Guideline

Kepler NurseAssist App (c71)

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BeyondHumanVision

MOBOTIX

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Before You Start

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Support

MOBOTIX Support

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

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

www.mobotix.com > Services > Help Desk.

MOBOTIX eCampus

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

www.mobotix.com/ecampus-mobotix.

MOBOTIX Community

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

community.mobotix.com.

Safety Notes

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

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

Legal Notes

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Legal Aspects of Video and Sound Recording

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

Declaration of Conformity

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

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

Disclaimer

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

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.

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Notes on System Security

The MOBOTIX c71 NurseAssist is designed and implemented in full accordance with the requirements of the Health Insurance Portability and Accountability Act (HIPAA), 45 CFR Parts 160 and 164. The system meets all administrative, physical, and technical safeguards mandated for processing, transmitting, and storing electronic Protected Health Information (ePHI).

For more details see: c71 NurseAssist NurseAssist Privacy Whitepaper.

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

- Password must be changed when camera software is accessed for the first time.
- Public access is disabled.
- Intrusion detection is enabled.

- Timeout for grouping accesses from the same client into a single log entry is set to 60 minutes.
- IP addresses of offending HTTP clients are blocked.

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

Camera Web Interface

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

MxManagementCenter

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

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

Protective Measures

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

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

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

Notes on Cabling

- **Data cable:** Only double-shielded CAT5 cable or better (S/STP) may be used as data cable for the Ethernet interface.

- **Cable length:** The individual cable sections must not exceed the maximum permissible lengths in order to ensure perfect data transmission.
- **Avoidance of induction:** Data cables may only be laid parallel to power or high-voltage lines if the prescribed minimum distances are observed.

Fire Protection

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

Lightning and Surge Protection

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

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

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Overview

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About Kepler NurseAssist App (c71)

Detect Falls and Unauthorized Bed Leaving Immediately – in Real Time!

Powered by intelligent MOBOTIX sensor technology, the Kepler NurseAssist App (c71) helps hospitals, nursing homes and retirement homes protect patients and people in need of care effectively and cost-efficiently – automatically and around the clock.

- Pre-installed Basic license included in bundle.
- Reliable monitoring of patients' well-being.
- AI-powered software detects critical incidents in real time.
- Sends automatic alerts to staff in case of an alarm.
- Direct patient communication via integrated microphone/audio function.
- Simple and discreet installation.
- GDPR-compliant operation through event-controlled obscuring of live and recorded images.

NOTE!
The Kepler NurseAssist App (c71) is available pre-installed on the MOBOTIX c71 NurseAssist camera only.

Smart Sensor, Image and Scene Requirements

Kepler NurseAssist helps healthcare staff monitor patients and alerts staff to potentially critical situations.

NOTE! One Sensor per Bed

One Smart Sensor can monitor one bed per room. Beds that are not to be monitored must be marked with ignore areas in the image (see Advanced, p. 39).

Recommendations on Positioning and Mounting

CAUTION! Risk of damage to the lens

Never touch the lens. Complete the installation of the Smart Sensor before removing the protective film.

To reliably detect potentially critical situations, the camera should provide maximum coverage without blind spots.

- Mount the camera on the ceiling at a height of 200 cm to 350 cm.
- Mount the camera at least 70 cm from any wall.
- Mount the camera near the bed, at a distance of 50 cm to 300 cm. This ensures sufficient infrared illumination of the bed at night.
- Do not mount the camera directly above the bed.
- Make sure that the entire room is visible from the camera's mounting position.

- Make sure that the camera lens is not exposed to direct light. Direct sunlight or artificial light can cause over-exposure and prevent reliable image analysis.
- Avoid mirror images of the bed in the image, as they can cause false alarms.
- The camera uses infrared light at night. Bright ambient light may prevent the camera from switching to night mode. If necessary, adjust the day/night sensitivity in the camera settings.

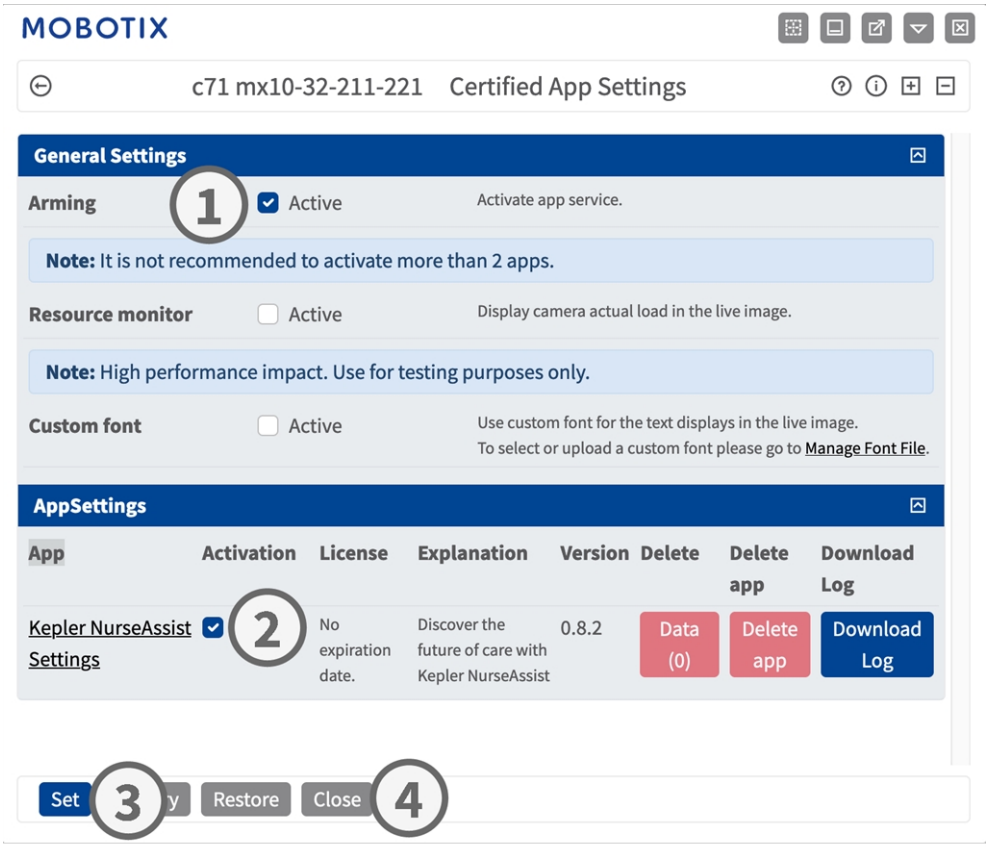
Activation of the Certified App Interface

NOTE! Setup Menu Access Required

The user must have access to the setup menu (http(s)://<camera IP address>/control). Adjust the user rights of the camera accordingly.

Kepler NurseAssist App (c71) is activated and pre-configured by default. In case needs to be activated manually follow these steps:

1. In the Smart Sensor web interface, open: **Setup Menu / Certified App Settings** (http(s)://<camera IP address>/-control/app_config).



2. Under **General Settings**, activate the **Arming**① checkbox of the app service.
3. Under **App Settings** check the **Active** option ② .
4. Click **Set**③ to apply the settings.

5. Click on **Close**④ and confirm the prompt to permanently save the configuration.
6. To open the app's user interface, click on its name.
7. For configuration of the app see Configuring Kepler NurseAssist App (c71), p. 32.

Smart Data Interface to MxManagementCenter

This app provides a Smart Data interface to MxManagementCenter.

With the MOBOTIX Smart Data System, transaction data can be linked to the video recordings made at the time of the transactions. Smart Data source can be e.g. MOBOTIX Certified Apps (no license required) or general Smart Data sources (license required) such as POS systems or license plate recognition systems.

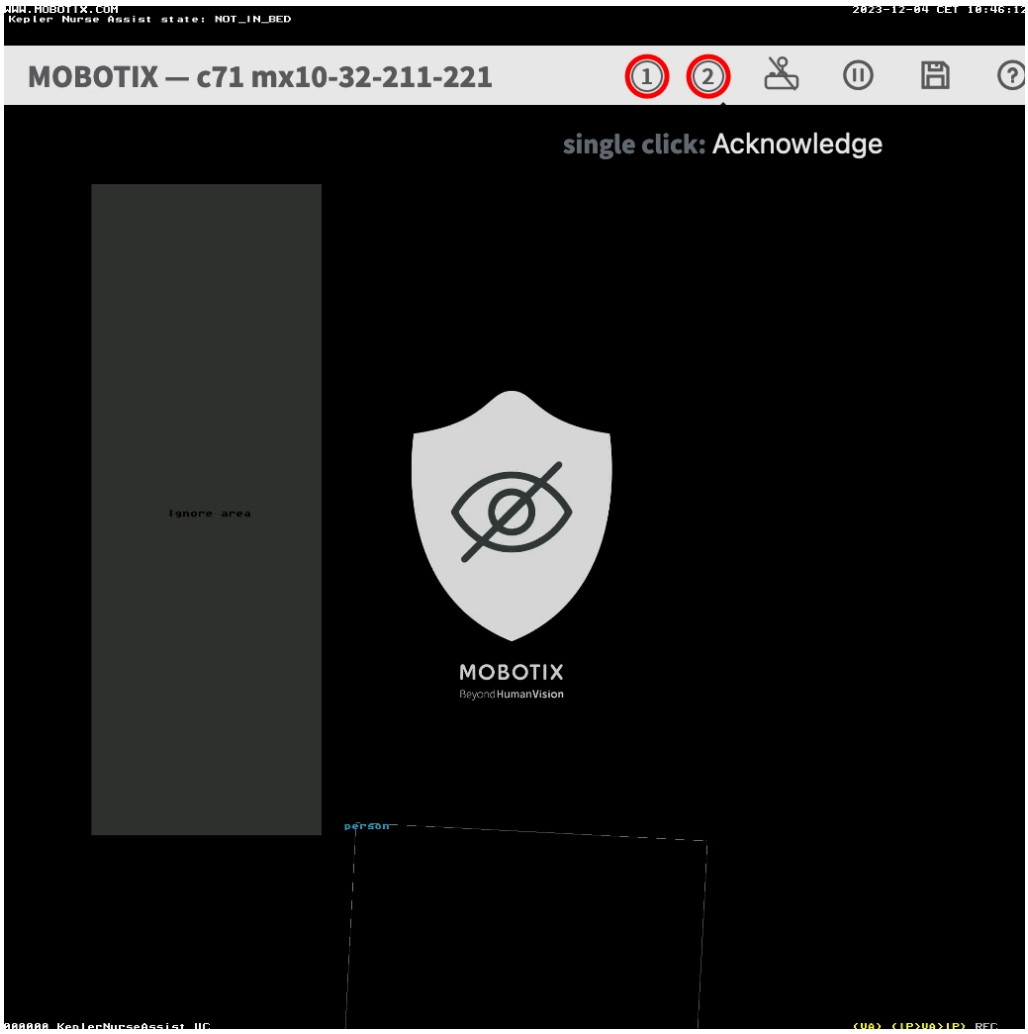
The Smart Data System in MxManagementCenter enables you to quickly find and review any suspicious activities. Use the Smart Data Bar and Smart Data View to search and analyze transactions. The Smart Data Bar provides direct access to transactions from the last 24 hours.

NOTE! Further Information

For information on using the Smart Data System, see the corresponding online help of the camera software and MxManagementCenter.

User Actions

The Kepler NurseAssist App (c71) is fully preconfigured on the camera. By default, the following buttons are available in the user interface:



- **Trigger Alarm ① :** Click this button to manually trigger the alarm. If the NurseAssist_PrivacyWorkflow (see Action Handling - Configuring Action Groups, p. 48) is enabled, the live image is unmasked for 120 seconds or until the alarm is acknowledged.
- **Acknowledge Alarm ② :** Click this button to acknowledge the alarm. If the NurseAssist_PrivacyWorkflow (see Action Handling - Configuring Action Groups, p. 48) is enabled, the live image is masked.

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Licensing

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Licensing Certified Apps

The following licenses are available for the Kepler NurseAssist App (c71):

- **30-day test license** pre-installed
- **permanent Basic license**
- **permanent Extended license**

The usage period begins with activation of the app interface (see Activation of the Certified App Interface, p. 15).

NOTE! Purchasing or Renewing a License

To purchase or renew a license, contact your **MOBOTIX Partner**.

NOTE! Manually Installing Apps

Apps are usually pre-installed with the firmware. In rare cases, an app must be downloaded from the MOBOTIX website. and installed manually. In this case, go to **www.mobotix.com > Services > Download Center > Software Downloads** to download and install the app.

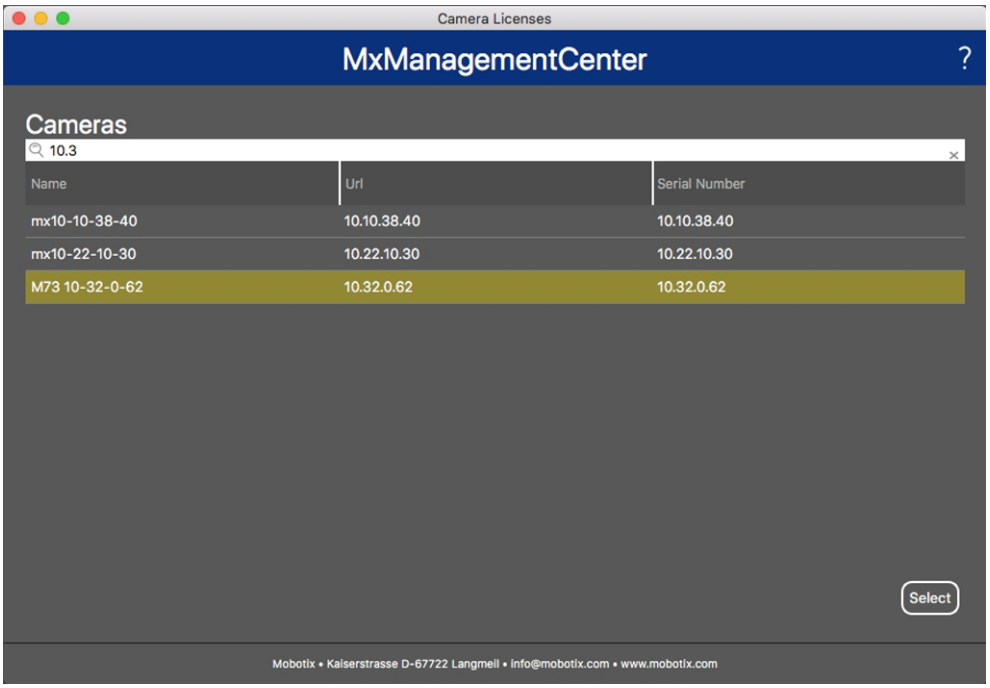
Activating Certified App Licenses in MxManagementCenter

After the test period, commercial licenses must be activated using a valid license key.

Online Activation

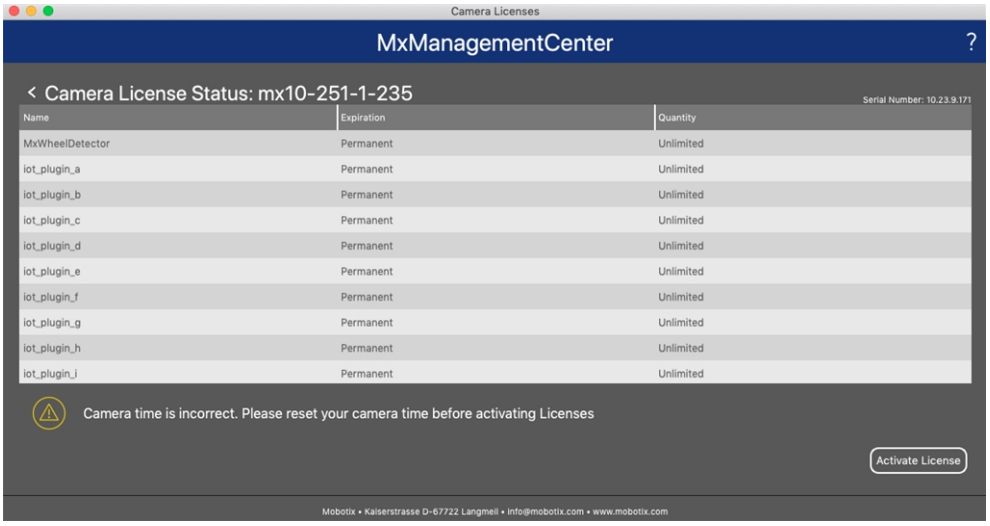
After receiving the activation IDs, activate them in MxMC as follows:

1. Select from the menu **Window > Camera App Licenses**.
2. Select the camera on which you want to license apps and click **Select**.



> **NOTE!** Check the Camera Date and Time
>
> Make sure that the date and time are set correctly on the camera.

3. An overview of the licenses installed on the camera may be displayed. Click **Activate License**.

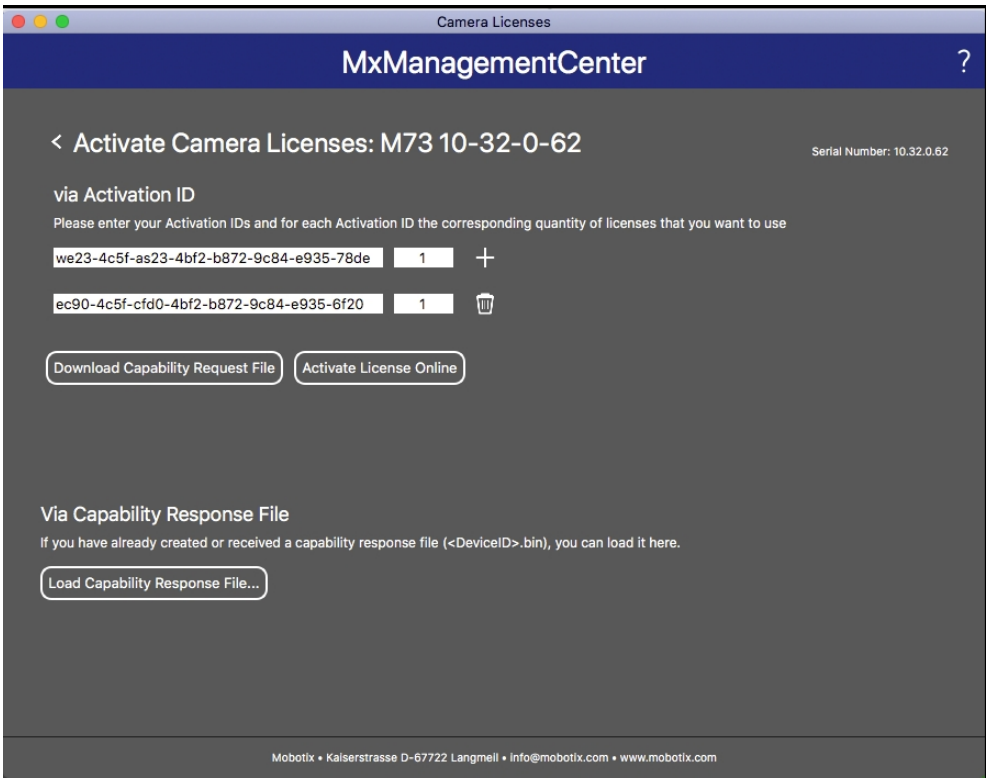


4. Enter a valid Activation ID and specify the number of licenses to install on this computer.

5. If you want to license another product, click on . In the new row, enter the appropriate Activation ID and the number of licenses you want.

6. To remove a line click .

7. When you have entered all Activation IDs, click **Activate License Online**. During activation, **MxMC** connects to the license server. This requires an Internet connection.



Successful activation

After successful activation, a new log in is required to apply the changes. Alternatively, you can return to license management.

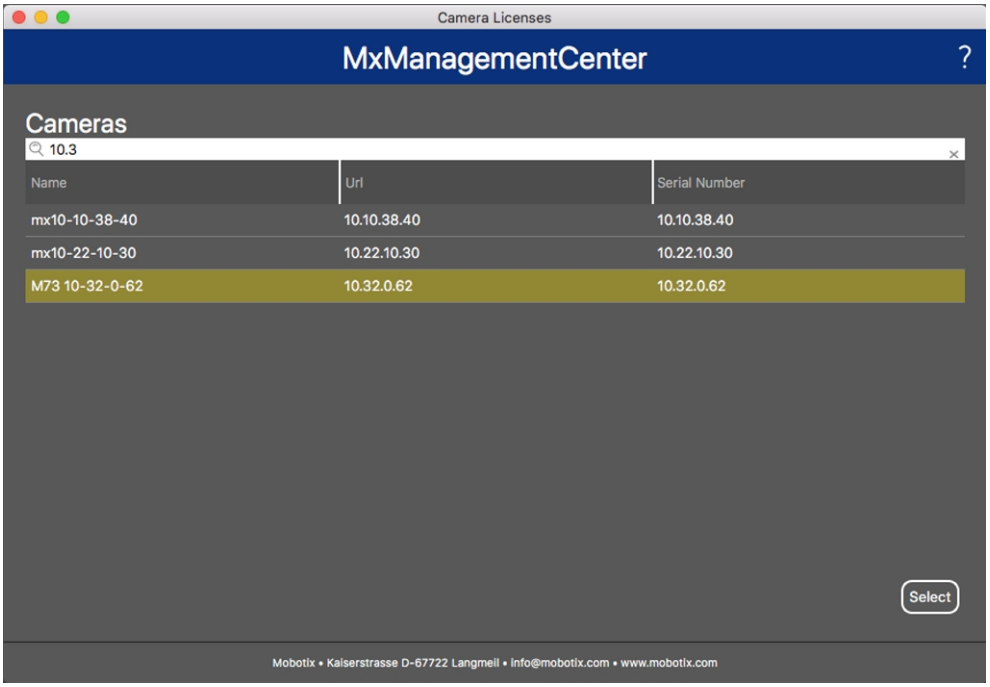
Failed activation (missing internet connection)

If the license server cannot be reached, e.g. due to a missing internet connection, apps can also be activated offline (see Offline Activation, p. 23).

Offline Activation

For offline activation, the partner or installer from whom you purchased the licenses can generate a capability response (.bin file) on the license server to activate the licenses.

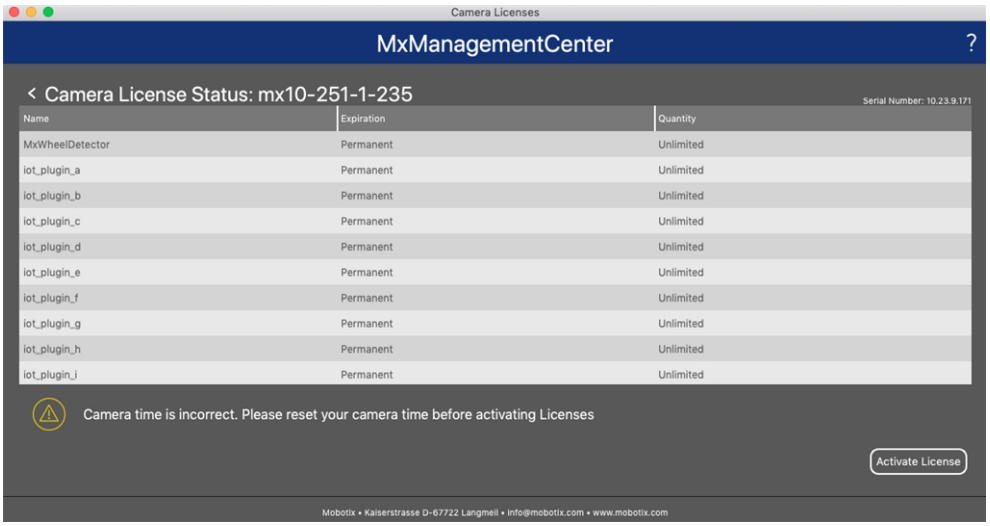
1. From the menu, select **Window > Camera App Licenses**.
2. Select the camera for which you want to license apps and click **Select**.



NOTE! Check the Camera Date and Time

Make sure that the date and time are set correctly on the camera.

3. An overview of the licenses installed on the camera is displayed. Click **Activate License**.



4. Enter a valid Activation ID and specify the number of licenses to install on the camera.

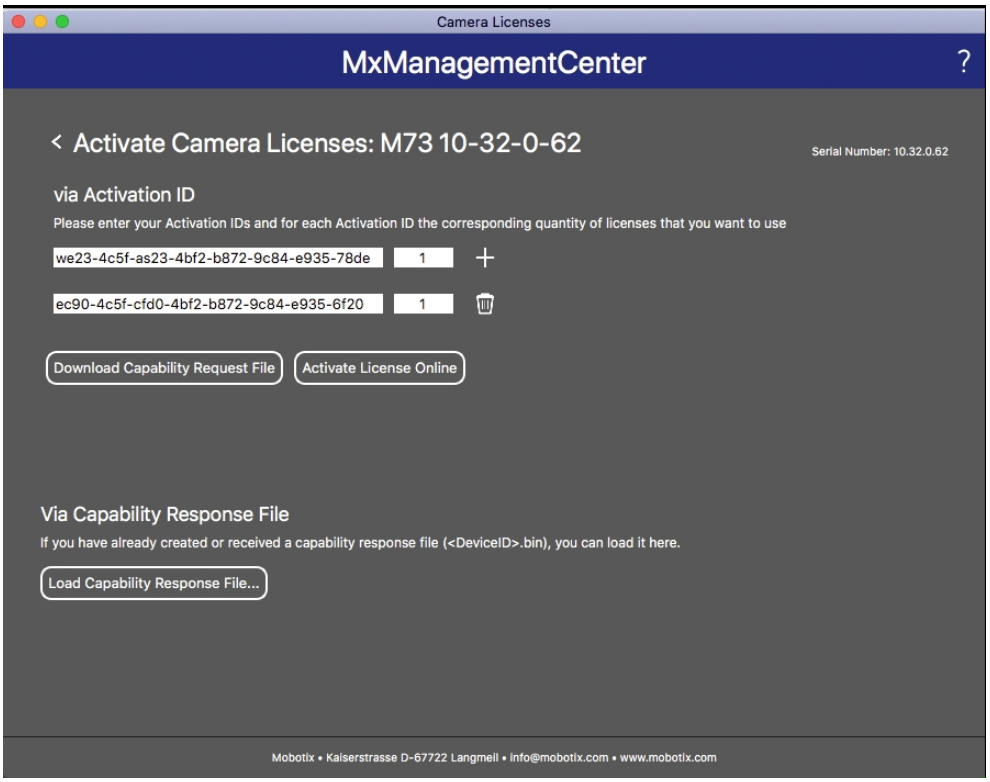
5. To license another product, click on +. In the new row, enter the appropriate **Activation ID** and the number of licenses you want.

6. If necessary, click 🗑 to remove a line.

7. After entering all Activation IDs, click **Download Capability Request File (.lic)** and send the file to your partner/installer.

   NOTE! Capability Request File (.lic)

   The Capability Request File allows the partner/installer from whom you purchased the licenses to generate a Capability Response File (.bin) on the license server.



8. Click **Load Capability Response File** and follow the instructions.

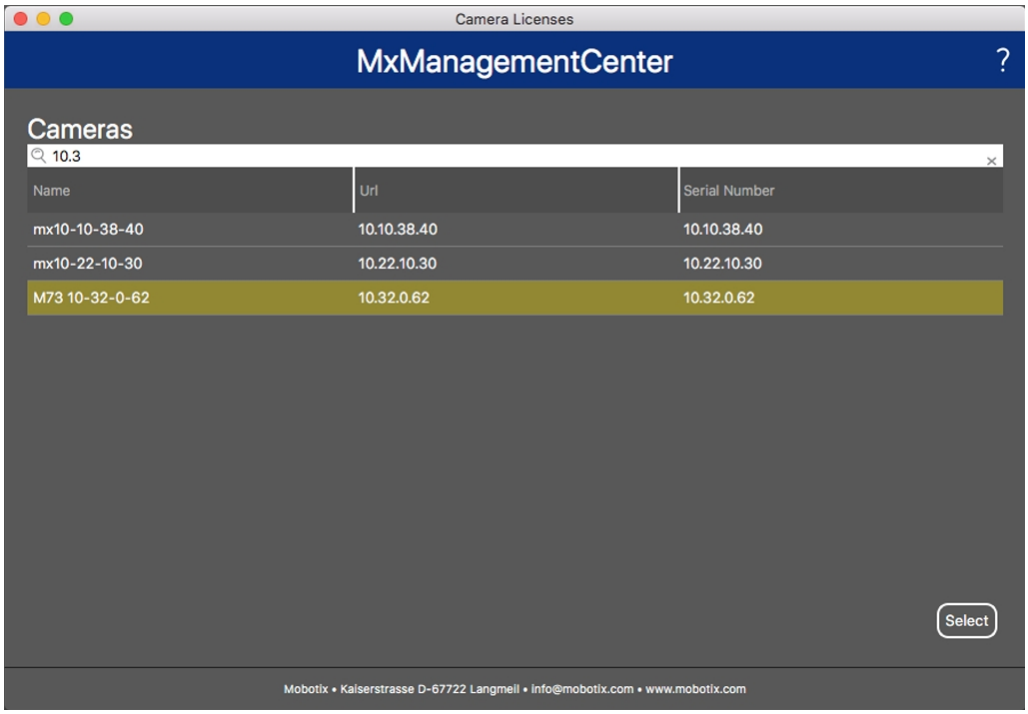
Successful Activation

After successful activation, a new login is required to apply the changes. Alternatively, you can return to license management.

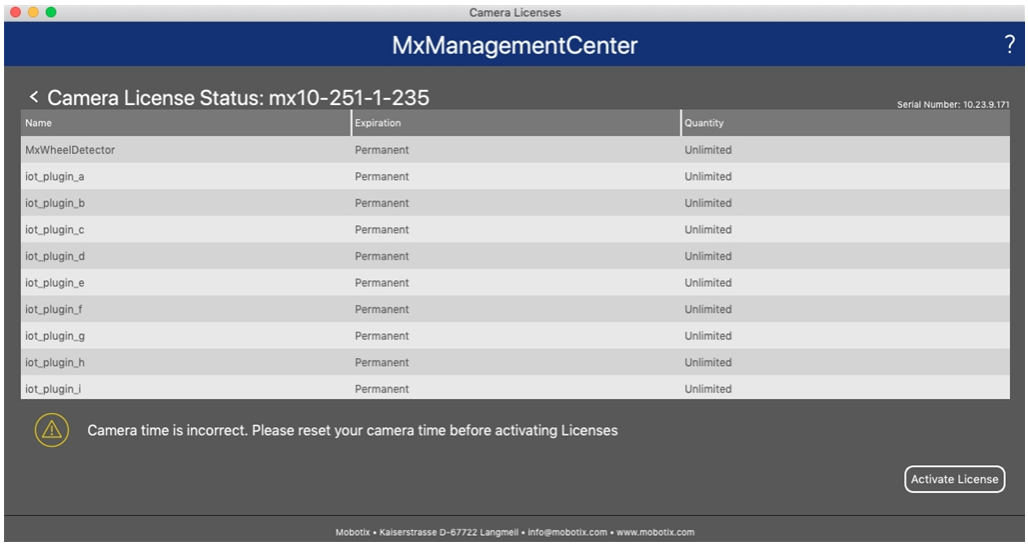
Managing Licenses in MxManagementCenter

In MxManagementCenter you can manage all licenses activated for a camera.

1. From the menu, select **Window > Camera App Licenses**.
2. Select the camera for which you want to manage licenses and click **Select**.



An overview of the licenses installed on the camera is displayed.



NOTE! Check the Camera Date and Time

Make sure that the date and time are set correctly on the camera.

Column	Explanation
Name	Name of the licensed app
Expiration	License expiration date

Column	Explanation
Quantity	Number of licenses purchased for a product.
Serial Number	Unique device ID assigned by MxManagementCenter. If licensing problems occur, have the device ID available when contacting support.

Synchronizing Licenses with the Server

Licenses are not automatically synchronized with the license server when MxManagementCenter starts. Click Update to reload the licenses from the server.

Updating licenses

To update temporary licenses, click **Activate Licenses**. The license activation dialog opens.

> **NOTE!** Administrator rights required
>
> Administrator rights are required to synchronize and update licenses.

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Technical Specifications

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General App Information

Product Name	Kepler NurseAssist App (c71)
Order Code (bundle)	Mx-c71B-NurseAssist Licenses: ■ Basic: pre-installed ■ Extended: must be ordered separately
Minimum Camera Firmware	V7.3.6
MxManagementCenter requirements	■ min. MxMC V2.9.x ■ Event Search: Smart Data Interface license included

NurseAssist Software Features According to License Tiers

NurseAssist Basic	■ Monitoring of the well-being of patients in private rooms, corridors and common areas of Healthcare facilities. ■ Minimization of reaction times due to decentralized state-of-the-art fall detection. ■ Prevention of accidents through person down, person in bed and person out of bed event. ■ Automated detection and localization of the bed in the patient's room. ■ GDPR-compliant operation through event-controlled obscuring of live and recorded images. ■ Dynamic masking of a person in bed as additional privacy protection measure.
NurseAssist Extended	Plug-In license required to extend the NurseAssist status and alarm notifications with the following functions: ■ Person is getting up from bed ■ Person sits on the edge of the bed ■ Person is getting up from a chair ■ Person has entered the bathroom / is in the bathroom ■ Person has left the room ■ Person has entered the room ■ Bed is not recognized / is not present ■ Distinction between person lying and sitting on the floor **NOTE!** The Plug-In license requires MOBOTIX NurseAssist Smart Sensor or licensed Kepler NurseAssist Certified App.

Additional features of the NurseAssist Smart Sensor	■ * IP-based bidirectional communication via integrated microphone and speaker ■ * Noise level analysis enables the detection of loud ambient noise (e.g., loud shouting). ■ Integrated shock detector for detecting physical tampering or vibrations ■ Additional device health monitoring functions, including connectivity and uptime monitoring ■ Configurable system status display via sensor status LED ■ REST API interface enables deep integration and remote control of all sensor functions **NOTE!** *The sensor's audio functions are disabled by default. If required, they can be enabled by an authorized administrator.
Meta Data / Statistic format	JSON
Supported Reporting Interfaces	JSON / XML via HTTP(S), MQTT, MxMessageSystem
Integrated Nurse Call Systems	Verified integrations documented in MOBOTIX Community (see https://community.mobotix.com/c/certified-apps/kepler-nurseassist/176)
Trial license	30-day trial license pre-installed
MxMessageSystem supported	Yes
MOBOTIX Events	Yes
ONVIF Events	Yes (Generic Message event)

Scene Requirements

Room size	max. 25m^2 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 objects blocking view)

5

Configuration

This section contains the following information:

Configuring Kepler NurseAssist App (c71) **32**

General Settings **32**

Notifications for “Hallways/common area: Fall Detection” **33**

Basic Functions 33

Notifications for “Client room: Fall Detection + In-Bed Monitoring” 33

Basic Functions 34

Extended Functions 34

MOBOTIX HUB Analytic Event **36**

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Advanced **39**

Diagnostics **40**

Storing the Configuration **40**

Configuring Kepler NurseAssist App (c71)

NOTE! Setup Menu Access Required

The user must have access to the setup menu (http(s)://<camera IP address>/control). Adjust the user rights of the camera accordingly.

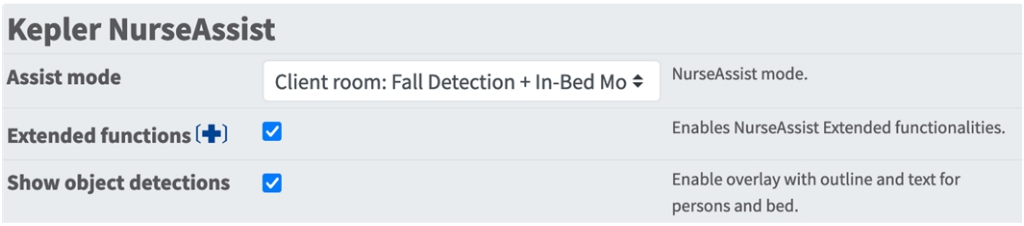
NOTE! Handling Masked Areas

- If **Dynamic bed masking** is activated, the Kepler NurseAssist App (c71) ignores and pixelates defined **Ignore areas**. While configuring, you may have to deactivate the feature (see Advanced, p. 39). Remember to activate the feature again once you have completed configuring to comply with data protection requirements.
- The Kepler NurseAssist App (c71) cannot analyze image areas that are masked in the live image using the *standard* camera features. If **Dynamic bed masking** is *deactivated* and there are still masked areas, open **Setup Menu > General Image Settings > Security Options** and set **Obscure Image Area (OA)** to *Off*, then click on **Set** and on **Close** to permanently store the entire configuration.

1. In the Smart Sensor web interface, open: **Setup Menu / Certified App Settings** (http(s)://<camera IP address>/-control/app_config).
2. Click the name of the **Kepler NurseAssist App (c71)**.

General Settings

Configure the following settings as required:



Assist mode: Select a detection mode.

Client room: Fall Detection + In Bed Monitoring: Select this option if you want the app to send a trigger when a person falls or shows unusual behavior in bed.

Hallways/common areas: Fall Detection: Select this option if you want the app to send a trigger when a person falls in a hallway or common area.

Extended functions: Select to display functions available with the extended license. Extended functions are marked with a plus symbol.

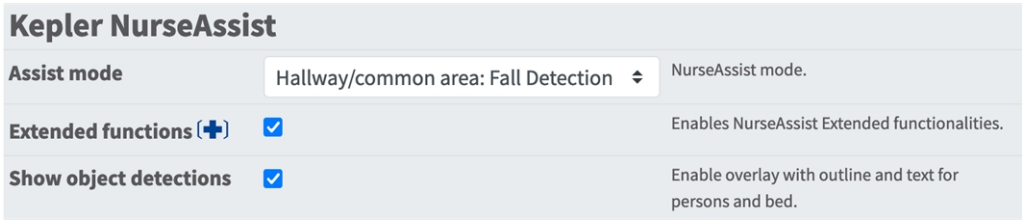
NOTE! Extended License Required

Extended functions are available with the trial version or a licensed extended version.

Show object detections: Select to display object outlines and text in the live image.

Notifications for “Hallways/common area: Fall Detection”

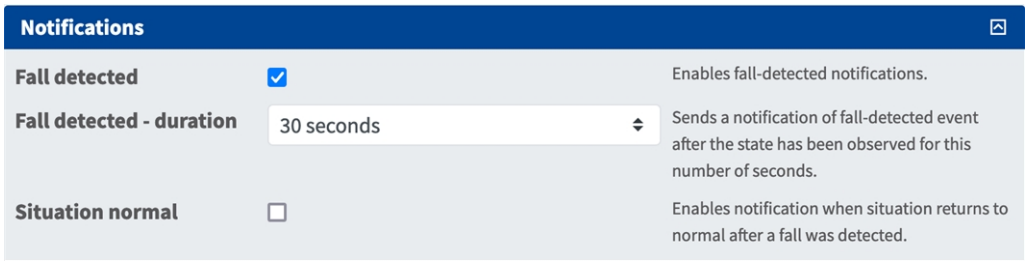
In “Hallways/common area: Fall Detection” mode, the app analyzes the video image to detect people falling in hallways or common areas.



NOTE! Door Configuration

If Extended functions are enabled, you can also specify doors under Door Configuration, p. 37.

Basic Functions



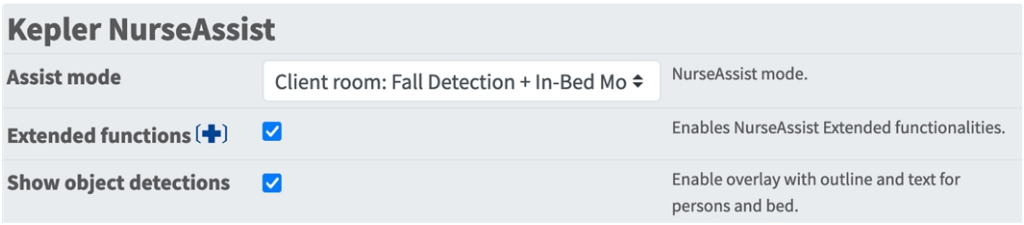
Fall detected: Select this option to send a notification when a fall is detected.

Fall detected - duration: Set how long a person must be detected as having fallen before the app sends a notification.

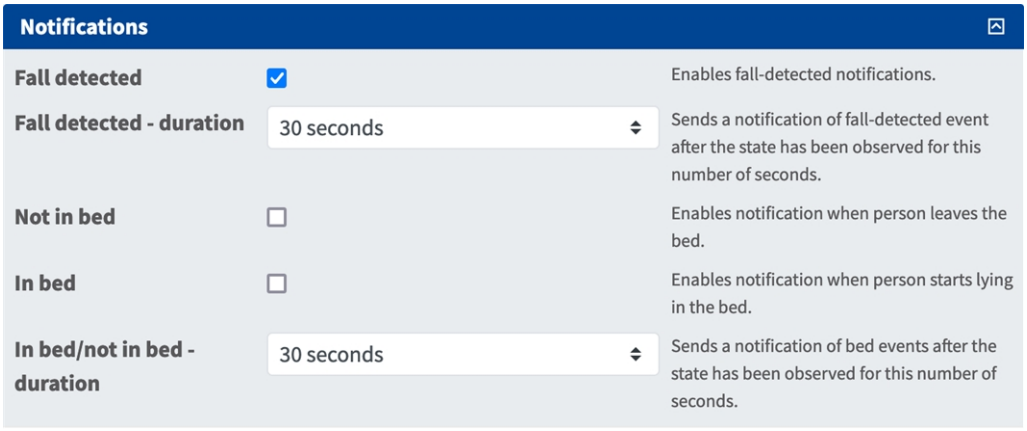
Situation normal: Select this option to send a notification when a person is detected as standing up again (normal).

Notifications for “Client room: Fall Detection + In-Bed Monitoring”

In “Client room: Fall Detection + In-Bed Monitoring” mode, the app analyzes the video image to detect people falling or showing unusual behavior in bed.



Basic Functions



Fall detected: Select this option to send a notification when a fall is detected.

Fall detected - duration: Set how long a person must be detected as having fallen before the app sends a notification.

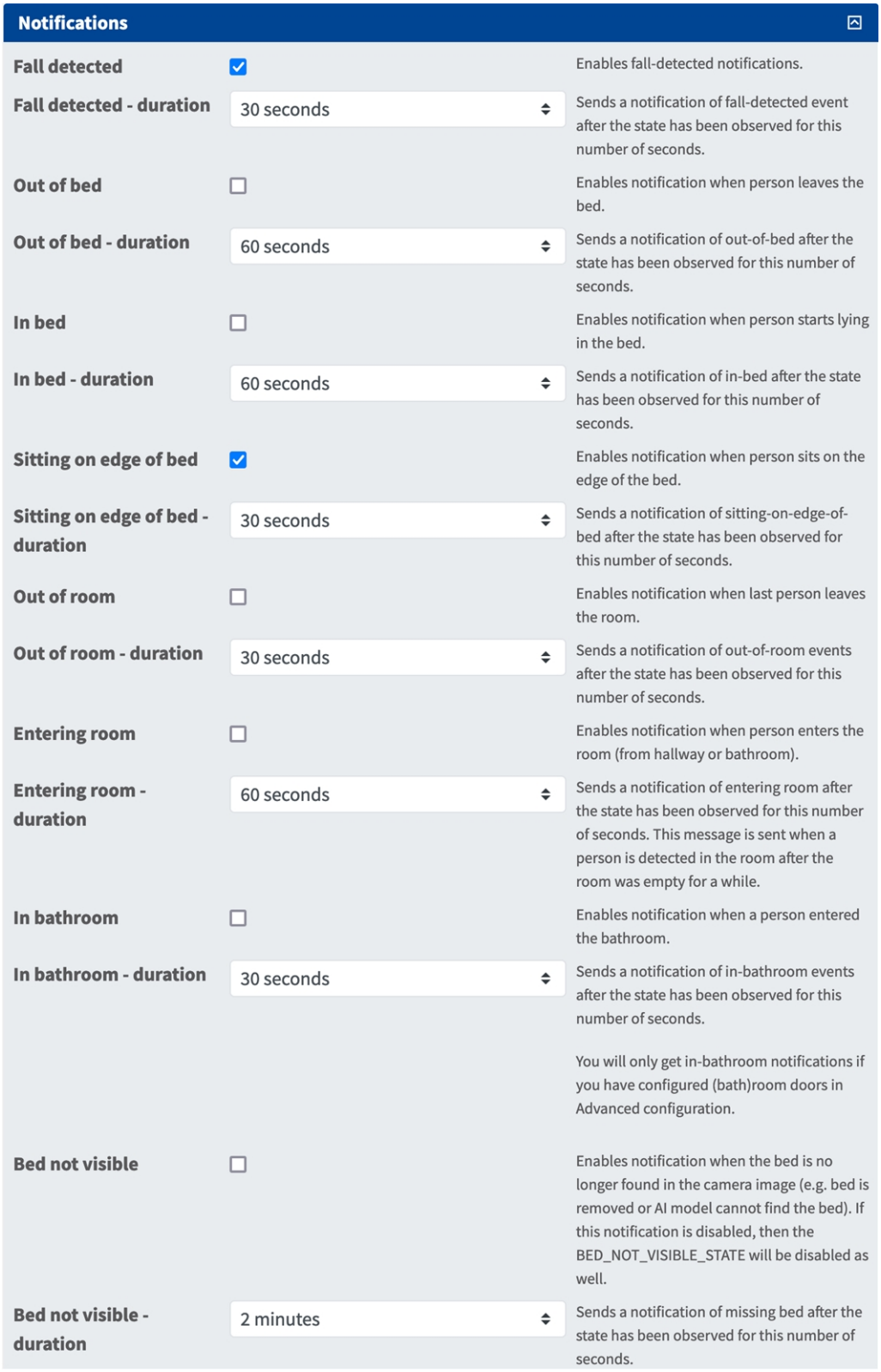
Not in bed: Select this option to send a notification when a person leaves the bed.

In bed: Select this option to send a notification when a person starts lying in the bed.

In bed / not in bed - duration: Set how long a person must be detected as in or out of bed before the app sends a notification.

Extended Functions

The following functions are available only if you have enabled Extended functions in the General Settings, p. 32.



Notifications		
Fall detected	☑	Enables fall-detected notifications.
Fall detected - duration	30 seconds	Sends a notification of fall-detected event after the state has been observed for this number of seconds.
Out of bed	☐	Enables notification when person leaves the bed.
Out of bed - duration	60 seconds	Sends a notification of out-of-bed after the state has been observed for this number of seconds.
In bed	☐	Enables notification when person starts lying in the bed.
In bed - duration	60 seconds	Sends a notification of in-bed after the state has been observed for this number of seconds.
Sitting on edge of bed	☑	Enables notification when person sits on the edge of the bed.
Sitting on edge of bed - duration	30 seconds	Sends a notification of sitting-on-edge-of-bed after the state has been observed for this number of seconds.
Out of room	☐	Enables notification when last person leaves the room.
Out of room - duration	30 seconds	Sends a notification of out-of-room events after the state has been observed for this number of seconds.
Entering room	☐	Enables notification when person enters the room (from hallway or bathroom).
Entering room - duration	60 seconds	Sends a notification of entering room after the state has been observed for this number of seconds. This message is sent when a person is detected in the room after the room was empty for a while.
In bathroom	☐	Enables notification when a person entered the bathroom.
In bathroom - duration	30 seconds	Sends a notification of in-bathroom events after the state has been observed for this number of seconds. You will only get in-bathroom notifications if you have configured (bath)room doors in Advanced configuration.
Bed not visible	☐	Enables notification when the bed is no longer found in the camera image (e.g. bed is removed or AI model cannot find the bed). If this notification is disabled, then the BED_NOT_VISIBLE_STATE will be disabled as well.
Bed not visible - duration	2 minutes	Sends a notification of missing bed after the state has been observed for this number of seconds.

NOTE! Door Configuration Required

To use the “**Out of room**”, “**Entering room**”, and “**In bathroom**” functions, you must specify the doors under **Door Configuration, p. 37**.

Fall detected: Select this option to send a notification when a fall is detected.

Fall detected - duration: Set how long a person must be detected as having fallen before the app sends a notification.

Out of bed: Select this option to send a notification when a person leaves the bed.

Out of bed - duration: Set how long a person must be detected as out of bed before the app sends a notification.

In bed: Select this option to send a notification when a person is detected in bed.

In bed - duration: Set how long a person must be detected as in bed before the app sends a notification.

Sitting on edge of bed: Select this option to send a notification when a person sits on the edge of the bed.

Sitting on edge of bed - duration: Set how long a person must be detected as sitting on the edge of the bed before the app sends a notification.

Entering room: Select this option to send a notification when a person enters a room.

Entering room - duration: Set how long a person must be detected as being in the room before the app sends a notification.

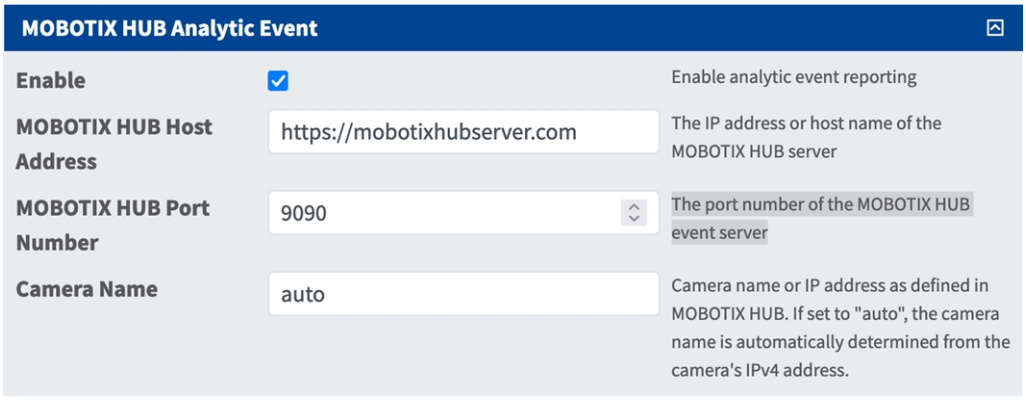
In bathroom: Select this option to send a notification when a person enters the bathroom.

In bathroom - duration: Set how long a person must be detected in the bathroom before the app sends a notification.

Bed not visible: Select this option to send a notification when the bed is no longer detected in the camera image (e.g., the bed has been removed or the AI model cannot detect it).

Bed not visible - duration: Set how long the bed must not be detected in the camera image before the app sends a notification.

MOBOTIX HUB Analytic Event



MOBOTIX HUB Analytic Event: The Analytics Events feature allows you to send MAD (Milestone Alert Data) formatted alerts to the MOBOTIX HUB event server over TCP/IP.

Enable: Select to enable and configure MOBOTIX HUB Analytic Event reporting.

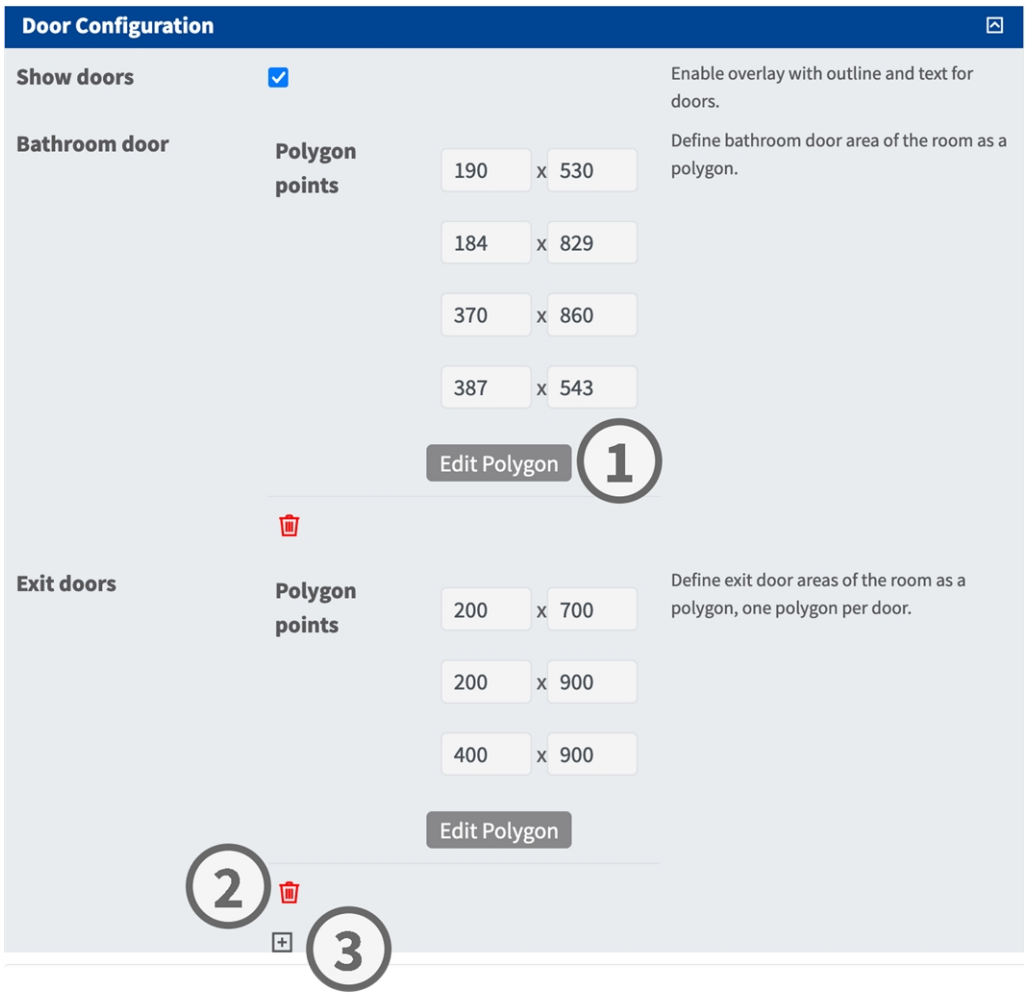
MOBOTIX HUB Host Address: Enter the URL of the MOBOTIX HUB Server (e.g. http://mobotixhubserver.com).

MOBOTIX HUB Port Number: Enter the port number of the MOBOTIX HUB event server.

Camera name: Enter the camera name or IP address as defined in MOBOTIX HUB If set to “auto”, the camera name is automatically determined from the camera’s IPv4 address.

Door Configuration

To use the "Notifications for “Hallways/common area: Fall Detection”, p. 33" or the "Out of room", "Entering room" and "In bathroom" functions (see Notifications for “Client room: Fall Detection + In-Bed Monitoring”, p. 33), you must specify the corresponding doors in the room.



Show doors: Select to display the doors in the live image.

Bathroom door / Exit doors

Polygon Points: Defines the corner points of the door area.

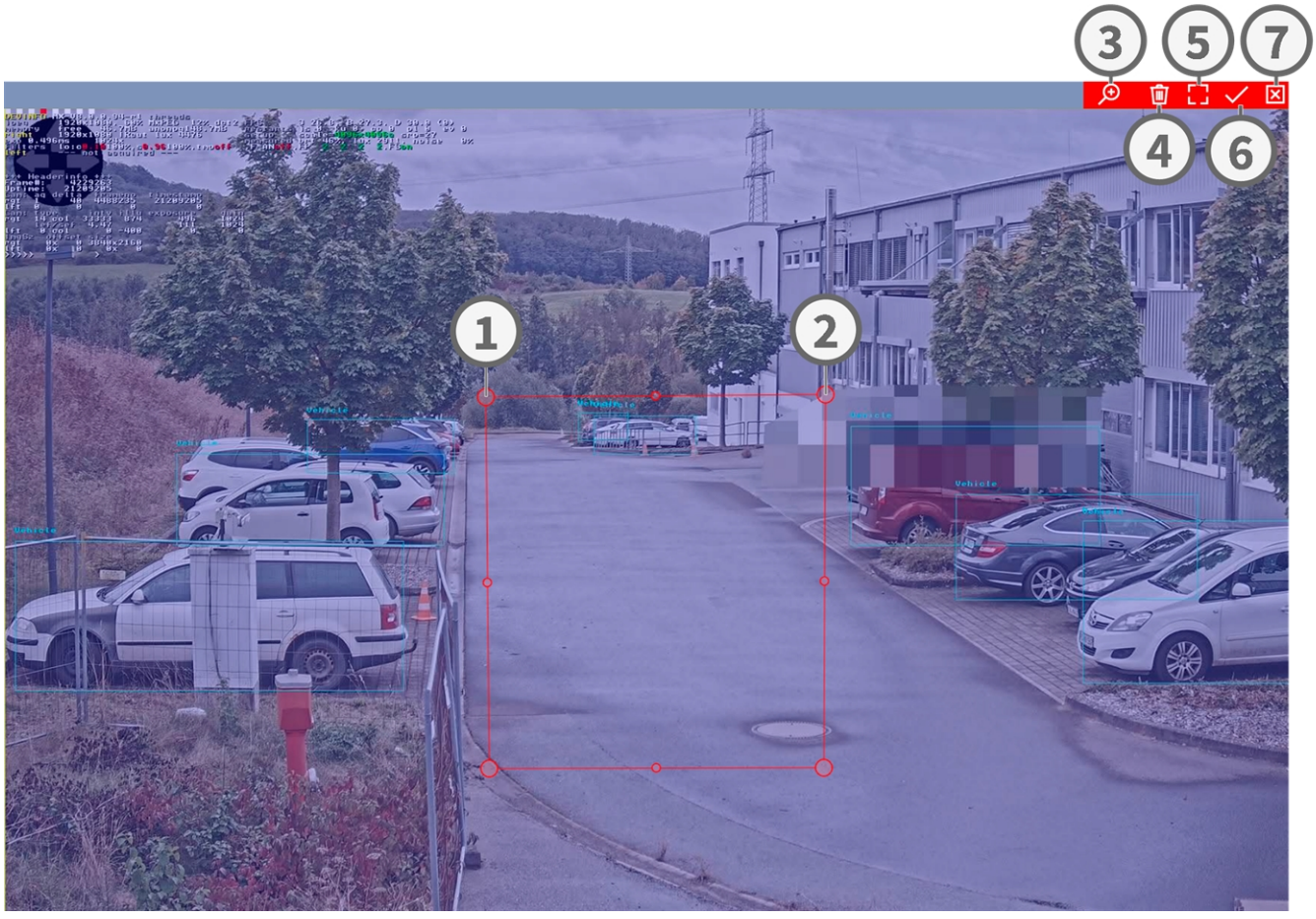
Edit Polygon: Click **Edit Polygon**① to draw a door in Live View (see Drawing a Polygon Area in the Live View, p. 38).

Add a door: Click the **plus** icon ② to add another door.

Delete a door: Click the **trashcan** icon ③ to remove the door.

Drawing a Polygon Area in the Live View

Depending on the app, you can define areas such as **Detection Areas**, **Excluded Areas**, **Reference Areas**, or **Ignore Areas** as polygons directly in the Live View.



After clicking **Edit Polygon**, the editor opens with the live image and a predefined polygon.

1. Drag the corner points ① of the polygon to the desired positions.
2. To add another corner point, drag a smaller point ② between two corner points on the contour of the area.
3. Click **Zoom in/out**③ to zoom the live image in or out.

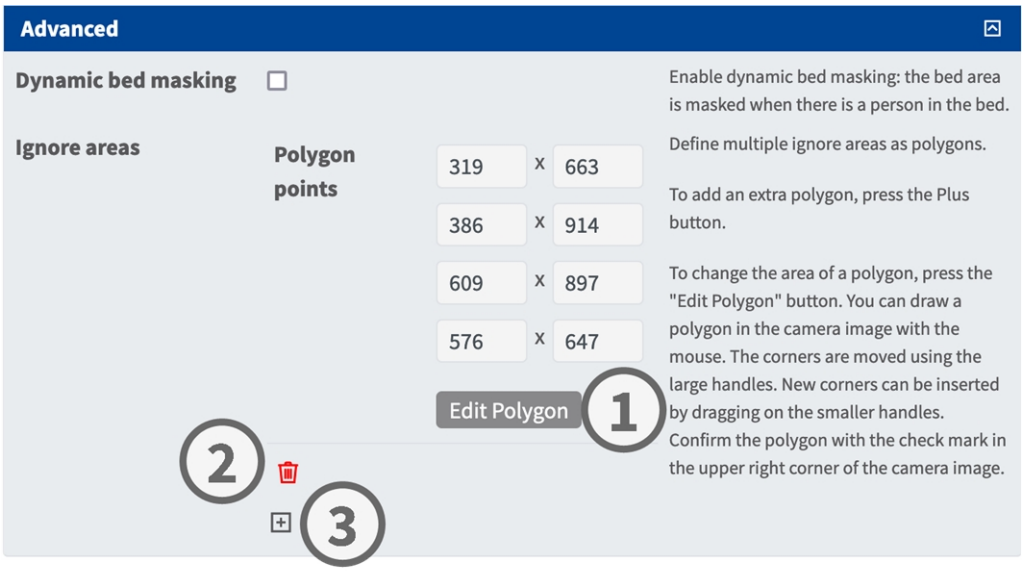
4. Click **Delete**④ to delete the polygon. Then click and drag to draw a new rectangular area.
5. Click **Maximize**⑤ to extend the polygon to the entire camera image.
6. Click **Submit**⑥ to apply the polygon coordinates to the configuration.
7. Click **Cancel**⑦ to close the editor without saving your changes

Advanced

You can configure Dynamic bed masking and Ignore areas. If no Ignore Area is defined, the entire image is used for detection.

NOTE! Monitoring Area

It is strongly recommended to monitor only one bed with each Smart Sensor. Beds and objects that are not to be monitored must be excluded using Ignore Areas. Objects are ignored only if their detection boxes are completely within an Ignore Area.



Dynamic bed masking: Select to mask the bed area when a person is in bed.

Ignore areas

Polygon points: Defines the corner points of the Ignore Area.

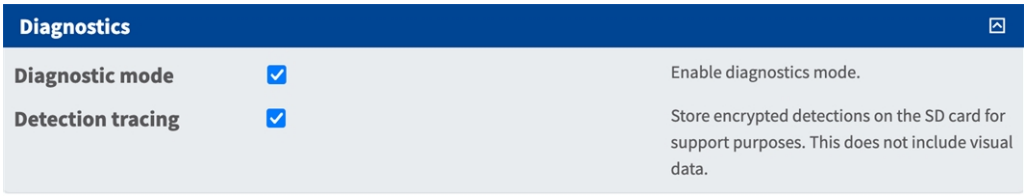
Edit Polygon: Click **Edit Polygon**① to draw the Ignore Area in the Live View (see Drawing a Polygon Area in the Live View, p. 38).

Add an Ignore area: Click the **plus** icon ② to add another Ignore Area.

Delete an Ignore Area: Click the **trashcan** icon ③ to remove the Ignore Area.

Diagnostics

Configure the diagnostic options as required.



Diagnostic mode: Select to enable diagnostic mode.

Detection tracing: Select to store encrypted detection data on the SD card for support purposes. No visual data is stored.

Storing the Configuration

Use the following buttons to manage the configuration:



- **Set:** Applies the current settings. The settings remain active until the next camera reboot.
- **Factory:** Restores the factory default settings for this dialog (not available in all dialogs).
- **Restore:** Discards all unsaved changes and restores the last saved configuration.
- **Close:** Closes the dialog. If unsaved changes are detected, you will be prompted to permanently save the configuration.

After saving the configuration, event and metadata information is automatically generated and transmitted when an event is triggered.

6

Testing

This section contains the following information:

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Before Testing 42

Testing the c71 NurseAssist 42

Testing Fall Detection and In-Bed Monitoring **42**

Testing Fall Detection **43**

Testing the App Functionality

Before Testing

- Make sure the app is activated (see Activation of the Certified App Interface, p. 15).
- Make sure the camera is correctly configured (see Configuring Kepler NurseAssist App (c71), p. 32).

Testing the c71 NurseAssist

1. Adjust the operating mode to the function applicable:
   - **Fall detection + In-Bed monitoring:** use this mode for cameras placed in client rooms
   - **Fall detection:** use this mode for cameras placed in hallways and common areas
2. Enable **Show object detections**. With this option persons are displayed with blue boxes and beds with yellow boxes.
3. Make sure to test every state for at least 60 seconds. Only state changes trigger the state change and are shown live in the image.

NOTE! Functional Testing and Revalidation

During the first month of operation, regularly check the system's functionality and adjust the configuration and/or mounting position as required.

Repeat the full testing process at least yearly, or after making structural changes to the spaces that are monitored (e.g. different furniture, different flooring, etc.)

Testing Fall Detection and In-Bed Monitoring

Function	Appearance of the layer in the live image	State text
Camera startup		INITIALIZING
Empty bed, nobody in the room	Bed with yellow box and yellow label ‘bed’	NOT_IN_BED
Person in bed	Bed with yellow box and pink label ‘bed’ + pink label ‘PERSON IN BED’ Person with blue box and blue label ‘person’	IN_BED

Function	Appearance of the layer in the live image	State text
Person sitting on the edge of bed	Bed with yellow box and yellow label ‘bed’ Person with blue box and yellow label ‘person – SITTING ON-EDGE OF BED’	SITTING_ON_EDGE_OF_ BED_STATE
Person standing in the room	Bed with yellow box and yellow label ‘bed’ Person with blue box and label ‘person’	OUT_OF_BED_STATE
Person lying or sitting on the floor	Bed with yellow box and yellow label ‘bed’ Person with red box and label ‘person – LYING OR SITTING ON-FLOOR’	FALL_DETECTED
Bed not visible		BED_NOT_VISIBLE
Person in bathroom	Bed with yellow box and yellow label ‘bed’	IN_BATHROOM
Person back in the room from bathroom	Bed with yellow box and yellow label ‘bed’	IN_BATHROOM

Testing Fall Detection

Function	Appearance of the layer in the live image	Status text in the image
Camera startup		INITIALIZING
Nobody visible in the hallway (or com-mon area)		SITUATION_NORMAL
A person standing in hallway	Blue box and label ‘person’	SITUATION_NORMAL
A person lying or sitting on the floor in hallway	Red box and label ‘person – LYING OR SITTING ON-FLOOR’	FALL_DETECTED

7

MxMessageSystem

This section contains the following information:

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Facts about MxMessages **46**

MxMessageSystem: Processing the generated app event **46**

Checking Automatically Generated App Events 46

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MxMessageSystem: Processing the meta data transmitted by apps 53

Metadata Transfer via MxMessageSystem 53

Creating a Custom Message Event 54

Examples for message names and filter values of the Kepler NurseAssist App (c71) 56

What is MxMessageSystem?

MxMessageSystem is a communication system based on uniquely named messages. Each message must have a unique name with a maximum length of 32 bytes.

Each participant can send and receive messages. MOBOTIX cameras can also forward messages within the local network. This allows MxMessages to be distributed throughout the entire local network(see Message Area: Global).

For example, a MOBOTIX 7 series camera can exchange an MxMessage generated by a camera app with an Mx6 camera that does not support certified MOBOTIX apps.

Facts about MxMessages

- 128-bit encryption ensures the privacy and security of message content.
- MxMessages can be distributed from any camera of the Mx6, 7 and 8 series.
- The message range can be defined individually for each MxMessage.
  - **Local:** The camera expects an MxMessage within its own camera system (e.g., from a Certified App).
  - **Global:** The camera expects an MxMessage distributed over the local network by another MxMessage device (e.g. another camera of the MOBOTIX 7/8 series equipped with a certified MOBOTIX app).
- Actions to be performed by the recipients are configured individually for each participant in the MxMessageSystem.

MxMessageSystem: Processing the generated app event

Checking Automatically Generated App Events

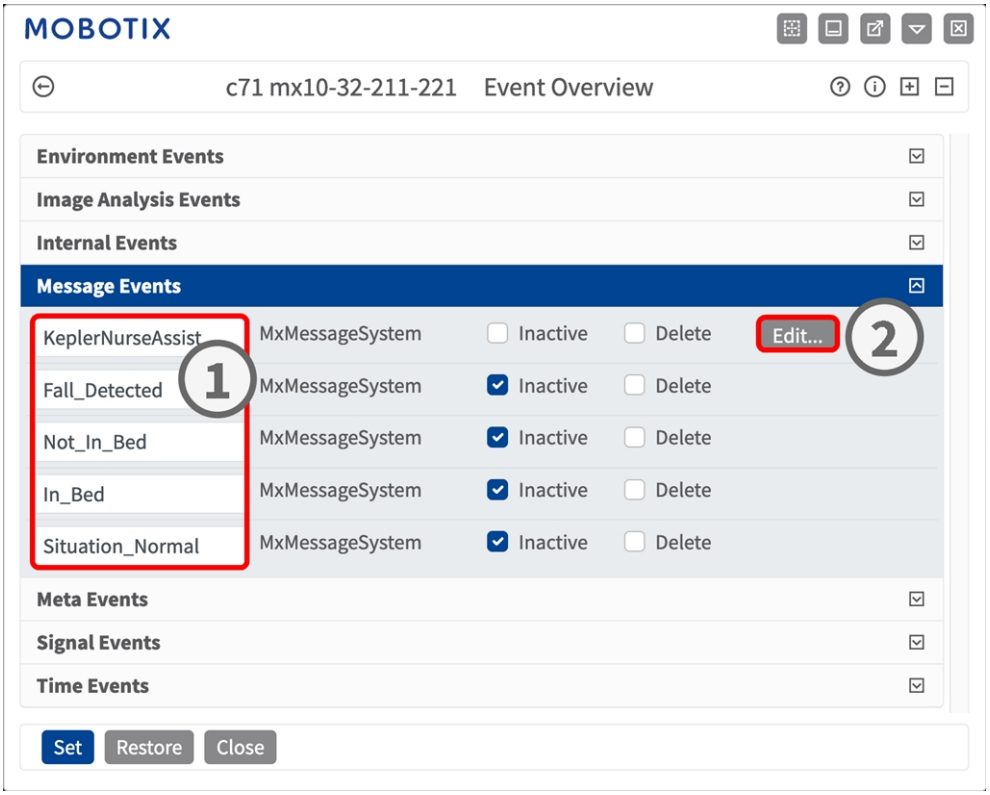
The Kepler NurseAssist App (c71) is fully pre-configured on the Smart Sensor. By default, the following app-specific message events are available:

- KeplerNurseAssist
- Fall_Detected
- Not_In_Bed
- In_Bed
- Situation_Normal

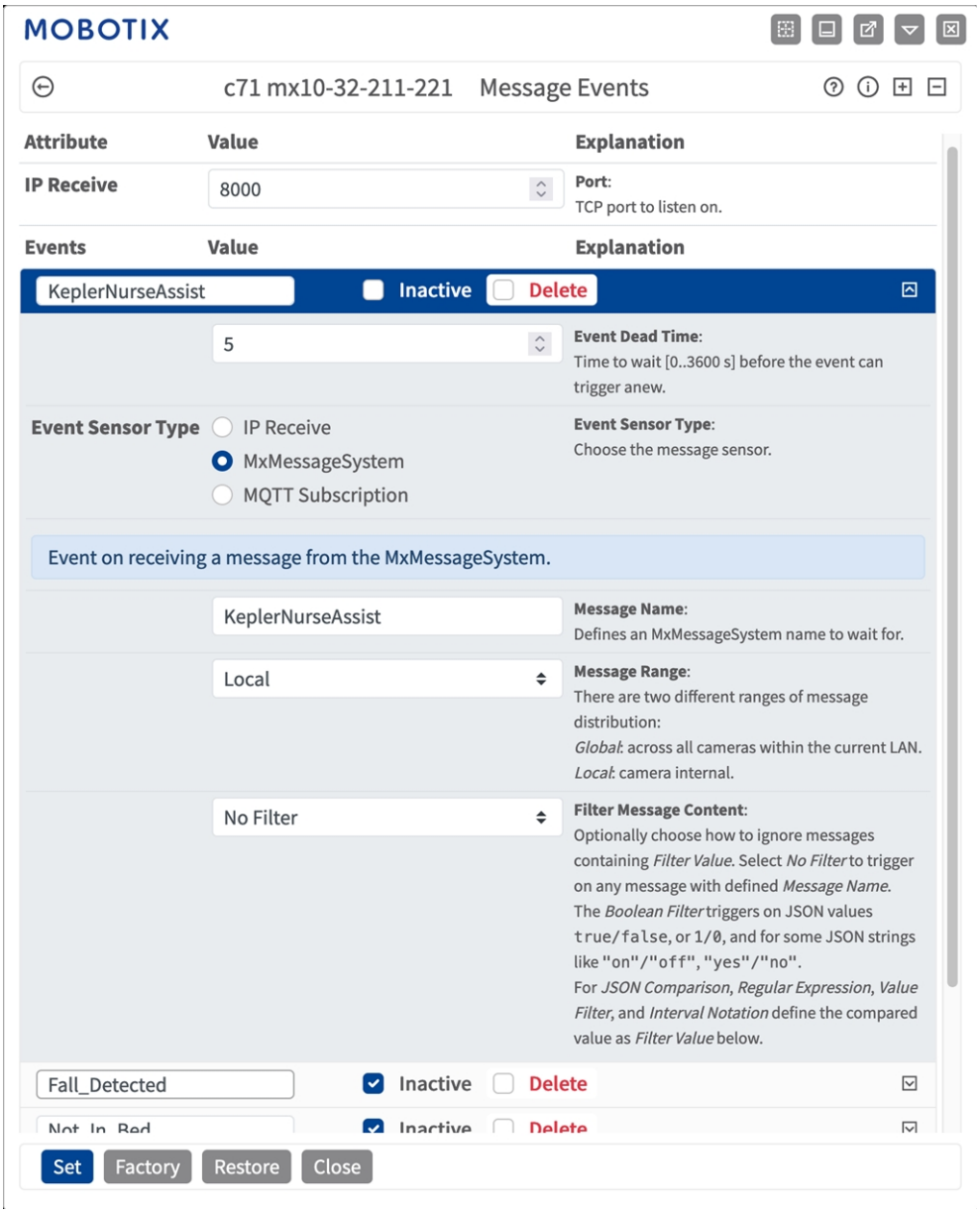
NOTE! Generic Message Events

After successfully activating the app (see **Activation of the Certified App Interface, p. 15**), generic message events for the Kepler NurseAssist App (c71) are automatically available.

1. Go to **Setup-Menu / Event Control / Event Overview**. In the **Message Events** section, the automatically generated message events are listed ① .



2. Click **Edit**② to view and configure the message events.



Action Handling - Configuring Action Groups

The Kepler NurseAssist App (c71) is fully preconfigured on the camera. By default, the following app-specific Action Groups are available:

NurseAssist_VisualAlarm: This Action Group is armed by default.

NurseAssist_PrivacyWorkflow: This Action Group is not armed by default. When enabled the Smart Sensor image is masked by default. When a relevant NurseAssist event or user click is triggered,the image is unmasked for 120 seconds or until the alarm is acknowledged (see User Actions, p. 16).

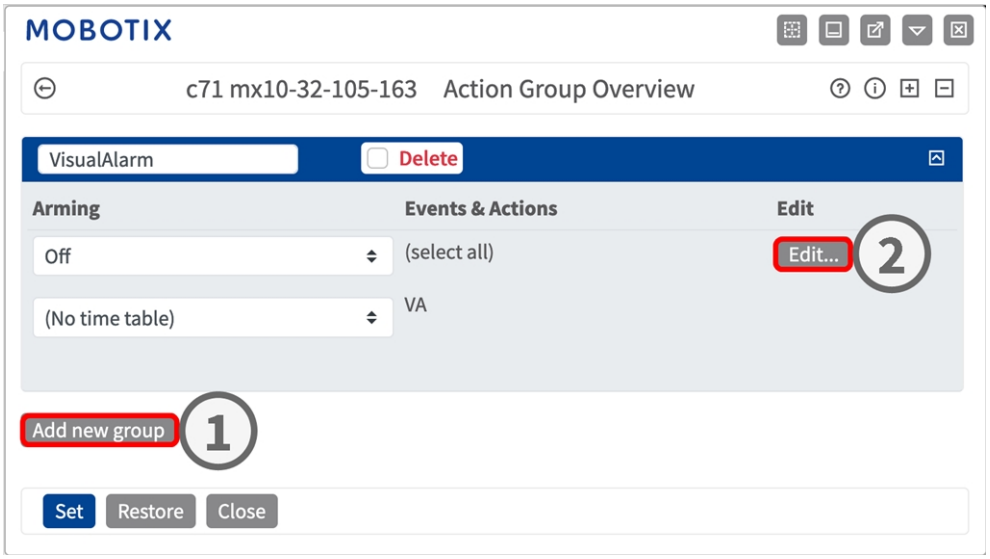
NOTE! General Arming Required

To use events, trigger actions or record images, the general arming of the camera must be enabled in **Setup Menu > General Event Settings**.

An Action Group defines which actions are triggered by Kepler NurseAssist App (c71) events.

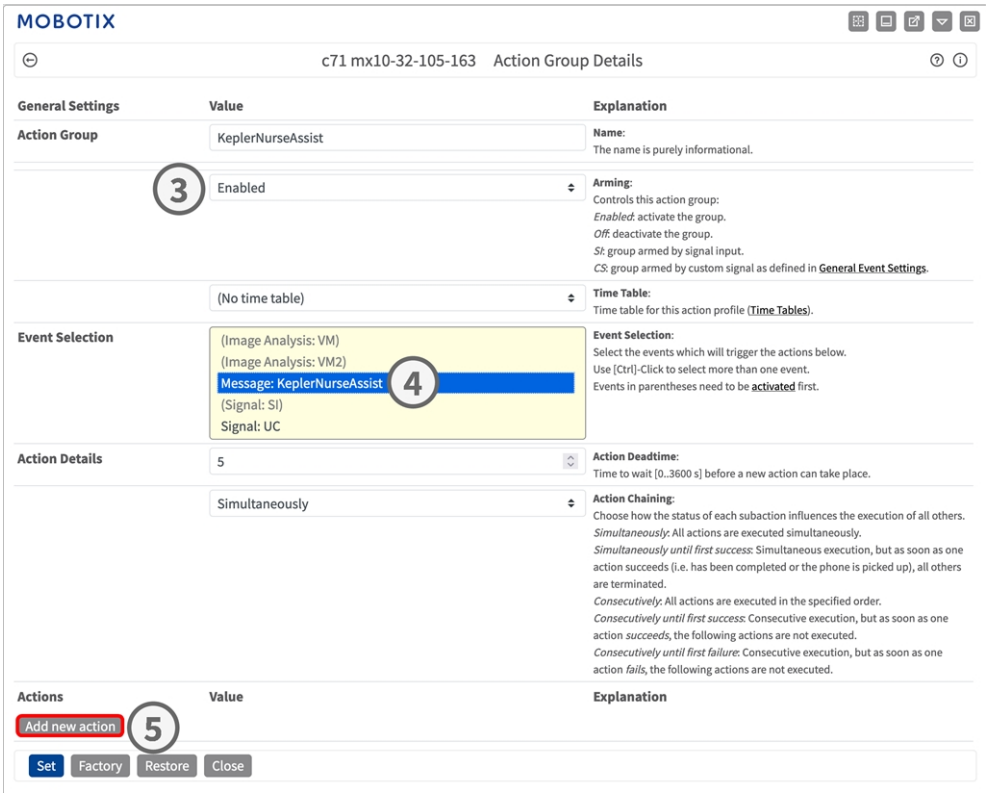
To create additional Action Groups, follow these steps:

1. In the Smart Sensor web interface, open **Setup Menu / Event Control / Action Group Overview**.



2. Click **Add new group**① .

3. Click **Edit**② , to configure the Action Group.

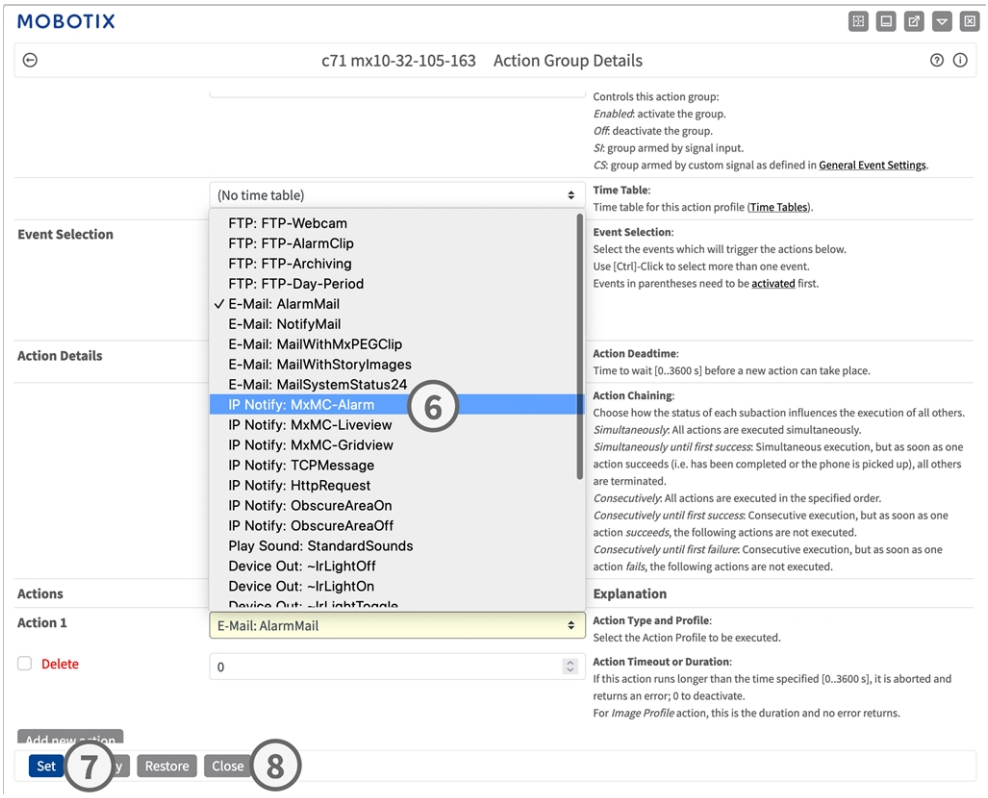


4. Enable **Arming**③ of the Action Group.

5. Select the message event from the **Event Selection** list ④ . To select multiple events, hold the shift key.

6. Click **Add new action**⑤ .

7. Select the appropriate action from the **Action Type and Profile**⑥ list.



> **NOTE!** Creating Action Profiles
>
> If the required action profile is not yet available, create it in the appropriate section of the **Admin Menu**, such as **Transfer Profiles** or **Audio and VoIP Telephony**.

> **NOTE!** Adding Multiple Actions
>
> If required, click the button again to add further actions. When using multiple actions, make sure that **Action Chaining** is configured appropriately (e.g., **At the same time**).

8. Click **Set**⑦ to apply the settings.

9. Click on **Close**⑧ and confirm the prompt to permanently save the configuration.

Action Settings – Configuring Camera Recording

1. In the Smart Sensor web interface, open: **Setup Menu / Event Control / Recording** (http(s)://<camera IP address>/-control/recording).



2. Enable **Arm Recording**① .

3. Under **Storage Settings** / **Recording (REC)** select a **Recording mode**② . The following modes are available:

   - Snap Shot Recording
   - Event Recording
   - Continuous Recording

4. From the **Start recording** list ③ select the message event just created.

5. Click on the **Set** button ④ to apply the settings.

6. Click on **Close**⑤ and confirm the prompt to permanently save the configuration.

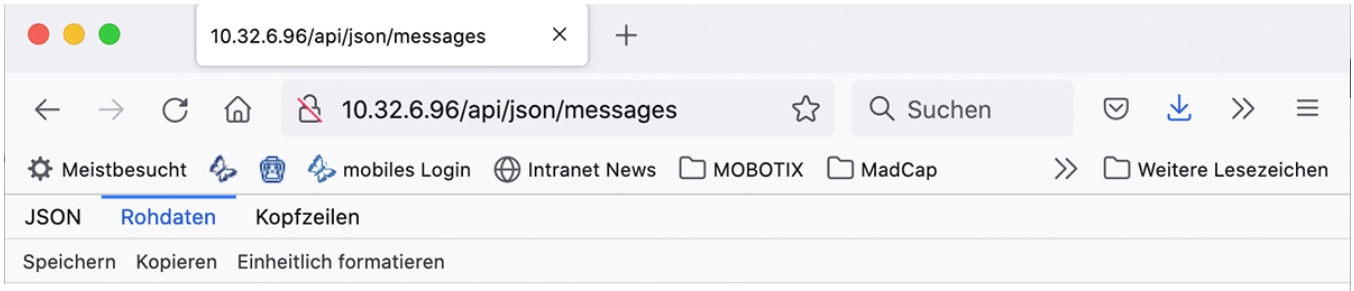
NOTE! Saving the Configuration

Alternatively, you can save the configuration permanently under **Admin Menu > Configuration > Store current configuration permanently (to flash)**.

MxMessageSystem: Processing the meta data transmitted by apps

Metadata Transfer via MxMessageSystem

For each event, the app also transfers metadata to the Smart Sensor. The metadata is sent as JSON within an MxMessage.




```
{
  "local" :
  {
    "KeplerNurseAssist" :
    {
      "notification" :
      {
        "cameraName" : "mx10-32-103-103",
        "cameraSerial" : "mx10-32-103-103",
        "notificationType" : "FallDetected",
        "timestamp" : "2024-01-10T06:54:58Z",
        "timestampUnix" : 1704869698,
        "uuid" : "66b772ff-82d2-2516-127b-0045c9c5e7ec"
      }
    }
  }
}
```

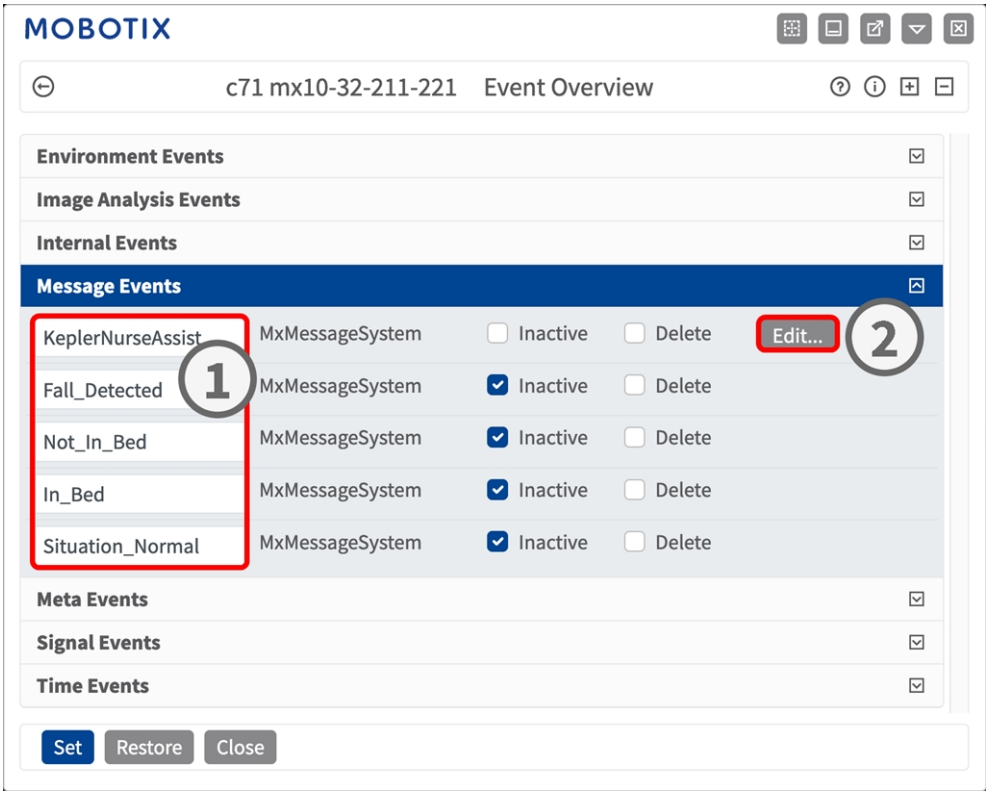

NOTE! Viewing Event Metadata

To view the metadata of the most recent app event, enter the following URL in your browser's address bar:

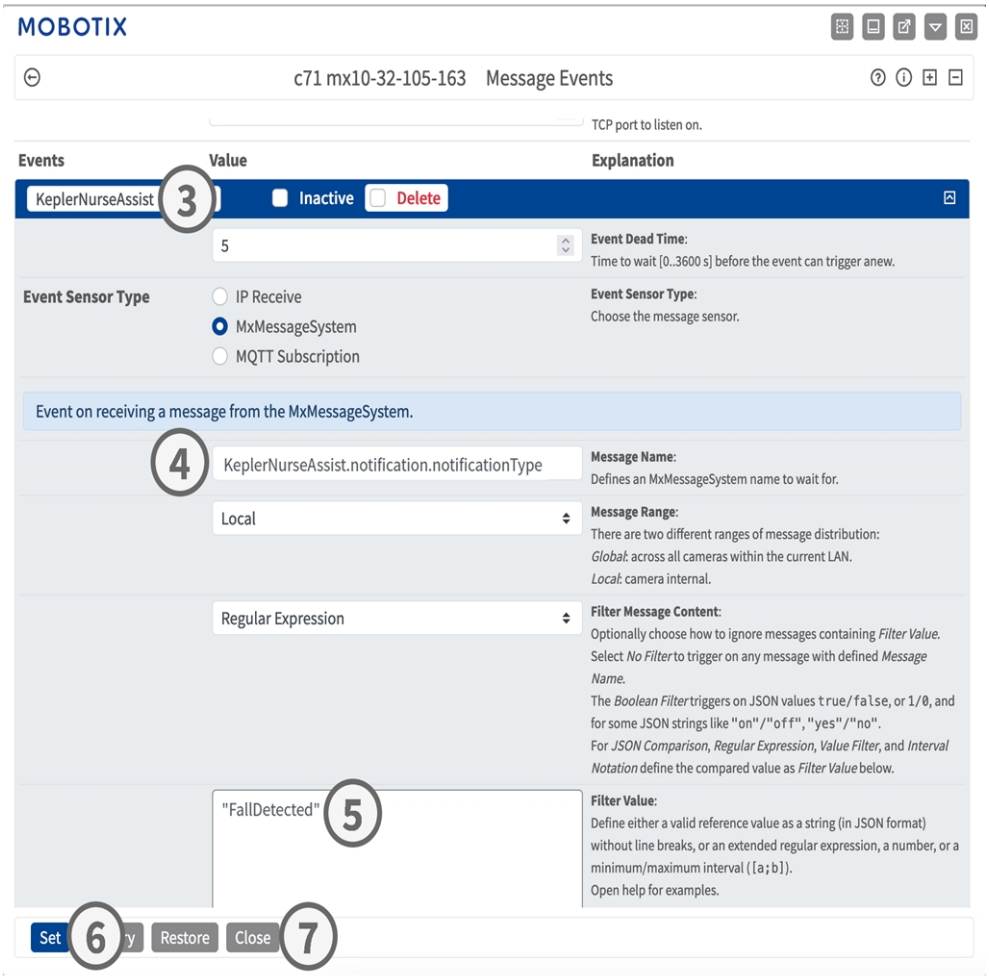
http(s)://<camera IP address>/api/json/messages

Creating a Custom Message Event

1. Go to **Setup-Menu / Event Control / Event Overview**. In the **Message Events** section, the automatically generated message event profile is named after the app ① (e.g. KeplerNurseAssist).



2. Click **Edit**② to view and configure the event properties.



3. Click the event (e.g. KeplerNurseAssist) ③ to open its settings.

4. Configure the event profile parameters as follows:
   - **Message Name:** Enter the Message Name ④ specified in the event documentation for the corresponding app (see Examples for message names and filter values of the Kepler NurseAssist App (c71), p. 56).
   - **Message Range:**
     - **Local:** Default settings for the Kepler NurseAssist App (c71)
     - **Global:** Select if the MxMessage is forwarded from another MOBOTIX Smart Sensor on the local network.
   - **Filter Message Content:**
     - **No Filter:** Triggers on any message matching the specified **Message Name**.
     - **JSON Comparison:** Select to define filter values in JSON format.
     - **Regular Expression:** Select to define filter values using a regular expression.
   - **Filter Value:** ⑤ Enter the filter value (see Examples for message names and filter values of the Kepler NurseAssist App (c71), p. 56).

     NOTE! Filtering MxMessages

     Use **Filter Value** to distinguish between MxMessages generated by an app or app bundle and to process individual app event types, if available.

     Select **No Filter** to use all incoming MxMessages as generic events for the corresponding app.
5. Click **Set**⑥ to apply the settings.
6. Click on **Close**⑦ and confirm the prompt to permanently save the configuration.

Examples for message names and filter values of the Kepler NurseAssist App (c71)

Event	MxMessage Name	Filter Value
Generic Event	KeplerNurseAssist	
Notification Event	KeplerNurseAssist.notification.notificationType	“FallDetected”
Timestamp Event	KeplerNurseAssist.timestamp	Date string e.g.: "2021-10-11T11:48:52+0200"

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