat surface! Unevenness must not exceed 0.5 mm/0.02 in!

Only use genuine MOBOTIX patch cables to guarantee the weatherproofness!

**NOTE!** Before mounting the camera, determine its ideal position and make sure that the field of view is not obstructed in any way. Once the camera has been mounted, you can fine-tune the image.

## Mounting the Camera Without Accessories

The MOBOTIX c71 NurseAssist can be easily installed directly on ceilings. For installation without any accessories, you should first install a flush-mounted wall outlet, since the connectors on the rear of the camera need some space.



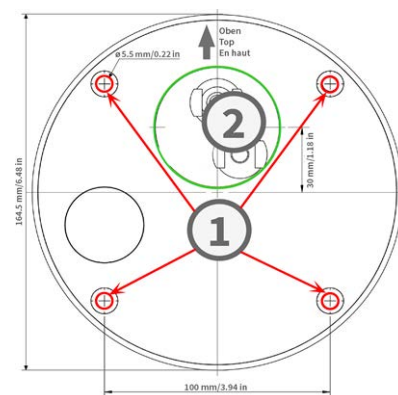
Before mounting the camera, make sure that a network connection with power supply according to the PoE Plus (802.3at-2009) standard is available at the mounting position (see [Connecting the Camera, p. 1](#)).

**NOTE!** Do not use the dowels if the installation surface is wood. Only use the screws to fasten the mounting plate directly on the surface. In order to facilitate screwing in wood, the positions should first be pre-drilled using a 2 mm drill bit, for example (drilling depth just slightly less than screw length).

**NOTE!** To guarantee maximum coverage of the room by the camera, the MOBOTIX c71 NurseAssist should be positioned on the wall or ceiling as close to the middle of the room as possible.

## Step by Step

1. Mark the holes ① for drilling using the drilling template (see [Drilling Template as PDF](#)). When drilling, use a suitable 8 mm drill bit and drill holes at least 60 mm/1.2 deep.



**NOTE!** The drilling template also includes a circle ② marking the minimum size and position of the wall outlet, in addition to the drilling holes.

2. Fully push the dowels [M.4, p. 23](#) into the holes you drilled.
3. Establish the PoE network connection to the camera (see [Connecting the Camera to the Network, p. 41](#)).
4. Mount the camera using the supplied pan head screws [M.5, p. 23](#).

## Mounting with the In-Ceiling Set



**CAUTION!** Before mounting the camera, make sure that a network connection with power supply according to the PoE Plus (802.3at-2009) standard is available at the mounting position (see [Connecting the Camera to the Network](#)).

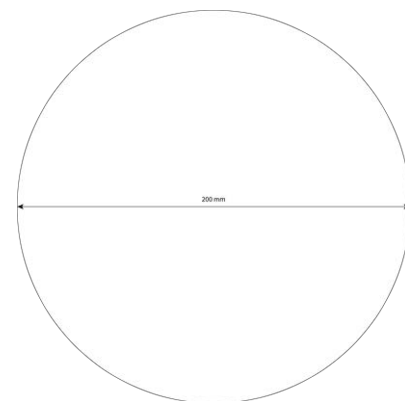
With the In-Ceiling Set, you can discreetly install the MOBOTIX c71 NurseAssist Camera in the ceiling with the connections and most components hidden inside the ceiling. The In-Ceiling Set is particularly suitable if the c71 NurseAssist is to be installed in suspended ceilings of indoor spaces with customer or public traffic (e.g. hotels, restaurants, banks, retail stores, public buildings, etc.).

**NOTE!** Download the drilling template from the MOBOTIX website: [www.mobotix.com](http://www.mobotix.com) > [Support](#) > [Download Center](#) > [Marketing & Documentation](#) > [Drilling Templates](#).

**CAUTION!** Always print or copy the drilling template at 100% of the original size!

## Step by Step

1. Cut a round hole with a diameter of 200 mm into the ceiling (see [Drilling Template](#), p. 15).



2. Run the network cable above the suspended ceiling and ensure that enough cable slack is available.
3. Remove the rubber plugs from the front of the camera.



4. Connect the on-site network cable with the camera patch cable using a standard connector. Excess cable can be stored easily within the In-Ceiling Set (see [Connecting the Camera](#), p. 40).
5. Place the In-Ceiling Set in the ceiling opening and tighten the dovetail guides clockwise using a Phillips screwdriver.
6. Push the rubber plugs [M.7](#), p. 23 into the screw holes of the camera.



7. Connect the camera to the PoE network connection of the building (see [Connecting the Camera to the Network](#), p. 41).

## Connecting the Camera

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

### Connecting a USB-C Device

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

1. To uncover the USB-C port, remove the bayonet catch by rotating it counter-clockwise, then remove the blue rubber plug.



2. Plug the USB-C connector into the port and press in firmly until the blue sealing ring clicks into place.



3. Attach the bayonet catch and turn it clockwise until it clicks in the locked position.
4. Connect the USB-C device to the other end of the USB cable.



## Connecting the Camera to the Network

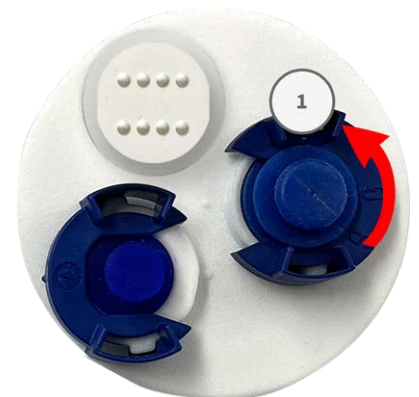
### CAUTION!

- The PoE switch must provide Class 4 according to PoE Plus (802.3at-2009) as well as the 100/1000 Mbps Ethernet interface of the camera.
- It is highly recommended to use an uninterruptible power supply (UPS) for the switch.
- The maximum length of the network cable for remotely supplying power is 100 m (300 ft).

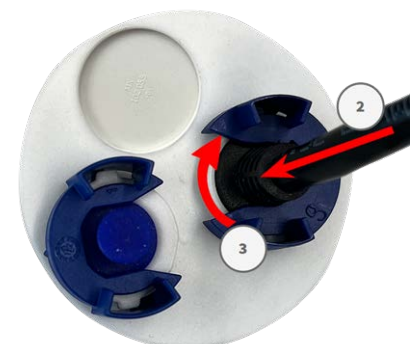


### Connecting the camera to the network

1. To uncover the RJ45 network connector, remove the bayonet catch ① by rotating it counter-clockwise and pull it off with the blue rubber plug.



2. Plug the supplied patch cable ② into the network connector and press the plug in firmly until the blue sealing ring clicks into place.



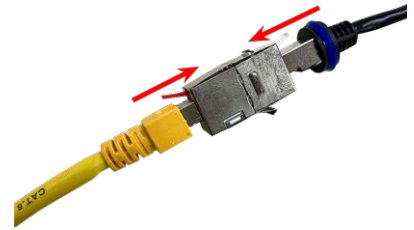
3. Attach the bayonet catch ③ by rotating it clockwise.

## Mounting

### Connecting the Camera

---

4. Connect the supplied patch cable [1.6, p. 22](#) with the PoE network connection of the building using a standard connector.



## Operating the Camera

This section contains the following information:

<b>Getting Started</b> .....	<b>44</b>
<b>Network Settings</b> .....	<b>44</b>

# Getting Started

You can use the MOBOTIX c71 NurseAssist with any current browser – or with MxManagementCenter.

You can download MxManagementCenter free-of-charge from [www.mobotix.com](http://www.mobotix.com) > [Support](#) > [Download Center](#) > [Software Downloads](#).

1. **Connect the camera to the network.** The network cable will also provide power to the camera.
  1. **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 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 Settings, p. 44](#):
    - **Network with dynamic IP addresses**

**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

**Using MxManagementCenter:** With MxManagementCenter, you can show and integrate the camera without having to know its current IP address.
    - **Network with static 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 web browser:** You may have to adjust the network settings of your computer.
    - **Automatically using MxManagementCenter:** The camera is displayed in MxManagementCenter although the IP address is not part of the local network, allowing you to reconfigure its settings.
  2. **Configure camera:** You can use the user interface of the camera in a browser or in MxManagementCenter.

## Network Settings

Once the camera has been connected to the network, you need to set up the MOBOTIX 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 if it is already running on a 10.x.x.x network with a 255.0.0.0 network mask) you do not need to change the camera's network parameters. You can directly access the camera. If neither your network nor your computer use an IP address in the 10.x.x.x network (e.g. a 192.168.x.x or

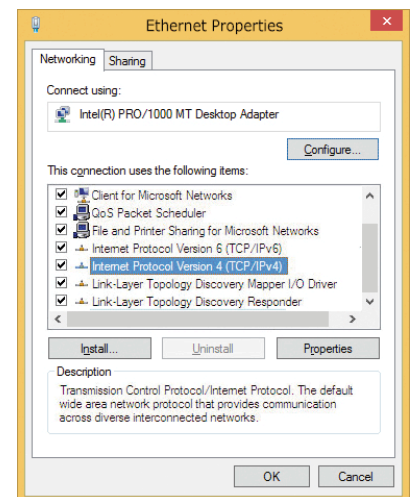
172.x.x.x network), you should follow one of the following methods for changing the camera's network parameters:

- Manual setup
- Automatic setup using MxManagementCenter

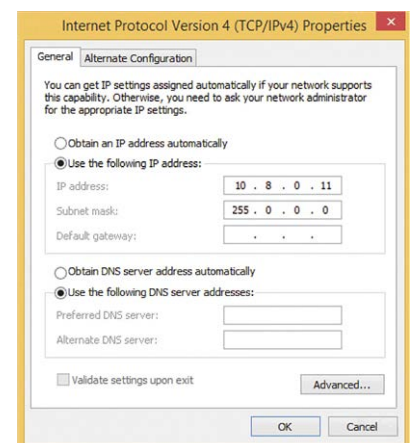
**NOTE!** For the following examples, we will use a camera with the factory IP address 10.16.0.99. Replace this IP address with the IP address of your camera. You will find this address on a small sticker on the camera. Make sure that the IP addresses used in the following examples are not used by any other devices on your network.

## Windows

1. Open the Windows **Control Panel > Network and Internet > Network and Sharing Center > Change Adapter Settings > Ethernet.**



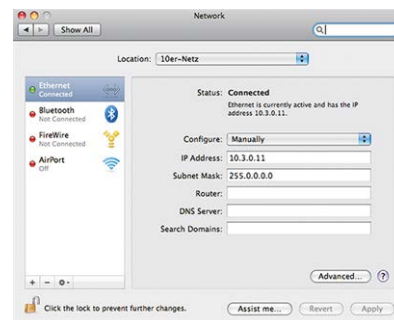
2. Right-click on the relevant network adapter and select **Properties.**
3. Open the properties of **Internet Protocol Version 4 (TCP/IPv4).**



4. Activate **Use the following IP-address**. Enter an IP address in the 10.x.x.x range in this field (e.g. 10.16.0.11).
5. Click on **OK** to apply the settings.

## Mac

1. Open **System Settings > Network**.



2. Click on **Ethernet** and in the **Configuration** field, select the *Manual* list entry and enter an IP address in the 10.x.x.x IP address range (e.g., 10.16.0.11).
3. Click on **Apply** to apply the settings.

## Linux / Unix

1. Open a terminal as `root` user.
2. Enter the following command: `ifconfig eth0:1 10.16.0.11`.
3. The computer now has the additional IP address 10.16.0.11.

## Network Settings on the Camera in the Webbrowser

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

### Quick Installation

#### Ethernet Interface

Assign a unique IP address and the network mask to the camera. These values consist of four numbers (0 to 255) separated by dots. They define which other IP addresses can be reached directly on your LAN. In order to access the camera from your computer via LAN, your computer needs an IP address on the same subnet as the camera.

If unsure, ask your system administrator for a valid and unique IP address and the network mask of your subnet.

Camera IP Address:

Camera Network Mask:

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

**NOTE!** Factory access credentials:

*User name:admin*

*Password:meinsm*

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

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

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

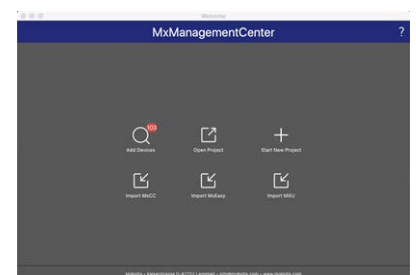
### 4. Reboot the camera to apply the network settings.

## Network Settings on the Camera in MxMC

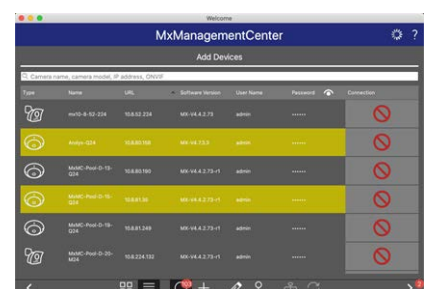
MxManagementCenter is a video management software for setting up and using the entire video surveillance system that provides a range of functions for different tasks and user groups. You can download the newest release of MxManagementCenter from the MOBOTIX website ([www.mobotix.com](http://www.mobotix.com)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

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 as a counter next to the **Add Devices** icon. This number is updated automatically if the number of MOBOTIX cameras on the network has changed (i.e., by connecting new/disconnecting existing cameras).



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



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




#### EXAMPLE:

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

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

**NOTE!** This is the case, for example, if you are integrating cameras into a network without DHCP server (i.e. with fixed IP addresses) and the IP address range is different from the 10.x.x.x range supported by the cameras in addition to DHCP.

MxManagementCenter can automatically configure such a camera so that it is "integrated" into your existing network.

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

3. Enter the IP address and the subnet mask of the selected camera.



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

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

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



## Camera Software in the Browser

When recording images or video sequences, you can choose to store either the visible image area of the live image or the full sensor image. This also allows examining the parts of an image or video that had not been visible in the real-time image section on display at the time of the recording.

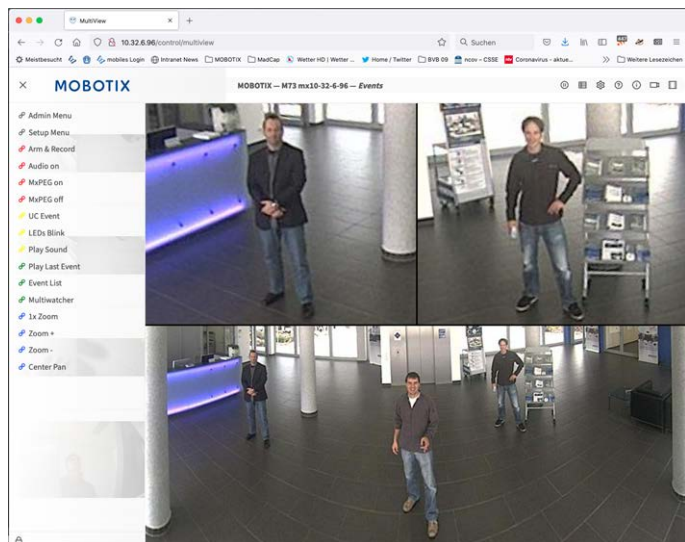
Instead of using a web browser, you can also download the free MxManagementCenter from the MOBOTIX website ([www.mobotix.com](http://www.mobotix.com) > Support), which allows displaying multiple cameras on one monitor, allows for comfortably searching and evaluating the alarm video clips with audio and provides alerting features. For mobile iOS and Android devices, the free-of-charge MOBOTIX MOBOTIX LIVE App is available.

This section contains the following information:

<b>Access the Camera in the Web Browser</b> .....	<b>50</b>
<b>Basic Settings</b> .....	<b>50</b>

# Access the Camera in the Web Browser

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



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

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

## Basic Settings

**Password for the Administration Menu:** Accessing the administration area of the camera (Admin Menu button) in the browser is only possible after entering a user name and password.

- **Default user name:** admin
- **Default password:** meinsm

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

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

The Quick Installation wizard will appear automatically when accessing the Administration Menu for the first time. It provides an easy method to adjust the basic camera settings to the current application scenario. For

security reasons, it is highly recommended to change the default administrator password after the camera has been configured properly.

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

- **Admin Menu:** This menu contains the basic configuration dialogs of the camera (e.g. passwords, interfaces, software update).
- **Setup Menu:** This menu contains the dialogs for configuring the image, event and recording parameters. Some of these settings can be changed using the corresponding Quick Controls in the Live screen.

**NOTE!** For more information, consult the Reference Manual of the camera.



## Maintenance

This section contains the following information:

<b>Replacing the microSD card</b> .....	<b>54</b>
<b>Cleaning the Camera</b> .....	<b>55</b>

# Replacing the microSD card

**CAUTION!** To remove, insert or exchange the microSD card, the camera must be disassembled.

Before removing the microSD card, deactivate the recording function and restart the camera. Non-observance can lead to data loss!

The microSD card must not be write-protected!

Do not touch the circuit board when exchanging the microSD card!

## Step by step

1. **Deactivate storage:** If storage on microSD card is still activated deactivate it in the cameras web interface: **Admin Menu > Storage on external file server / flash media**, then reboot the camera .
2. **Open the screw cap:** Using a coin or wide screwdriver, turn the screw cap ① on the back of the camera to the left and remove it.



3. **Unlock the microSD card holder:** Flip up the metal cover ② of microSD card (e.g. with a fingernail).



4. **Remove the microSD card**
5. **Insert microSD card:** Insert the new microSD card in the holder and close the metal cover with light pressure until it snaps in.
6. **Close the screw cap:** Reinsert the screw cap and turn it to the right using a wide screwdriver.

7. **Activate storage:** If the microSD card already is formatted with MxFFS has been inserted, storage can be activated in Admin Menu > Storage on External File Server/Flash Device. After rebooting the camera, recording is activated automatically. .

## Cleaning the Camera

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

To protect the camera from damage, only use the supplied mounting supplies (see [Mounting Supplies: Scope of Delivery, p. 23](#)).

# MOBOTIX

BeyondHumanVision

[EN\\_08/24](#)

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

MOBOTIX is a trademark of MOBOTIX AG registered in the European Union, the U.S.A., and in other countries. Subject to change without notice. MOBOTIX do not assume any liability for technical or editorial errors or omissions contained herein. All rights reserved. © MOBOTIX AG 2023