

Guideline

Kepler NurseAssist App

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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 > [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.



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.



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.
- 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 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, **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 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.

Before You Start

Legal Notes

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.

About Kepler NurseAssist App

Detect falls and unauthorized bed leaving immediately in real time!

Pre-installed on the MOBOTIX c71 NurseAssist camera with intelligent MOBOTIX sensor technology the app supports hospitals, nursing homes and retirement homes effectively and cost-efficiently in protecting patients and those in need of care - automatically around the clock.

- Reliable monitoring of patients well-being.
- Integrated AI-powered software detects incidents based in real time.
- Automatic alerts to staff in case of alarm.
- Direct patient dialog possible via integrated microphone/audio function.
- Simple and decent installation.
- GDPR compliant operation through event-controlled obscuring of live and recorded images.

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

Smart Data Interface to MxManagementCenter

This app has 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) like POS systems or license plate recognition systems.

The Smart Data System in MxManagementCenter enables you to quickly find and review any suspicious activities. The Smart Data Bar and the Smart Data View are available for searching and analyzing transactions. The Smart Data Bar provides a direct overview of the most recent transactions (from the last 24 hours) and for this reason it is convenient to use it for reviews and searches.

NOTE! For information on how to use the Smart Data System, see the corresponding online help of the camera software and MxManagementCenter.

Kepler NurseAssist App Specifications

General App Information

Product Name	Kepler NurseAssist App
Order Code	only available in a bundle with the MOBOTIX c71 NurseAssistcamera (Mx-c71A-NurseAssist)
Supported MOBOTIX Cameras	MOBOTIX c71 NurseAssist (pre-installed)
Minimum Camera Firmware	v7.3.5.x
MxManagementCenter compatibility	<ul style="list-style-type: none">▪ min. MxMC v2.5.3▪ Configuration: Advanced Config license required▪ Event Search: Smart Data Interface license included

General Features

App Features Basic Version	<ul style="list-style-type: none"> ■ 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. ■ automatized 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
App Features Extended Version	<p>Plug-In license required to extend the NurseAssist status and alarm notifications with the following functions:</p> <ul style="list-style-type: none"> ■ Person sits on the edge of the bed ■ Person has left the room ■ Person has entered the room ■ Person has entered the bathroom / is in the bathroom ■ Bed is not recognized / is not present ■ Distinction between person lying and sitting on the floor <p>NOTE! The Plug-In license requires MOBOTIX c71 NurseAssist Smart Sensor or licensed Kepler NurseAssist Certified App.</p>
Maximum number of detection areas	1
Recognized objects	Persons
Supported image sensor types	Day/Night (MOBOTIXc71 NurseAssist default)
Meta Data / Statistic format	JSON
Supported Reporting Interfaces	JSON / XML via HTTP(S), MQTT, MxMessageSystem

Kepler NurseAssist App Specifications

Smart Data Interface to MxManagementCenter

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 view blocking objects)

Activation of the Certified App Interface

CAUTION! The Kepler NurseAssist App does not consider obscure areas defined for the live image. Therefore there is no pixelation in obscure areas while configuring the app and during image analysis by the app.

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

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

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

The screenshot shows the MOBOTIX Certified App Settings web interface. The browser address bar displays 'c71 mx10-32-211-221 Certified App Settings'. The interface is divided into two main sections: 'General Settings' and 'AppSettings'.

General Settings:

- Arming:** Active. Activate app service. (1)
- Resource monitor:** Active. Display camera actual load in the live image.
- Custom font:** Active. Use custom font for the text displays in the live image. To select or upload a custom font please go to [Manage Font File](#).

AppSettings:

App	Activation	License	Explanation	Version	Delete	Delete app	Download Log
Kepler NurseAssist Settings	<input checked="" type="checkbox"/> (2)	No expiration date.	Discover the future of care with Kepler NurseAssist	0.8.2	Data (0)	Delete app	Download Log

At the bottom of the interface, there are three buttons: 'Set' (3), 'Factory', 'Restore', and 'Close'.

2. Under **General Settings**, activate the **Arming** (1) checkbox of the app service.
3. Under **App Settings** check the **Active** option (2) and click **Set** (3) .
4. When the app is activated click on the name of the app to be configured to open the apps user interface.
5. For configuration of the app see [Configuration of Kepler NurseAssist App, S. 1.](#)

Camera, image and scene requirements

Kepler Nurse Assist is trusted by both healthcare staff and clients to alert staff of alarming situations.

NOTE! The camera can monitor one bed per room. Beds that are not to be monitored must be marked in the camera image with so-called ignore areas (see [Advanced](#), p. 24).

To ensure the highest quality of detection, the following prerequisites must be fulfilled for the scene:

Recommendations on positioning and mounting

CAUTION! Never touch the camera lens. First, mount the camera completely, then remove any plastics.

To detect potentially harmful situations, the camera needs to have the maximum viewing area, with zero blind spots.

- Only mount the camera on the ceiling at a height of between 200 cm and 350 cm.
- Mount the camera at a minimum distance of 70 cm from any wall.
- Mount the camera near the bed, between 50 cm and 300 cm. This distance is necessary so that the bed is sufficiently illuminated by infrared light at night.
- Do not mount the camera directly above the bed.
- Make sure that the entire room can be covered from the mounting position of the camera.
- Make sure that the camera lens is not exposed to direct light. Direct light (Sunlight, artificial light) can lead to overexposure, which means that the image can no longer be analyzed correctly.
- Avoid mirror images of the bed in the picture. They can lead to false alarms.
- The camera uses infrared light during the night. If normal light shines too bright, it can prevent the camera from switching to night mode. If necessary, adjust the day/night sensitivity in the camera settings.

Testing the app functionality

Make sure the app is activated (see [Activation of the Certified App Interface](#), p. 15).

Check if the camera correctly configured (see [Configuration of Kepler NurseAssist App](#), p. 19).

For testing, follow the next steps.

- 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
- Enable **Show object detections**. With this option persons are displayed with blue boxes and beds with yellow boxes.
- 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! In the first month of operation check the functionality regularly and adjust configuration and/or mounting position if required.

NOTE! 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	Status text in the image
Camera startup		INITIALIZING
An empty bed in daylight, nobody in the room	Bed with yellow box and yellow label 'bed'	NOT_IN_BED
An empty bed in the dark (IR-light on), nobody in the room	Bed with yellow box and yellow label 'bed'	NOT_IN_BED
A person standing in the room in daylight	Bed with yellow box and yellow label 'bed' + blue box and label 'person'	NOT_IN_BED
A person standing in the room in the dark (IR-light on)	Bed with yellow box and yellow label 'bed' + blue box and label 'person'	NOT_IN_BED
A person in bed in daylight	Bed with yellow box and yellow label 'bed' + blue box and label 'person'	IN_BED
A person in bed in the dark (IR-light on)	Bed with yellow box and yellow label 'bed' + blue box and label 'person'	IN_BED
A person lying on the floor in daylight	Bed with yellow box and yellow label 'bed' + red box and label 'person - LYING OR SITTING ON-FLOOR'	FALL_DETECTED
A person lying on the floor in the dark (IR-light on)	Bed with yellow box and yellow label 'bed' + red box and label 'person - LYING OR SITTING ON-FLOOR'	FALL_DETECTED

Camera, image and scene requirements

Testing the app functionality

Function	Appearance of the layer in the live image	Status text in the image
A person sitting on the floor in daylight	Bed with yellow box and yellow label 'bed' + red box and label 'person – LYING OR SITTING ON-FLOOR'	FALL_ DETECTED
A person sitting on the floor in the dark (IR-light on)	Bed with yellow box and yellow label 'bed' + blue box and label 'person'	FALL_ DETECTED

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 common area)		SITUATION_ NORMAL
A person standing in hallway in daylight	Blue box and label 'person'	SITUATION_ NORMAL
A person standing in the room in the dark (IR-light on)	Blue box and label 'person'	SITUATION_ NORMAL
A person lying on the floor in daylight	Red box and label 'person – LYING OR SITTING ON-FLOOR'	FALL_DETECTED
A person lying on the floor in the dark (IR-light on)	Red box and label 'person – LYING OR SITTING ON-FLOOR'	FALL_DETECTED
A person sitting on the floor in daylight	Red box and label 'person – LYING OR SITTING ON-FLOOR'	FALL_DETECTED
A person sitting on the floor in the dark (IR-light on)	Red box and label 'person – LYING OR SITTING ON-FLOOR'	FALL_DETECTED

Configuration of Kepler NurseAssist App

NOTE! The user must have access to the setup menu ([http\(s\)://<camera IP address>/control](http(s)://<camera IP address>/control)). Therefore check the user rights of the camera.

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

The configuration window of the app appears with the following options:

General Settings

The following configurations should be taken into account:

MOBOTIX c71 mx10-32-211-221 Kepler NurseAssist Settings

Kepler NurseAssist

Assist mode Client room: Fall Detection + In-Bed I Nurse Assist mode

Show object detections Enable overlay with outline and text for persons and bed

Extended functions Enable NurseAssist Extended functionalities

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.

Not in bed Enables notification when person leaves the bed.

In bed Enables notification when person starts lying in the bed.

In bed/not in bed - duration 30 seconds Sends a notification of bed events after the state has been observed for this number of seconds.

MOBOTIX HUB Analytic Event

Advanced

Set **Factory** **Restore** **Close**

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 people in hospital rooms fall down or behave unusually in bed.

Hallways/common areas: Fall Detection: Select this option if you want the app to send a trigger when people fall down in hallways or common areas.

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

Extended functions: Check to display functions of the extended license.

Notification Configuration for Mode "Hallways/common areas"

If the mode "Hallways/common areas: Fall Detection" is selected the app analyzes the video image for people falling down in hallways or common areas.

Kepler NurseAssist		
Assist mode	Hallway/common area: Fall Detection	Nurse Assist mode
Show object detections	<input checked="" type="checkbox"/>	Enable overlay with outline and text for persons and bed
Notifications		
Fall-detected notifications	<input checked="" type="checkbox"/>	Enable fall-detected notifications
Fall-detected notification duration	30 seconds	Notification of fall-detected event is sent after the state has been observed for this number of seconds

Fall detected notifications: Check this option if the app should send a notification if a falling person is detected.

Fall detected notification duration: Set the duration for which a person must be observed as having fallen down before the app sends a notification.

Situation normal notifications: Check this option if you want the app to send a message when a person is detected as standing up again (normal).

Notification Configuration for Mode "Client room"

If the mode "Client room: Fall Detection + In Bed Monitoring" is selected the app analyzes the video image for people falling down in hospital/client rooms or behaving unusually in bed. Depending on the license extended functions can be activated.

Basic Functions

MOBOTIX

c71 mx10-32-103-58 Kepler NurseAssist Settings

Kepler NurseAssist

Assist mode	Client room: Fall Detection + In-Bed M	NurseAssist mode.
Extended functions	<input type="checkbox"/>	Enables NurseAssist Extended functionalities.
Show object detections	<input checked="" type="checkbox"/>	Enable overlay with outline and text for persons and bed.

Notifications

Fall detected	<input checked="" type="checkbox"/>	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.
Not in bed	<input type="checkbox"/>	Enables notification when person leaves the bed.
In bed	<input type="checkbox"/>	Enables notification when person starts lying in the bed.
In bed/not in bed - duration	30 seconds	Sends a notification of bed events after the state has been observed for this number of seconds.

Fall detected : Check this option to send a notification if a falling person is detected.

Fall detected notification duration: Set the duration for which a person must be observed as having fallen down before the app sends a notification.

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

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

In bed / Out of bed duration: Set the duration for which a person must be observed as out of bed or laying in bed before the app sends a notification.

Extended Functions

If you have activated the extended functions (licence required), you can specify doors in the room in order to use the features "Out of the room", "Entering room" and "In bathroom".

Kepler NurseAssist

Assist mode	Client room: Fall Detection + In-Bed M ⌵	NurseAssist mode.
Extended functions	<input checked="" type="checkbox"/>	Enables NurseAssist Extended functionalities.
Show object detections	<input checked="" type="checkbox"/>	Enable overlay with outline and text for persons and bed.

Notifications 🗨️

Fall detected	<input checked="" type="checkbox"/>	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	<input type="checkbox"/>	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	<input type="checkbox"/>	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	<input checked="" type="checkbox"/>	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	<input type="checkbox"/>	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	<input type="checkbox"/>	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	<input type="checkbox"/>	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.

Fall detected : Check this option to send a notification if a falling person is detected.

Fall detected notification - duration: Set the duration for which a person must be observed as having fallen down before the app sends a notification.

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

Out of bed - duration: Set the duration for which a person must be observed as out of bed before the app sends a notification.

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

In bed - duration: Set the duration for which a person must be observed laying in bed before the app sends a notification.

Sitting on edge of bed: Check this option to send a notification when a person starts lying in the bed.

Sitting on edge of bed - duration: Set the duration for which a person must be observed as sitting on edge of bed before the app sends a notification.

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

Entering room - duration: Set the duration for which a person must be observed as being in the room before the app sends a notification.

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

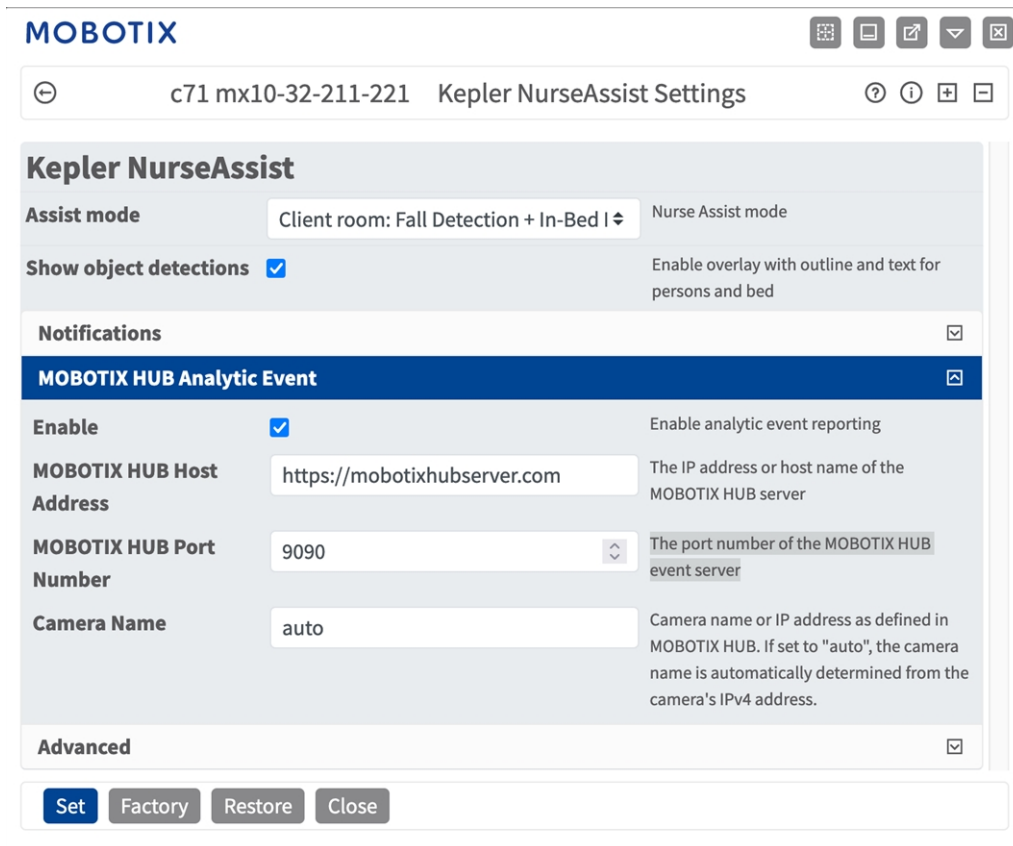
NOTE! Bathroom door needs to be defined in the Advanced Settings (see [Advanced](#), p. 24).

In the bathroom - duration: Set the duration for which a person must be observed as being in the room before the app sends a notification.

Bed not visible: Check this option to send a notification when the bed is no longer found in the camera image (e.g. bed is removed or AI model cannot find the bed).

Entering room - duration: Set the duration for which the bed must be observed as not visible in the camera image before the app sends a notification.

MOBOTIX HUB Analytic Event



MOBOTIX HUB Analytic Event: With the Analytics Events feature it is possible to send MAD (Milestone Alert Data) formatted alerts to the MOBOTIX HUB event server over TCP/IP.

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

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

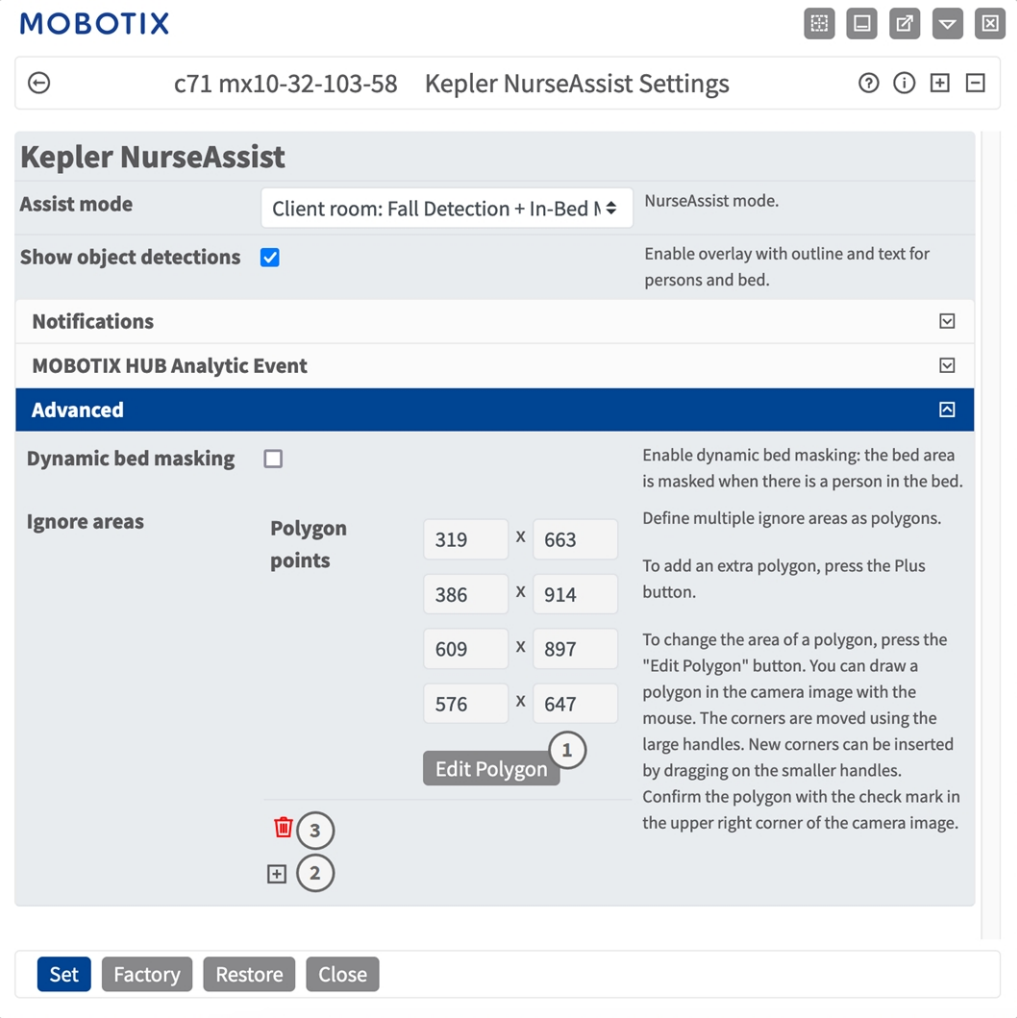
MOBOTIX HUB Port Number: Enter the port number of the MOBOTIX HUB event server.

Camera name: Enter the camera name or IP address of this camera as defined in MOBOTIX HUB. If set to "auto", the camera name is automatically determined from the camera's IPv4 address.

Advanced

You can set Ignore Areas. If left blank the entire image will be used for detections.

NOTE! It is strongly recommended to monitor only one bed with one camera. Beds and objects that are not to be monitored must be excluded by Ignore Areas. Objects are only ignored if the object detection box is completely inside the ignore area.



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

Ignore Areas

Polygon Points: 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](#)).

Add an Ignore Area: Click the **plus** icon ② .

Delete an Area: Click the **bin** icon ③ .

Storing the Configuration

To store the configuration you have the following options:



Configuration of Kepler NurseAssist App

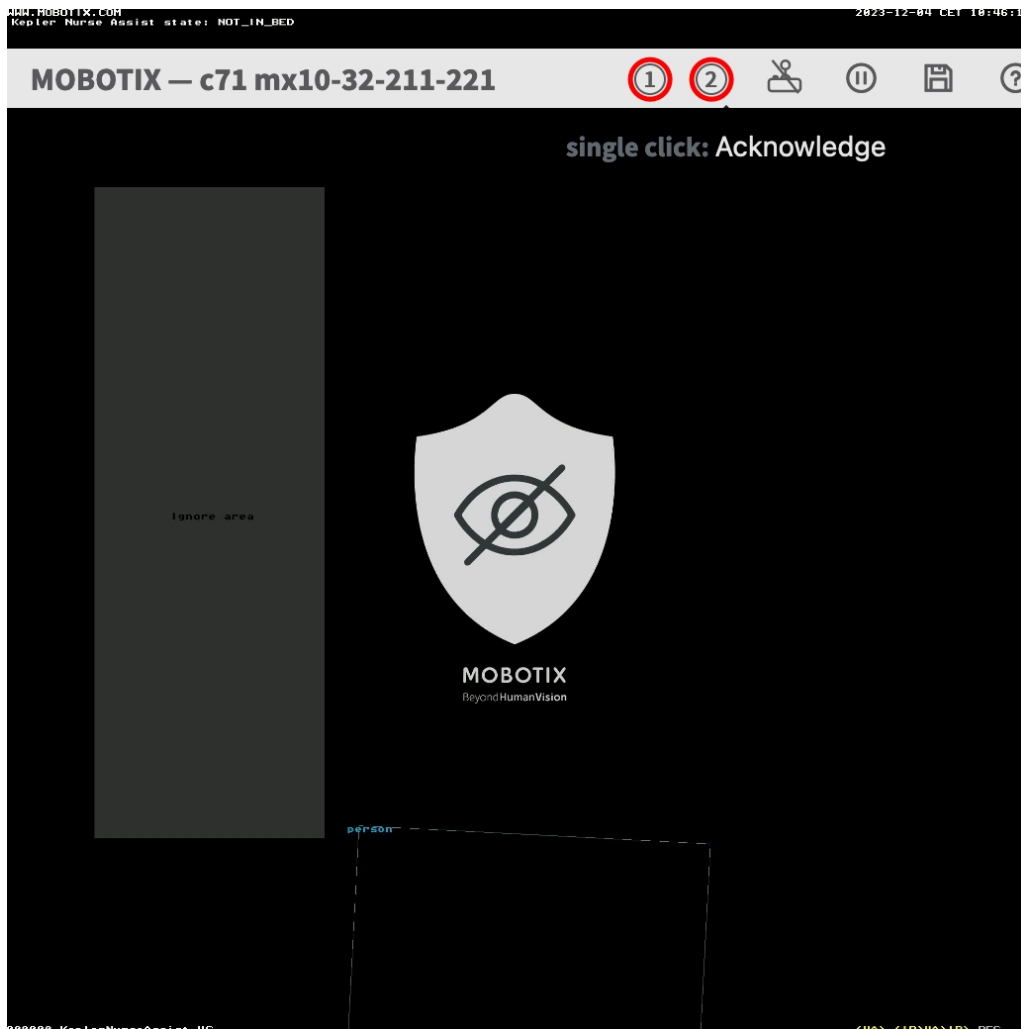
Storing the Configuration

- Click **Set** to activate your settings and to save them until the next reboot of the camera.
- Click **Factory** to load the factory defaults for this dialog (this button may not be present in all dialogs).
- Click **Restore** to undo your most recent changes that have not been stored in the camera permanently.
- Click **Close** to close the dialog. While closing the dialog, the system checks the entire configuration for changes. If changes are detected, you will be asked if you would like to store the entire configuration permanently.

After successfully saving the configuration, the event and meta data are automatically sent to the camera in case of an event.

User Actions

The Kepler NurseAssist App is completely pre-configured on the Camera. By default, the following buttons are provided in the user interface:



- **Trigger Alarm ①** : Click this button to trigger the alarm manually. If the NurseAssist_PrivacyWorkflow (see [Action handling - Configuring Action Groups, p. 31](#)) is activated the live image will become unmasked for 120 seconds or until acknowledged.
- **Acknowledge Alarm ②** : Click this button to acknowledge the alarm. If the NurseAssist_PrivacyWorkflow (see [Action handling - Configuring Action Groups, p. 31](#)) is activated the live image will become masked.

MxMessageSystem

What is MxMessageSystem?

MxMessageSystem is a communication system based on name oriented messages. This means that a 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 way, MxMessages can be distributed over the entire local network (see Message Area: Global).

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

Facts about MxMessages

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

MxMessageSystem: Processing the generated app event

Checking generated app events

The Kepler NurseAssist App is completely pre-configured on the camera. By default, the following app-specific message events are available:

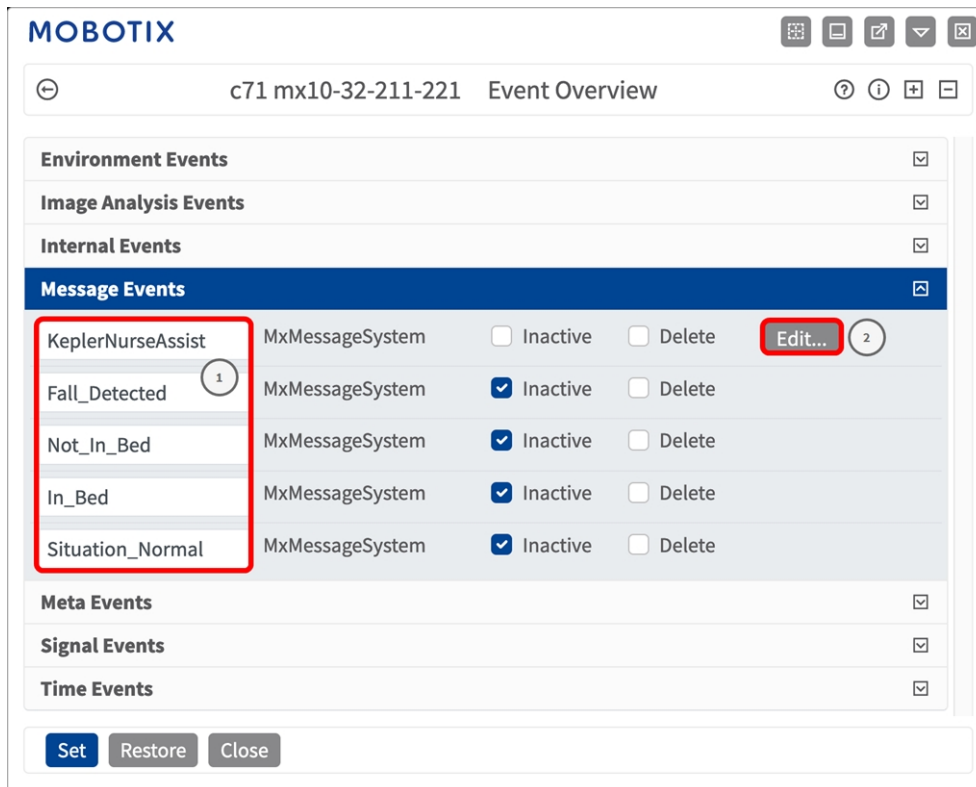
- KeplerNurseAssist
- Fall_Detected
- Not_In_Bed
- In_Bed
- Situation_Normal

NOTE! After successfully activating the app (see [Activation of the Certified App Interface, p. 15](#)), generic message events for the Kepler NurseAssist App are available.

MxMessageSystem: Processing the generated app event

Checking generated app events

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








The screenshot shows the MOBOTIX Event Overview interface. The top navigation bar includes the MOBOTIX logo, a breadcrumb trail 'c71 mx10-32-211-221 Event Overview', and several utility icons. Below the navigation bar, there is a list of event categories, each with a checkbox: Environment Events, Image Analysis Events, Internal Events, Message Events (highlighted in blue), Meta Events, Signal Events, and Time Events. The Message Events section is expanded, showing a table of events. The first row, 'KeplerNurseAssist', is highlighted with a red box and has a circled '1' next to its name. The 'Edit...' button for this row is also highlighted with a red box and has a circled '2' next to it. The other rows in the table are 'Fall_Detected', 'Not_In_Bed', 'In_Bed', and 'Situation_Normal', all with 'MxMessageSystem' as the source and 'Inactive' status. At the bottom of the interface, there are three buttons: 'Set', 'Restore', and 'Close'.





Event Name	Source	Status	Action
KeplerNurseAssist	MxMessageSystem	<input type="checkbox"/> Inactive	<input type="checkbox"/> Delete Edit... ②
Fall_Detected ①	MxMessageSystem	<input checked="" type="checkbox"/> Inactive	<input type="checkbox"/> Delete
Not_In_Bed	MxMessageSystem	<input checked="" type="checkbox"/> Inactive	<input type="checkbox"/> Delete
In_Bed	MxMessageSystem	<input checked="" type="checkbox"/> Inactive	<input type="checkbox"/> Delete
Situation_Normal	MxMessageSystem	<input checked="" type="checkbox"/> Inactive	<input type="checkbox"/> Delete

- Click **Edit**  to display a selection of all configured message events.


MOBOTIX

← c71 mx10-32-211-221 Message Events

Attribute	Value	Explanation
IP Receive	8000	Port: TCP port to listen on.

Events	Value	Explanation
KeplerNurseAssist	<input type="checkbox"/> Inactive <input type="checkbox"/> Delete 	
	5	Event Dead Time: Time to wait [0..3600 s] before the event can trigger anew.
Event Sensor Type	<input type="radio"/> IP Receive <input checked="" type="radio"/> MxMessageSystem <input type="radio"/> MQTT Subscription	Event Sensor Type: Choose the message sensor.
Event on receiving a message from the MxMessageSystem.		
	KeplerNurseAssist	Message Name: Defines an MxMessageSystem name to wait for.
	Local	Message Range: There are two different ranges of message distribution: <i>Global:</i> across all cameras within the current LAN. <i>Local:</i> camera internal.
	No Filter	Filter Message Content: Optionally choose how to ignore messages containing <i>Filter Value</i> . Select <i>No Filter</i> to trigger on any message with defined <i>Message Name</i> . The <i>Boolean Filter</i> triggers on JSON values <code>true/false</code> , or <code>1/0</code> , and for some JSON strings like <code>"on"/"off"</code> , <code>"yes"/"no"</code> . For <i>JSON Comparison</i> , <i>Regular Expression</i> , <i>Value Filter</i> , and <i>Interval Notation</i> define the compared value as <i>Filter Value</i> below.
Fall_Detected	<input checked="" type="checkbox"/> Inactive <input type="checkbox"/> Delete <input checked="" type="checkbox"/>	
Not In Bed	<input checked="" type="checkbox"/> Inactive <input type="checkbox"/> Delete <input checked="" type="checkbox"/>	

Set
Factory
Restore
Close

Action handling - Configuring Action Groups

The Kepler NurseAssist App is completely pre-configured on the Camera. By default, the following app-specific Action Groups are available:

NurseAssist_VisualAlarm: This Action Group is armed by default.

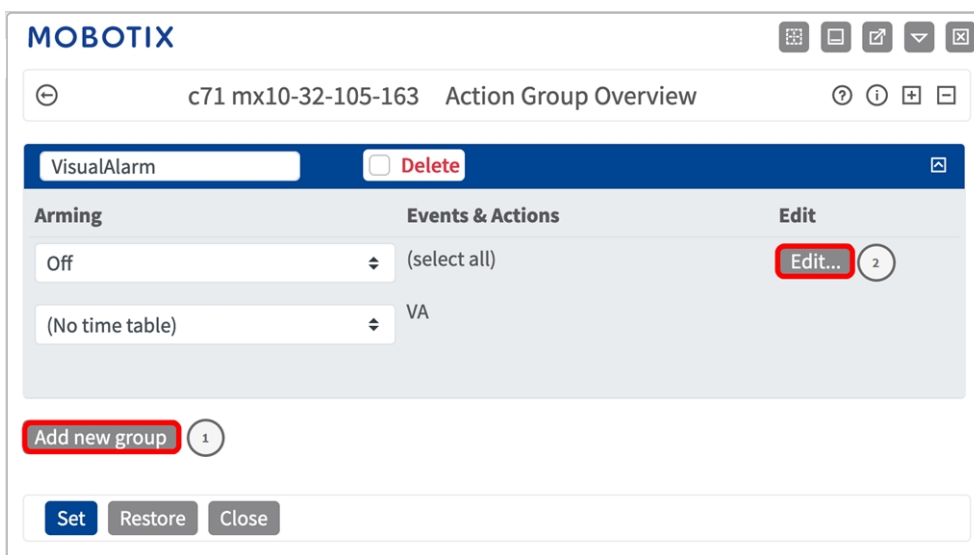
NurseAssist_PrivacyWorkflow: This Action Group is not armed by default. When enabled the camera image is masked by default. In case of a relevant NurseAssist event or User Click it will be unmasked for 120 seconds or until acknowledged by a user (see [User Actions, p. 27](#)).

CAUTION! To use events, trigger Action Groups or record images the general arming of the camera must be enabled ([http\(s\)/<camera IP address>/control/settings](http(s)/<camera IP address>/control/settings))

An Action Group defines which action(s) is (are) triggered by the Kepler NurseAssist App events.

If it is required to create further Action groups, follow these steps:

1. In the camera web interface, open: **Setup Menu / Event Control / Action Group Overview** ([http\(s\)/<camera IP address>/control/actions](http(s)/<camera IP address>/control/actions)).



2. Click **Add new group** ① .

3. Click **Edit** ② , check the Action Group configuration: configure the group.

The screenshot displays the 'MOBOTIX' interface for configuring an 'Action Group'. The title bar shows 'c71 mx10-32-105-163 Action Group Details'. The configuration is organized into several sections:

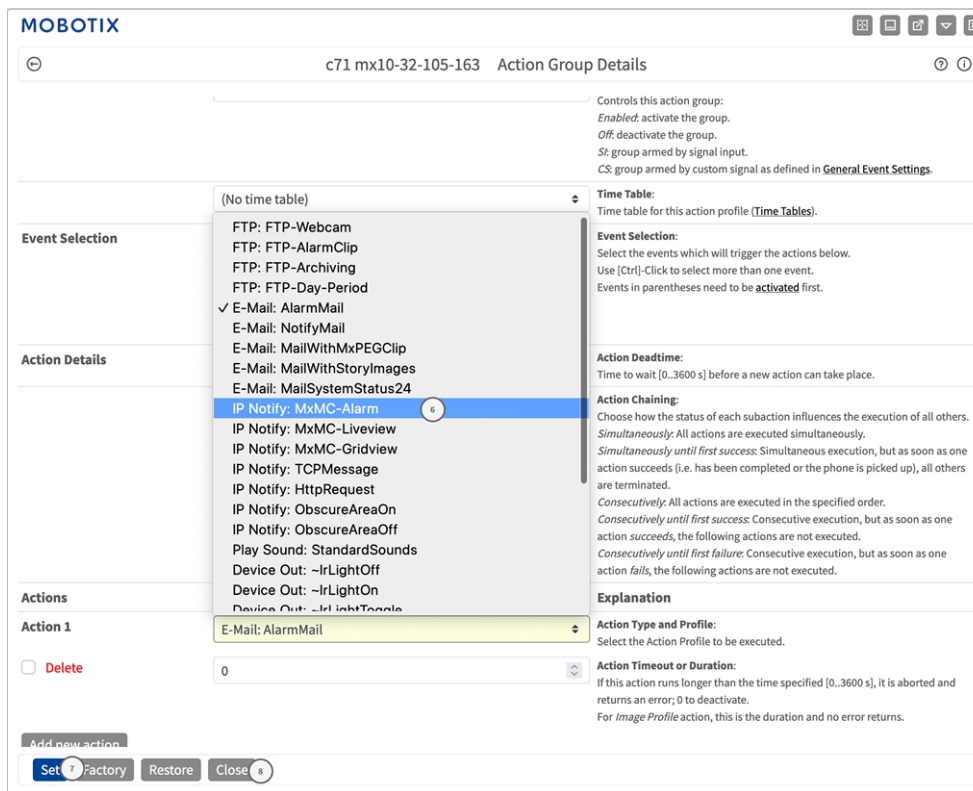
- General Settings:**
 - Action Group:** KeplerNurseAssist
 - Enabled:** A dropdown menu set to 'Enabled' (marked with ③).
 - Arming:** A dropdown menu set to 'Enabled'. The explanation states: 'Controls this action group: Enabled: activate the group. Off: deactivate the group. St: group armed by signal input. CS: group armed by custom signal as defined in General Event Settings.'
 - Time Table:** A dropdown menu set to '(No time table)'. The explanation states: 'Time table for this action profile (Time Tables).'
- Event Selection:**
 - Event Selection:** A list of events: '(Image Analysis: VM)', '(Image Analysis: VM2)', 'Message: KeplerNurseAssist' (selected, marked with ④), '(Signal: SI)', and 'Signal: UC'. The explanation states: 'Select the events which will trigger the actions below. Use [Ctrl]-Click to select more than one event. Events in parentheses need to be activated first.'
- Action Details:**
 - Action Deadtime:** A dropdown menu set to '5'. The explanation states: 'Time to wait [0..3600 s] before a new action can take place.'
 - Action Chaining:** A dropdown menu set to 'Simultaneously'. The explanation states: 'Choose how the status of each subaction influences the execution of all others. Simultaneously: All actions are executed simultaneously. Simultaneously until first success: Simultaneous execution, but as soon as one action succeeds (i.e. has been completed or the phone is picked up), all others are terminated. Consecutively: All actions are executed in the specified order. Consecutively until first success: Consecutive execution, but as soon as one action succeeds, the following actions are not executed. Consecutively until first failure: Consecutive execution, but as soon as one action fails, the following actions are not executed.'
- Actions:**
 - Add new action:** A red button with a circled 5 (marked with ⑤).
 - Buttons:** 'Set', 'Factory', 'Restore', and 'Close'.

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

5. Select your message event in the **Event selection** list ④ . To select multiple events, hold the shift key.

6. Click **Add new Action** ⑤ .

7. Select a proper action from list **Action**⑥ .



NOTE! If the required action profile is not yet available, you can create a new profile in the Admin Menu sections "MxMessageSystemMC", "Transfer Profiles" and "Audio and VoIP Telephony".

If necessary, you can add further actions by clicking the button again. In this case, please make sure that the "action chaining" is configured correctly (e.g. at the same time).

8. Click **Set**⑦ at the end of the dialog box to confirm the settings.

9. Click on **Close**⑧ to save your settings permanently.

Action settings - Configuration of the camera recordings

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

MOBOTIX c71 mx10-32-105-163 Recording

General Settings	Value	Explanation
Arming	Enabled (1)	Arm Recording: Controls camera recording. <i>Enabled:</i> activate recording. <i>Off:</i> deactivate recording. <i>St:</i> recording armed by signal input. <i>CS:</i> recording armed by custom signal as defined in General Event Settings . <i>From Master:</i> copies recording arming state from master camera.
	(No time table)	Time Table Profile: Time table profile for time-controlled recording (Time Tables).
Digital Signing	Off	Digital Signing: Digitally sign the recorded image files using the X.509 certificate of the web server. Manage X.509 certificates of the web server .
Recording Status Symbol	On	Activate Recording Status Symbol: <i>On</i> will draw a symbol in the image to visualize the current arming and recording status.
Terminate Recording (TR)	Off	Activate Terminate Recording: Terminate recording if an event is detected. Use this option to freeze stored images. Click here to resume recording.
Storage Settings	Value	Explanation
Recording (REC)	Event Recording (2)	Recording Mode: Type of event and story recording. <i>Snap Shot Recording:</i> stores single JPEG pictures. <i>Event Recording:</i> stores stream files for every event using MxPEG codec. <i>Continuous Recording:</i> continuously streams video data to stream files using MxPEG codec. Events can be recorded with a higher frame rate using <i>Start Recording</i> , <i>Retrigger Recording</i> and <i>Stop Recording</i> .
	Include audio	Record Audio Data: Store audio data in stream file if available. Enable and configure microphone .
Start Recording	(Image Analysis: VM2) Message: KeplerNurseAssist (3) (Signal: S1)	Start Recording: Select the events which will start recording. Use [Ctrl]-Click to select more than one event.

Set (4) Factory Restore Close (5) Less

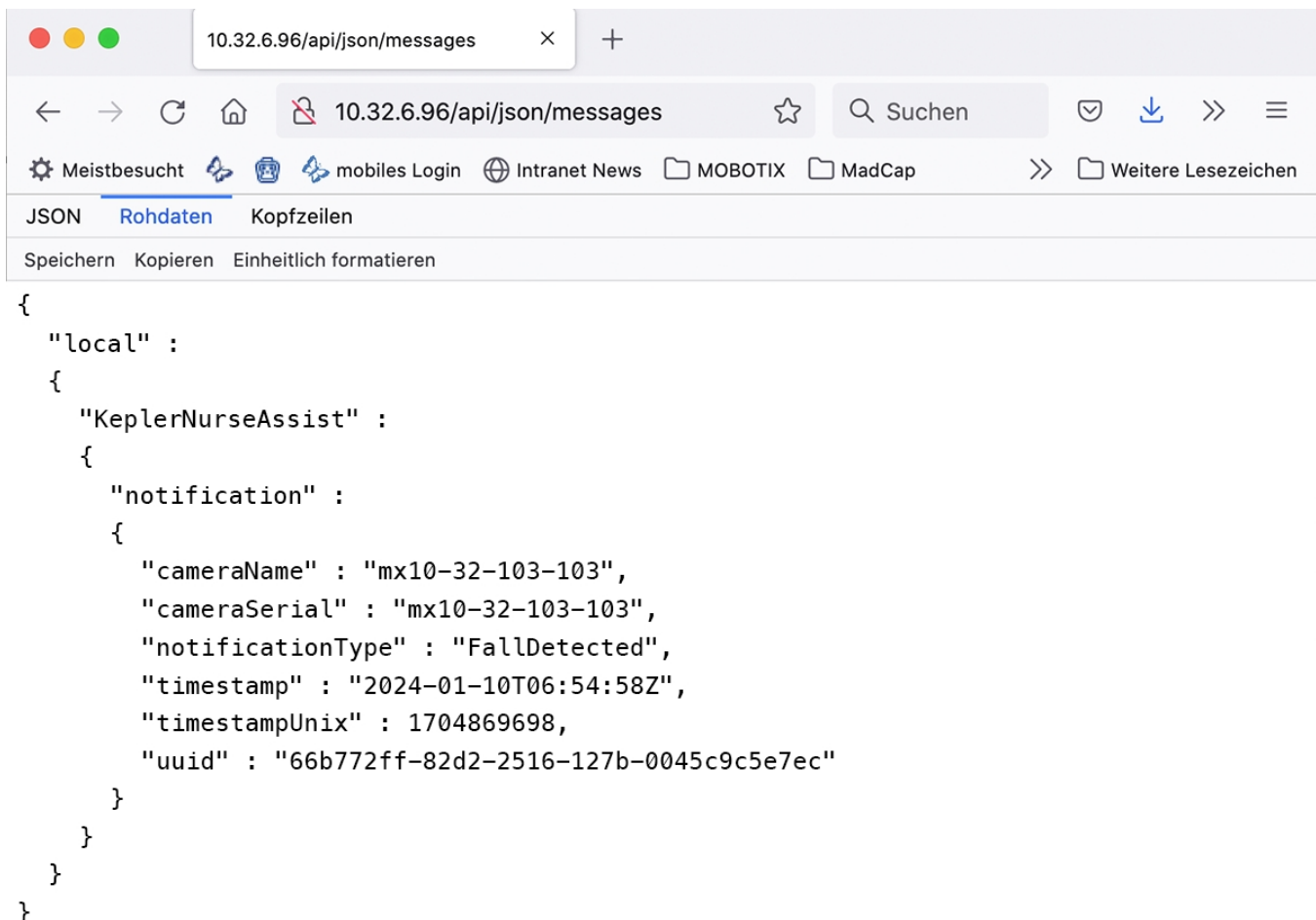
2. Activate **Arm Recording** (1) .
3. Under **Storage Settings / Recording (REC)** select a **Recording mode** (2) . The following modes are available:
 - Snap Shot Recording
 - Event Recording
 - Continuous Recording
4. In list **Start recording** (3) select the message event just created.
5. Click on the **Set** (4) button at the end of the dialog box to confirm the settings.
6. Click on **Close** (5) to save your settings permanently.

NOTE! Alternatively, you can save your settings in the Admin menu under Configuration / Save current configuration to permanent memory.

MxMessageSystem: Processing the meta data transmitted by apps

Meta data transferred within the MxMessageSystem

For each event, the app also transfers meta data to the camera. This data is sent in the form of a JSON schema within a MxMessage.

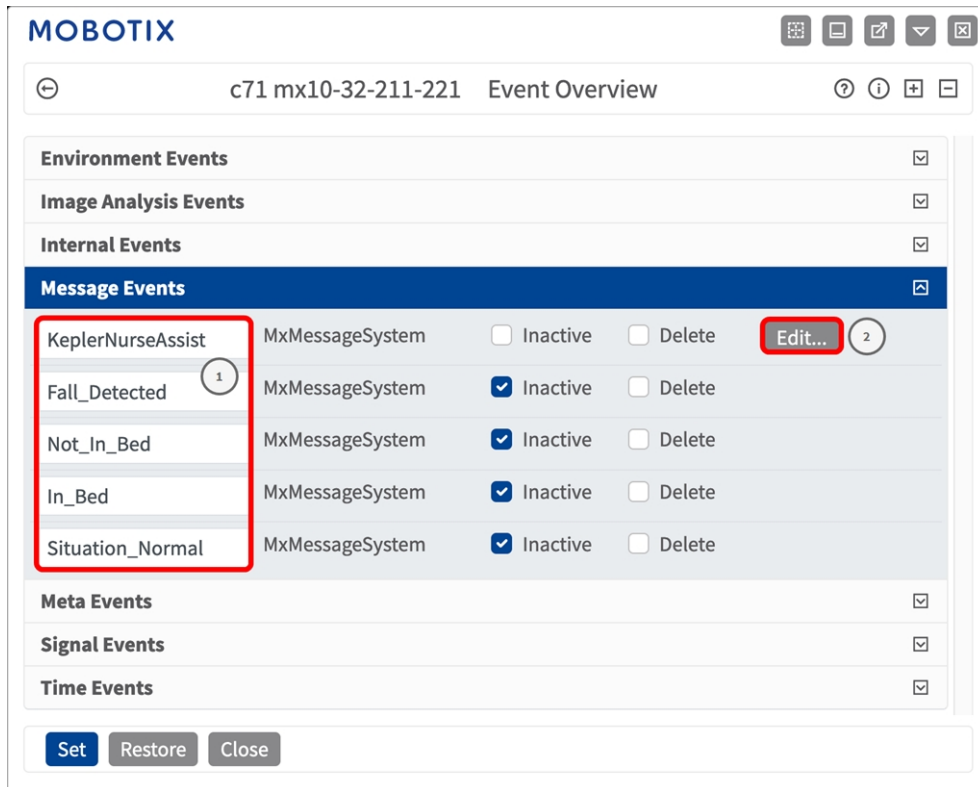


```
{
  "local" :
  {
    "KeplerNurseAssist" :
    {
      "notification" :
      {
        "cameraName" : "mx10-32-103-103",
        "cameraSerial" : "mx10-32-103-103",
        "notificationType" : "FallDetected",
        "timestamp" : "2024-01-10T06:54:58Z",
        "timestampUnix" : 1704869698,
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

NOTE! To view the meta data structure of the last App event, enter the following URL in the address bar of your browser: [http\(s\)://IPAdresseOfYourCamera/api/json/messages](http(s)://IPAdresseOfYourCamera/api/json/messages)

Creating a Custom Message Event

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



The screenshot shows the MOBOTIX Event Overview interface. The top bar displays the MOBOTIX logo and navigation icons. Below the bar, the breadcrumb path is 'c71 mx10-32-211-221 Event Overview'. The main content area is divided into several event categories, each with a checkbox on the right:

- Environment Events
- Image Analysis Events
- Internal Events
- Message Events**
- Meta Events
- Signal Events
- Time Events

The Message Events section is expanded, showing a list of events. The first event, 'KeplerNurseAssist', is highlighted with a red box and a circled '1' next to its name. The 'Edit...' button for this event is also highlighted with a red box and a circled '2'. The other events in the list are 'Fall_Detected', 'Not_In_Bed', 'In_Bed', and 'Situation_Normal', all with 'MxMessageSystem' as the source and 'Inactive' status.

Event Name	Source	Status	Actions
KeplerNurseAssist	MxMessageSystem	<input type="checkbox"/> Inactive	<input type="checkbox"/> Delete Edit...
Fall_Detected	MxMessageSystem	<input checked="" type="checkbox"/> Inactive	<input type="checkbox"/> Delete
Not_In_Bed	MxMessageSystem	<input checked="" type="checkbox"/> Inactive	<input type="checkbox"/> Delete
In_Bed	MxMessageSystem	<input checked="" type="checkbox"/> Inactive	<input type="checkbox"/> Delete
Situation_Normal	MxMessageSystem	<input checked="" type="checkbox"/> Inactive	<input type="checkbox"/> Delete

At the bottom of the interface, there are three buttons: 'Set', 'Restore', and 'Close'.

2. Click **Edit** ^② to display and configure the event properties in detail.

The screenshot displays the MOBOTIX Message Events configuration window. At the top, the title bar shows 'c71 mx10-32-105-163 Message Events'. Below the title bar, there are several icons for window management. The main content area is divided into three columns: 'Events', 'Value', and 'Explanation'. The 'KeplerNurseAssist' event is selected, and its configuration is shown in detail. The configuration includes fields for 'Event Dead Time' (5), 'Event Sensor Type' (MxMessageSystem), 'Message Name' (KeplerNurseAssist.notification.notificationType), 'Message Range' (Local), 'Filter Message Content' (Regular Expression), and 'Filter Value' ('FallDetected'). The 'Set' button is circled with a 6.

Events	Value	Explanation
KeplerNurseAssist ^③	<input type="checkbox"/> Inactive <input type="checkbox"/> Delete	
	5	Event Dead Time: Time to wait [0..3600 s] before the event can trigger anew.
Event Sensor Type	<input type="radio"/> IP Receive <input checked="" type="radio"/> MxMessageSystem <input type="radio"/> MQTT Subscription	Event Sensor Type: Choose the message sensor.
Event on receiving a message from the MxMessageSystem.		
	KeplerNurseAssist.notification.notificationType ^④	Message Name: Defines an MxMessageSystem name to wait for.
	Local	Message Range: There are two different ranges of message distribution: <i>Global:</i> across all cameras within the current LAN. <i>Local:</i> camera internal.
	Regular Expression	Filter Message Content: Optionally choose how to ignore messages containing <i>Filter Value</i> . Select <i>No Filter</i> to trigger on any message with defined <i>Message Name</i> . The <i>Boolean Filter</i> triggers on JSON values <code>true/false</code> , or <code>1/0</code> , and for some JSON strings like <code>"on"/"off"</code> , <code>"yes"/"no"</code> . For <i>JSON Comparison</i> , <i>Regular Expression</i> , <i>Value Filter</i> , and <i>Interval Notation</i> define the compared value as <i>Filter Value</i> below.
	"FallDetected" ^⑤	Filter Value: Define either a valid reference value as a string (in JSON format) without line breaks, or an extended regular expression, a number, or a minimum/maximum interval [<code>a;b</code>]. Open help for examples.

Set ^⑥ factory Restore Close

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

4. Configure the parameters of the event profile as follows:

- **Message Name:** Enter the "Message Name" ④ according to the event documentation of the corresponding app (see [Examples for message names and filter values of the Kepler NurseAssist App, p. 39](#))
- **Message Range:**
 - Local: Default settings for the Kepler NurseAssist App
 - Global: (MxMessage is forwarded from another MOBOTIX camera in the local network.
- **Filter Message Content:**
 - **No Filter:** Trigger on any message according to the defined **Message Name**.
 - **JSON Comparison:** Select if filter values are to be defined in JSON format.
 - **Regular Expression:** Select if filter values are to be defined as regular expression.
- **Filter Value:**⑤ see [Examples for message names and filter values of the Kepler NurseAssist App, p. 39](#).

CAUTION! "Filter Value" is used to differentiate the MxMessages of an app / bundle. Use this entry to benefit from individual event types of the apps (if available).

Choose "No Filter" if you want to use all incoming MxMessages as generic event of the related app.

2. Click on **Set**⑥ at the end of the dialog box to confirm the settings.

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

	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"

MOBOTIX

BeyondHumanVision

[EN_09/24](#)

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