

Guideline

MOBOTIX ActivitySensor AI App

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Before You Start

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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](#)



Safety Notes

- 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!
- This equipment is not suitable for use in locations where children are likely to be present.
- When using a Class I 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.

About MOBOTIX ActivitySensor AI App

Smart Activity Analytics

The app's artificial intelligence-based algorithms detect and classify user-defined motion and objects in up to 20 detection areas. Best suited for: Utilities, Health Care, Energy & Mining; Industry & Production; Government; Traffic & Transportation; Retail; Healthcare; Education & Science

- Motion detection of user-defined objects such as persons and/or vehicles
- Detection and classification of objects based on artificial intelligence
- Detection and specification of the motion direction MOBOTIX events via MxMessageSystem
- Consolidated event search via MxManagementCenter Smart Data Interface
- Definition of up to 20 detection areas within the camera's field of view

CAUTION! Thermal sensors are not supported by this app.

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.

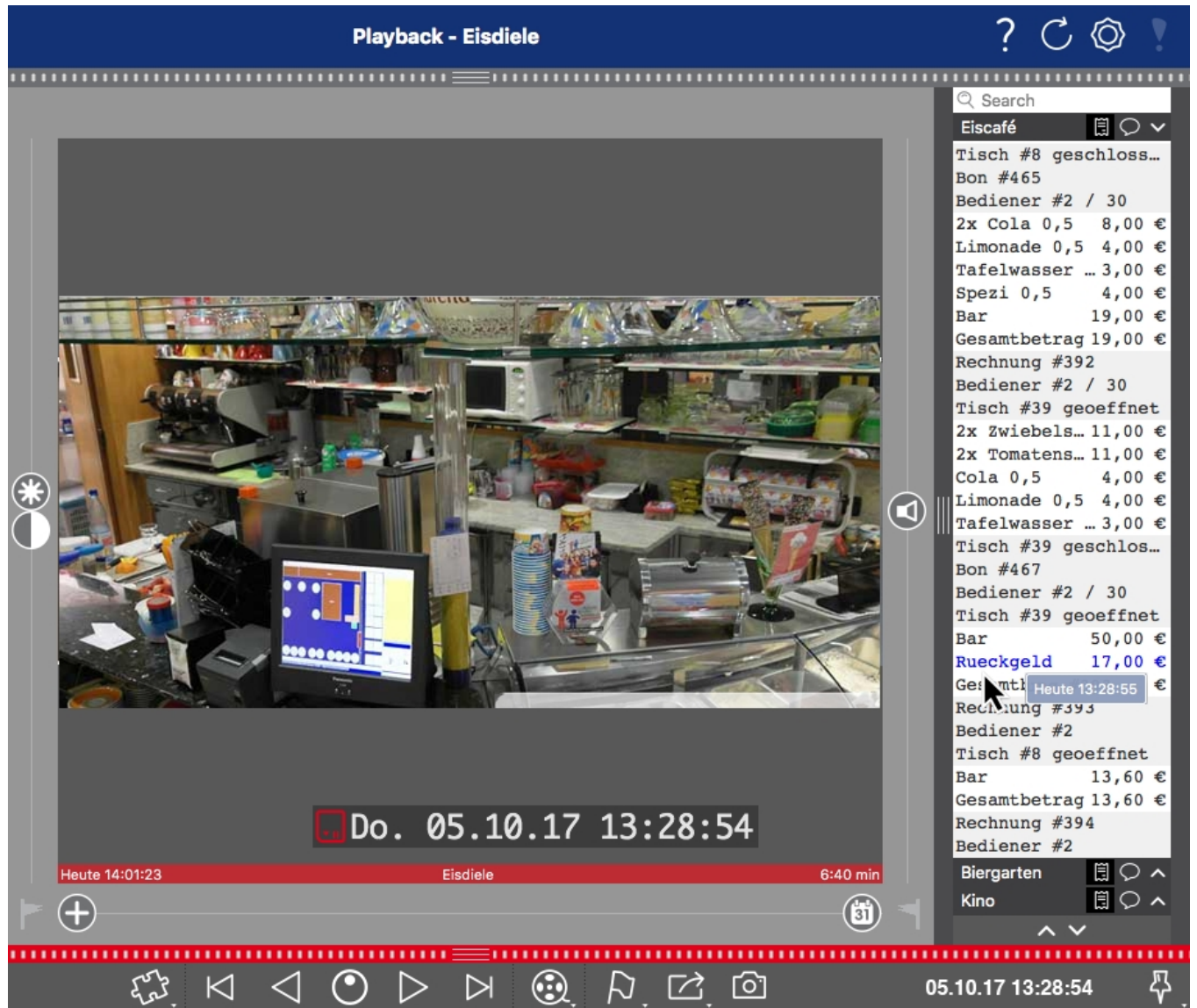


Fig. 1: : Smart Data Bar in MxManagementCenter (Example: POS System)

Technical Specifications

Product Information

Product Name	MOBOTIX ActivitySensor AI App
Order Code	Mx-APP-MX-THD
Supported MOBOTIX Cameras	M73, S74, D71
Minimum Camera Firmware	v7.3.1.x
MxManagementCenter compatibility	<ul style="list-style-type: none">min. MxMC v2.5Configuration: Advanced Config license requiredEvent Search: Smart Data Interface license included

Product Features

App Features	<ul style="list-style-type: none">Motion detection of user-defined objects such as persons and/or vehiclesDetection and classification of objects based on artificial intelligenceDetection and specification of the motion direction MOBOTIX events via MxMessageSystemConsolidated event search via MxManagementCenterSmart Data InterfaceDefinition of up to 20 detection areas within the camera's field of view
Maximum number of recognition areas	20
Recognized objects	Persons, Cars, Trucks, Buses, Motorcycles, Bicycles
Supported image sensor types	Day, Night, Day/Night
Dual / Multi Sensor usage	No (See Hardware Requirements below)
MxMessageSystem supported	Yes
MOBOTIX Events	Yes
ONVIF Events	Yes (Generic Message event)

Hardware / Scene Requirements

Camera Sensor Connector Connector 1

NOTE! Only one image sensor can be used

Object Recognition as basis for MOBOTIX ActivitySensor AI

Recommended installation wall-mounted
position (camera)

Recommended installation 2m - 5m
height (camera)

Recommended viewing 0° - 30° (wall mount perspective)
angle on object

Minimum object size 1/20 of image height (15px at CIF resolution)

Technical App Specifications

Synchronous / Asynchronous App asynchronous

Processed frame rate typ. 5 fps

Detection average accuracy Persons: >90%; Vehicles: >85%

Licensing Certified Apps

The following licenses are available for the MOBOTIX ActivitySensor AI App:

- **30-day test license** pre-installed
- **permanent commercial license**

The usage period begins with activation of the app interface (see)

NOTE! For buying or renewing a license, contact your MOBOTIX Partner.

NOTE! Apps are usually pre-installed with the firmware. In rare cases, apps must be downloaded from the website and installed. In this case see www.mobotix.com > **Support** > **Download Center** > **Marketing & Documentation**, download and install the app.

License Activation of Certified Apps in MxManagementCenter

After a test period commercial licenses must be activated for use with 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**.

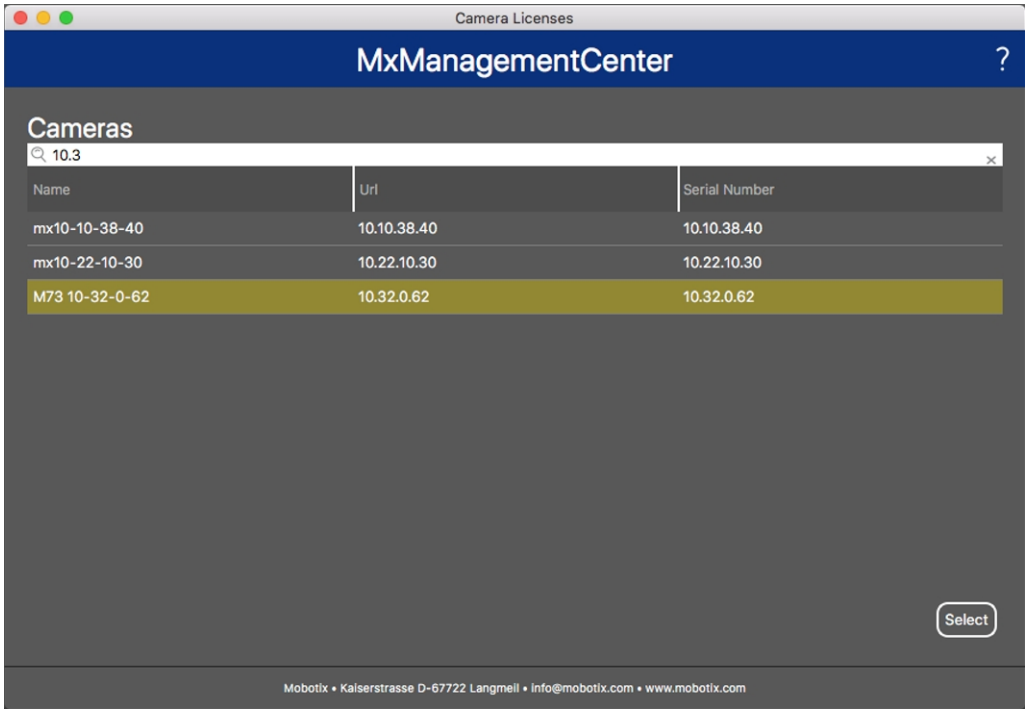


Fig. 2: Overview of Camera App Licenses in MxManagementCenter

NOTE! If necessary, correct the time set on the camera.

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

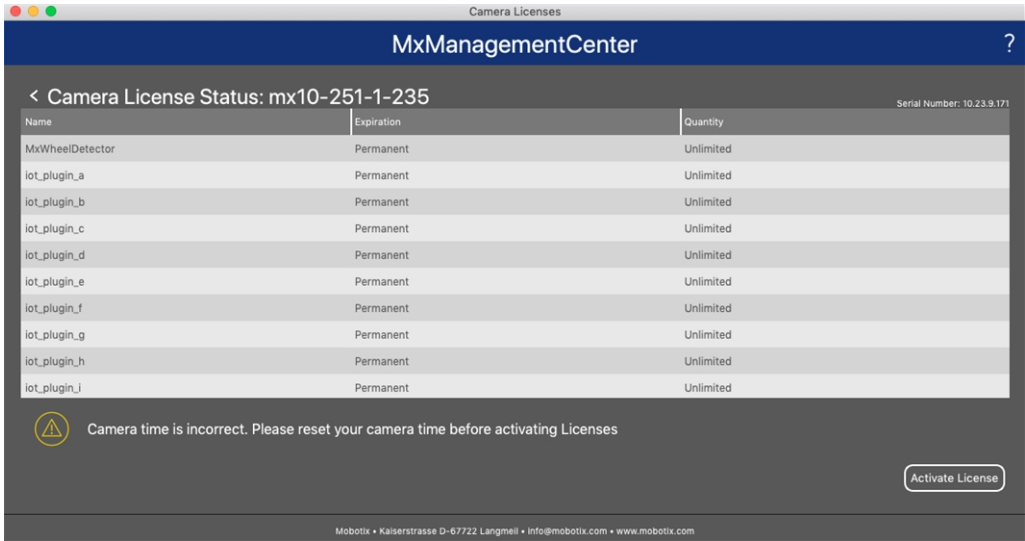



Fig. 3: Overview of the licenses installed on the camera

NOTE! If necessary, correct the time set on the camera.

2. Enter a valid Activation ID and specify the number of licenses to install on this computer.
3. 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.

4. To remove a line click .
5. When you have entered all Activation IDs, click **Activate License Online**. During activation, **MxMC** connects to the license server. This requires an Internet connection.

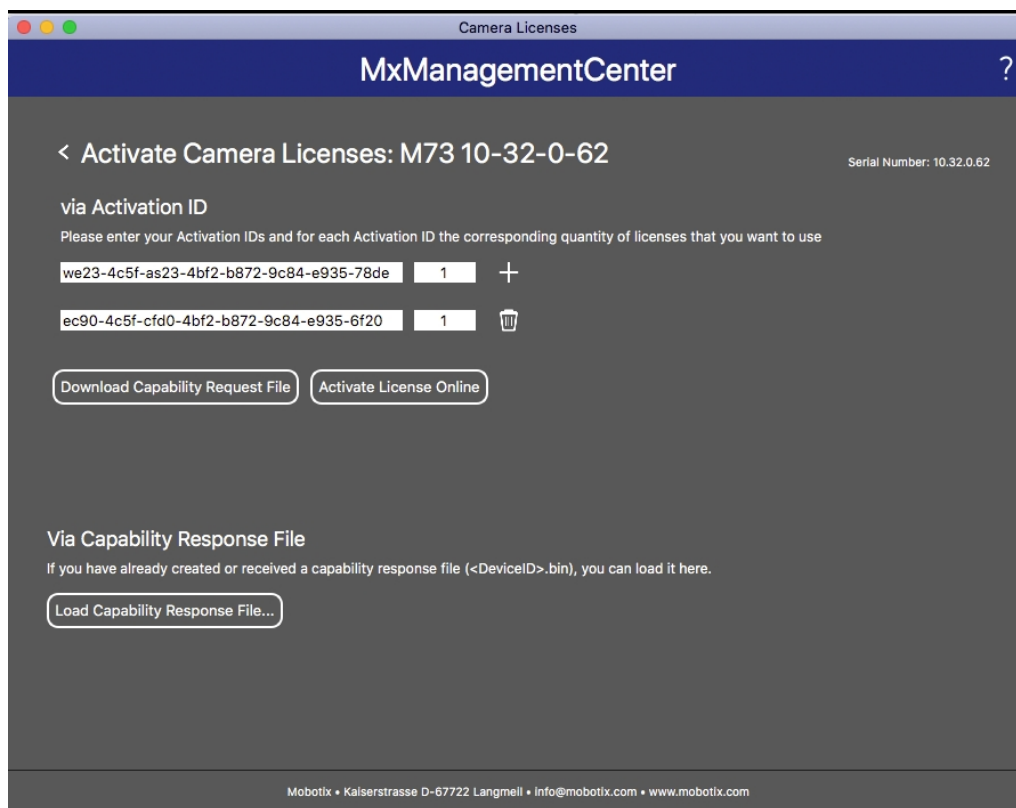


Fig. 4: Adding licenses

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. 12).

Offline Activation

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

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

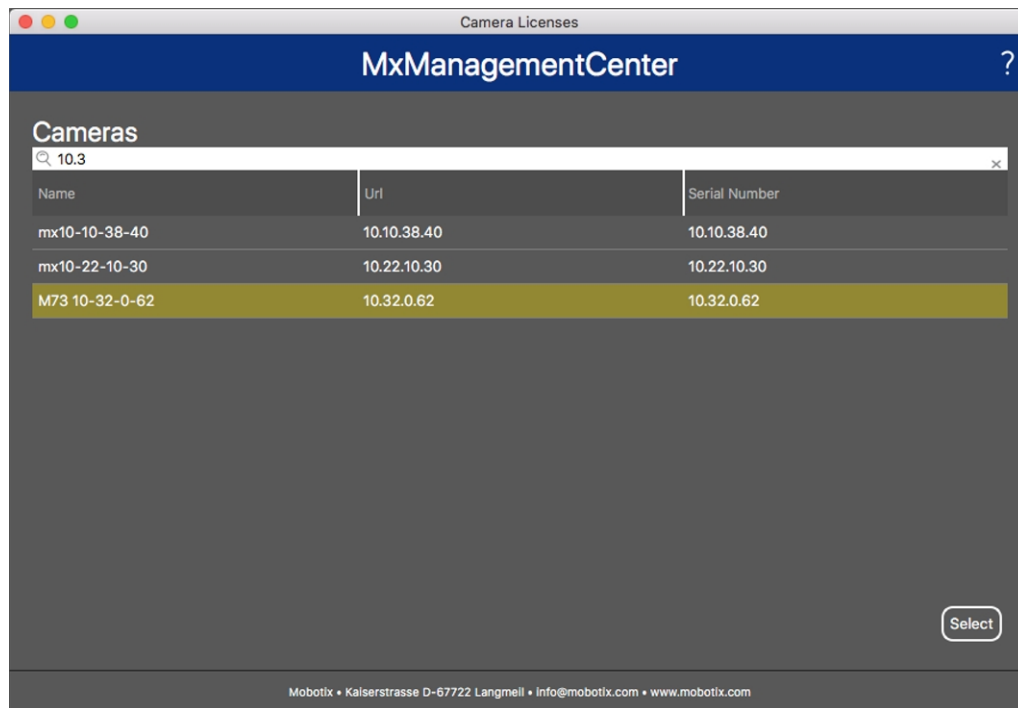


Fig. 5: Overview of Camera App Licenses in MxManagementCenter

NOTE! If necessary, correct the time set on the camera.

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

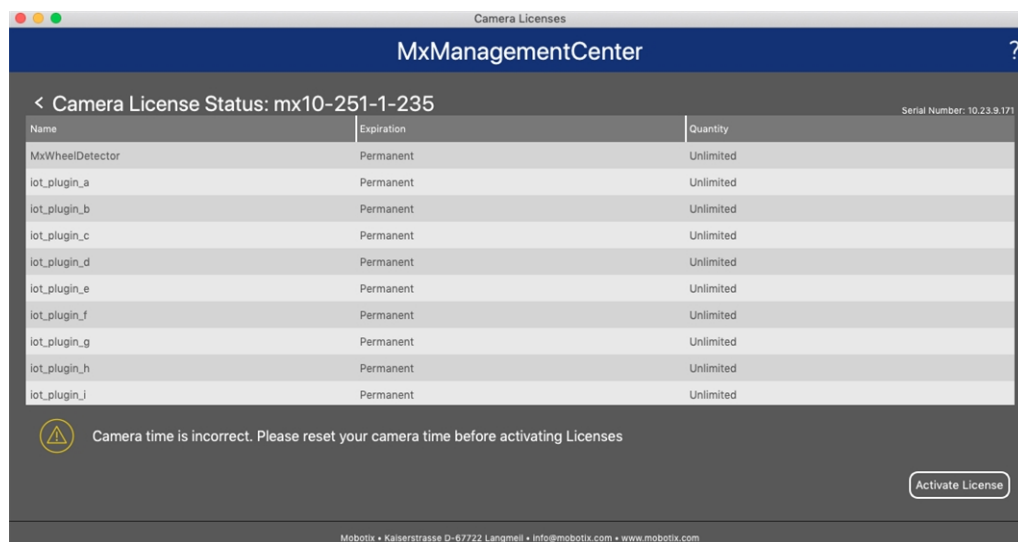




Fig. 6: Overview of the licenses installed on the camera

NOTE! If necessary, correct the time set on the camera.

Licensing Certified Apps

License Activation of Certified Apps in MxManagementCenter

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. If necessary, click  to remove a line.
7. When you have entered all Activation IDs, click **Download Capability Request File (.lic)** and send it to your partner/installer.

NOTE! This file allows the partner / installer from whom you purchased the licenses to generate a capability response file (.bin) on the license server.

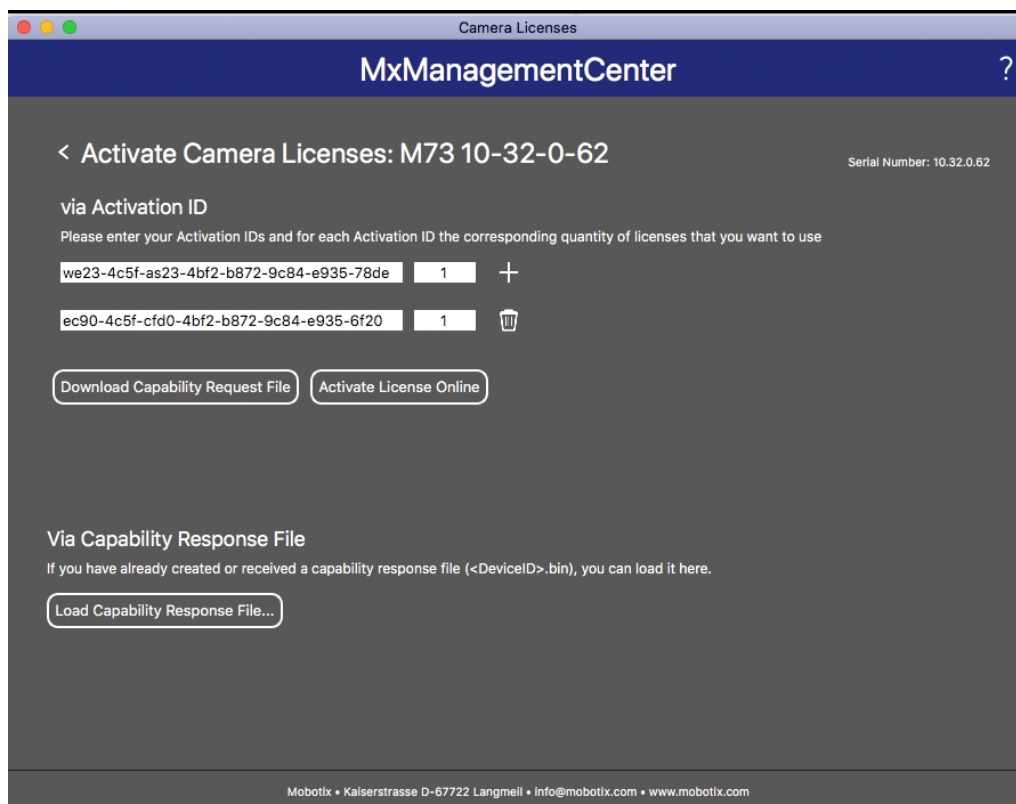


Fig. 7: Adding licenses

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

Successful activation

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

Managing Licenses in MxManagementCenter

In MxManagementCenter you can comfortably manage all licenses that have been activated for a camera.

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

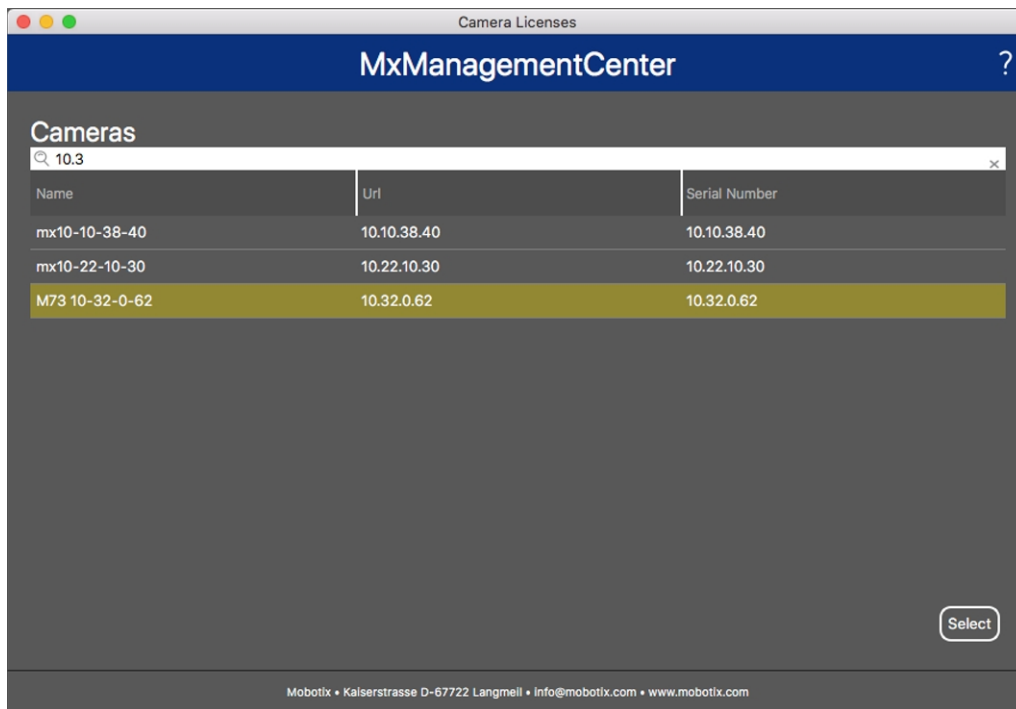


Fig. 8: Overview of Camera App Licenses in MxManagementCenter

An overview of the licenses installed on the camera may be displayed.

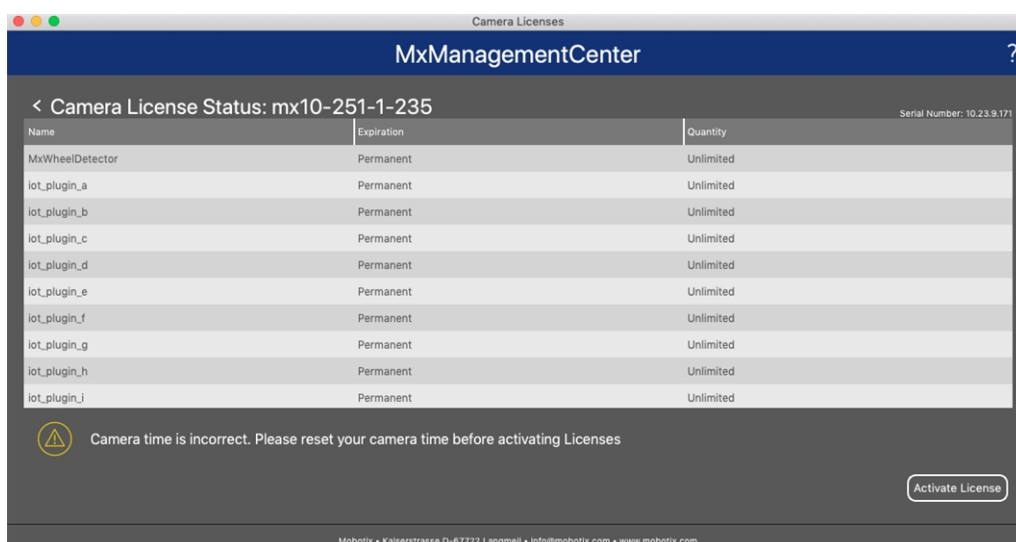


Fig. 9: Overview of the licenses installed on the camera

NOTE! If necessary, correct the time set on the camera.

Column	Explanation
Name	Name of the licensed app
Expiration	the time limit of the license
Quantity	Number of licenses purchased for a product.
Serial Number	Unique identification determined by MxMC for the device used. If problems occur during licensing, please have the device ID ready.

Synchronize licenses with server

When the program starts, there is no automatic comparison of the licenses between the computer and the license server. Therefore, click **Update** to reload the licenses from the server.

Update licenses

To update temporary licenses, click **Activate Licenses**. The dialog for updating/activating licenses opens.

NOTE! You need administrator rights to synchronize and update licenses.

Activation of the Certified App Interface

CAUTION! The MOBOTIX ActivitySensor AI 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)). 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)).

MOBOTIX D71 mx10-32-75-149 Certified App Settings

General Settings

Arming ☒ Active Activate app service.

Note: It is not recommended to activate more than 2 apps.

Resource monitor ☐ Active Display camera actual load in live image.

Note: High performance impact. Use for testing purposes only.

Custom font ☐ Active Use custom font for the text displays in live image. To select or upload a custom font please go to [Manage Font File](#).

App Settings

App Name	License Status	Version	Data	Actions
Mobotix ActivitySensor Settings	No license required.	MxActivity Sensor 1.0.0	Data (0)	Delete application
Mobotix Analytics Settings	No license required.	MxAnalytics App 2.1.1	Data (1.6G)	Delete application
Object Recognition Settings	No license required.	Object Recognition 1.1.0	Data (0)	Delete application
Visage Technologies Face Recognition	Trial	Please update the license. 1.2.2	Data	Delete application
Vaxtor LPR	Trial	Please update the license. 1.4.4	Data	Delete

Set factory **Restore** **Close**

Fig. 10: Activation of Certified Apps

Activation of the Certified App Interface

Managing Licenses in MxManagementCenter

2. Under **General Settings** activate the **Arming**① of the app service.
3. Under **App Settings** check the **Active** option ② and click **Set**③ .
4. 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 MOBOTIX ActivitySensor AI App](#), p. 19.

Configuration of MOBOTIX ActivitySensor AI 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 **MOBOTIX ActivitySensor AI App**.

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

General Settings

The following configurations should be taken into account:

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Mobotix ActivitySensor Settings

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Mobotix ActivitySensor

General Settings

Use AI component

☒

The Object Recognition app needs to be available and running for this feature to work. When activated, the results of the object recognition will be used for analysis. Otherwise, the classical MxActivitySensor will be used.

Detect fast motion

☐

By activating, you can improve the detection of fast moving objects. However, using this option can reduce the recognition results of small objects.

Desired framerate

15

⬆

⬇

The desired frame rate at which MxAS should run

Use MxAS v2

☐

By activating, you can improve the robustness to small lighting changes. However, using this option may slightly reduce the maximum frame rate.

Resolution

320x180

⬆

⬇

Change the resolution on with the MxActivitySensor performs the analysis. This will require a restart of the plugind daemon.

Detection Area Settings

Object Recognition Settings

Visualization Settings

Set

Factory

Restore

Close

Fig. 11: General settings

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Use AI component: Check, if the AI based video analytics should be used to recognize and classify Persons, Vehicles (Car, Truck, Bus, Motorcycle, Bicycle, Boat, Airplane, Train) and Animals: Bird, Cat, Dog, Horse, Sheep, Cow, Elephant, Bear, Zebra, Giraffe

NOTE! The AI component requires the Object Recognition App to run properly. To do so:

In the camera web interface, open **Admin Menu / Hardware Configuration / Camera Mode**

Set the Camera Mode to "AI" ① .

Set the AI Settings to "Object Detection" ② .

Click **Set**.

Reboot the camera.

Setup Menu / Certified App Settings activate "Object Recognition Settings".

Click **Set**.

NOTE! For further information about the MOBOTIX Object Recognition App see the Apps Guideline: www.mobotix.com > **Support** > **Download Center** > **Marketing & Documentation** > **Manuals**.

Detect fast motion: Check to improve the detection of fast moving objects.

NOTE! Using this option can reduce the recognition results of small objects.

Desired framerate: Define the frame rate of the video stream to be analyzed by Mx Activity Sensor.

Use MxAS v2: Check to improve the robustness to small lighting changes.

NOTE! Using this option may slightly reduce the maximum frame rate.

Resolution: Select the resolution of the video stream to be analyzed by Mx Activity Sensor.

Detection Area Settings

The following configurations should be taken into account:

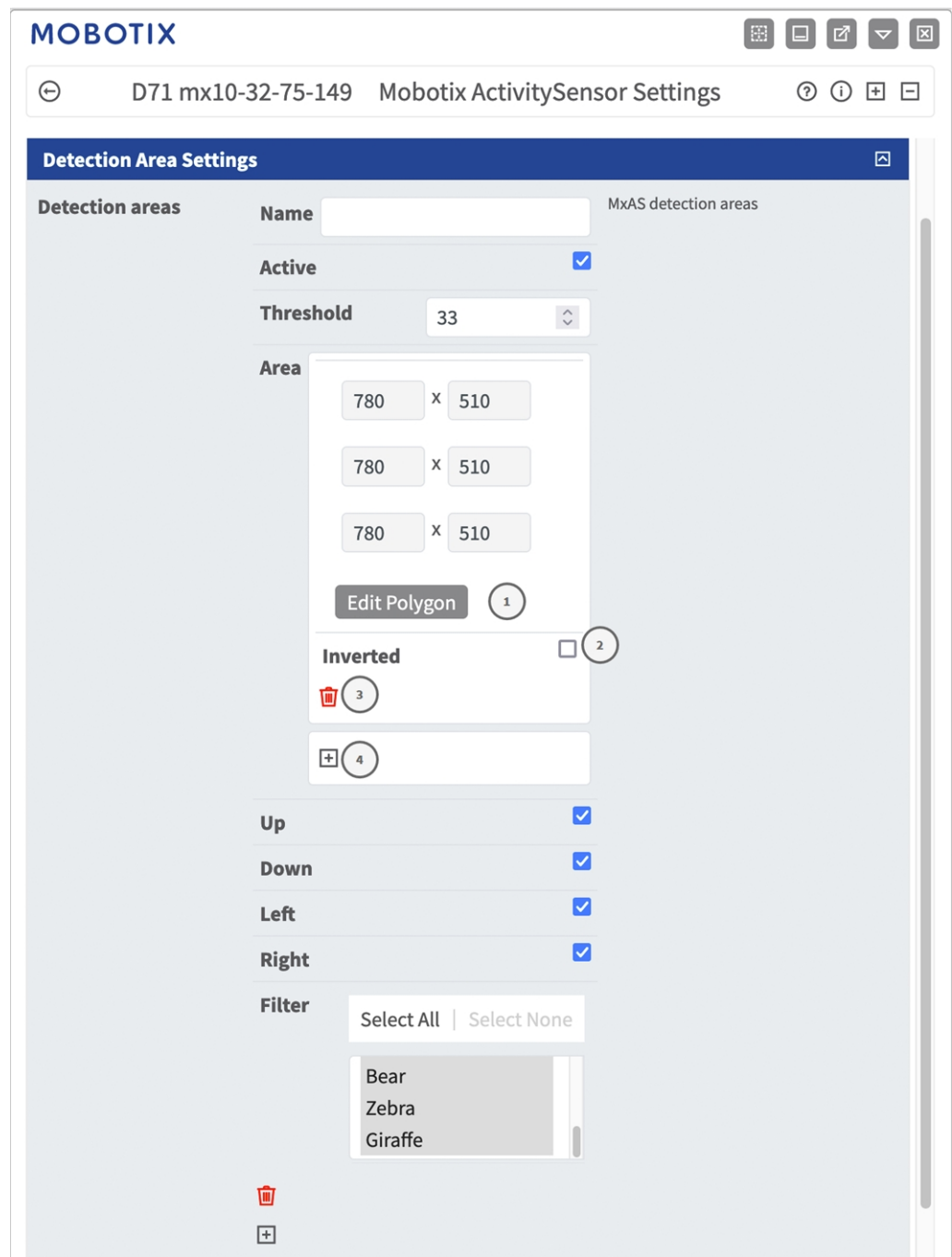


Fig. 12: Detection Area Settings

- Advanced:** Check to allow more detailed color selection.
- Detection Areas:** The following modes are available:
- Name:** Provide a meaningful name for the Detection Area.
- Active:** Check to activate the configured detection areas.
- Threshold:** Sensitivity of the activity detection algorithm.

Drawing a Detection Area:

1. Click **Edit Polygon** ① to switch into the live image.
2. In the live image click and drag a rectangular recognition area.
3. Drag the corner points to refine the recognition area.
4. In the top right corner of the live view click **Submit** to adopt the coordinates of the rectangle.
5. Optionally click **Invert** icon ② to invert the detection area.
6. Optionally click the **bin** icon ③ to delete the detection area.
7. Optionally click the **plus** icon ④ to define another Detection Area.

Direction: Select the directions in which detected objects must move to trigger an alarm:

Up

Down

Left

Right

Filter: Select the objects which trigger an alarm when detected.

Object Recognition Settings

Here you can calibrate the object recognition algorithm.

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Mobotix ActivitySensor Settings

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Mobotix ActivitySensor

General Settings

Detection Area Settings

Object Recognition Settings

Visualization Settings

Filter mode

Image

Choose mode used for combining results of Object Recognition with Mobotix Activity Sensor.
image filter: filters the background detection results with an extra mask based on the object recognition results
event filter: filters the emitted events based on the object recognition results

Padding

5

Number of extra pixels around the detected object to take into account for analysis.

Number of objects tracked

128

Maximum number of objects tracked per detection area. Only objects of the selected categories are tracked.

Max lost time

2

Maximum number of time (in seconds) a tracked object can be lost before being considered invalid.

Max lost frames

30

Maximum number of frames a tracked object can be lost before being considered invalid.

Max displacement

2

Maximum number of pixels a tracked object is allowed to move between detections before being considered invalid.

Min trigger

0

Minimum number of frames an object needs to be tracked before allowed to trigger an event.

Set

Factory

Restore

Close

Filter Mode: Filter mode used for combining results of object recognition with MOBOTIX Activity Sensor.

Image: filters the background detection results with an extra mask based on the object recognition results

Event: filters the emitted events based on the object recognition results

Padding: Number of pixels around the detected object to be taken into account for image analysis.

Number of objects tracked: Number of objects tracked. Only objects of the selected categories are tracked.

Max lost time: Maximum number seconds a tracked object can be lost before being considered invalid.

Max lost frames: Number of video frames a tracked object can be lost before being considered invalid.

Max displacement: Number of pixels a tracked object is allowed to move between detections before being considered invalid.

Min trigger: Number of video frames an object needs to be tracked before allowed to trigger an event.

Visualization Settings

Here you can define the visualization settings for detected objects.

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Mobotix ActivitySensor Settings

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Mobotix ActivitySensor

General Settings

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Detection Area Settings

☑

Object Recognition Settings

☑

Visualization Settings

☑

Show direction indicator

☐

Show the direction indicator in the live image

Show position indicator

☐

Show the position indicator in the live image

Show detection area

☐

Show the detection area in the live image

Show bounding boxes

☐

Show the bounding boxes of objects detected. Only object types selected in one of the profiles will be shown.

Show labels

☐

Show the labels of objects detected. Only object types selected in one of the profiles will be shown.

Set

Factory

Restore

Close

Show direction: Check to show the direction indicator in the live image.

Show position indicator: Check to show the position indicator in the live image.

Show detection area: Check to show the detection area in the live image.

Show bounding boxes: Check to show the bounding boxes of objects detected. Only object types selected in one of the profiles will be shown.

Show labels: Check to show the labels of objects detected. Only object types selected in one of the profiles will be shown.

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 automatically generated app event

Checking automatically generated app events

NOTE! After successfully activating the app (see [Activation of the Certified App Interface, p. 17](#)), a generic message event for this specific app is automatically generated in the camera.

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).

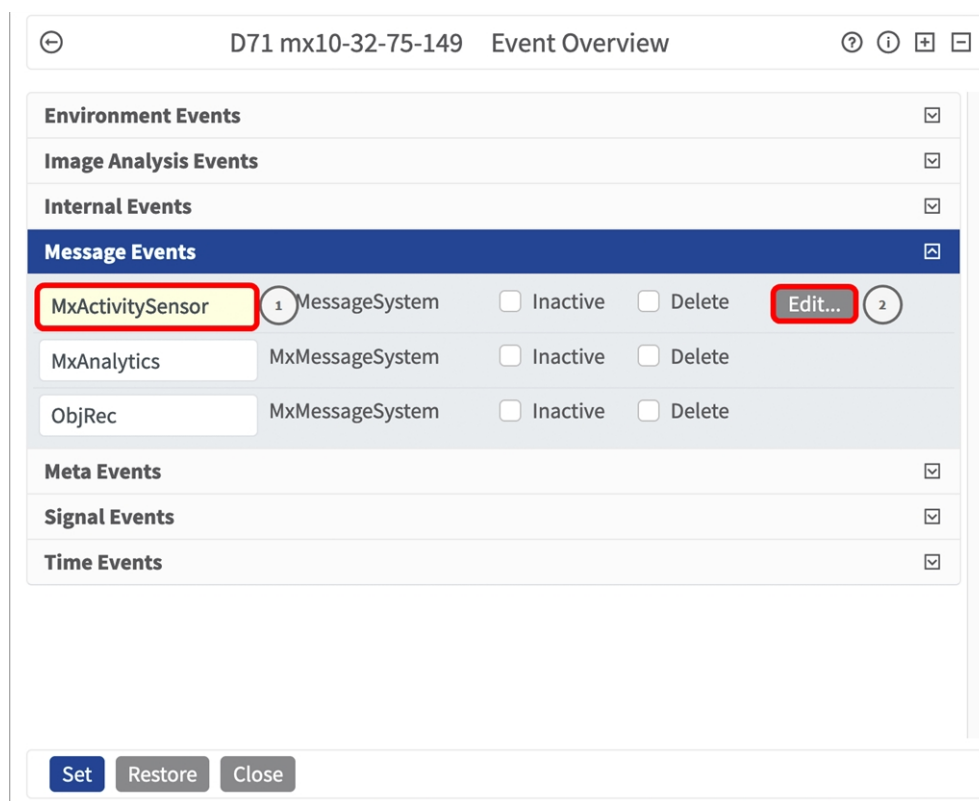


Fig. 13: Example: Generic message event from MOBOTIX ActivitySensor AI App

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

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Message Events

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

Events	Value	Explanation
MxActivitySensor	<div><div></div>Inactive<div></div>Delete<div></div></div>	
	5	Event Dead Time: Time to wait [0..3600 s] before the event can trigger anew.
Event Sensor Type	<div><div></div>IP Receive<div></div>MxMessageSystem</div>	Event Sensor Type: Choose the message sensor.
Event on receiving a message from the MxMessageSystem.		
	MxActivitySensor	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> .

Set

Factory

Restore

Close

Fig. 14: Example: Generic message event details - no filter

Action handling - Configuration of an action group

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 MOBOTIX ActivitySensor AI App event.

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)).

The screenshot shows the MOBOTIX Action Group Overview interface. At the top, there's a header with the MOBOTIX logo and a title bar showing 'D71 mx10-32-75-149 Action Group Overview'. Below the header, there are two action groups listed. The first group is 'VisualAlarm' with a 'Delete' button. The second group is 'Elefant Detected' with a 'Delete' button. Each group has an 'Arming' section with a dropdown menu (set to 'Off' for VisualAlarm and 'Enabled' for Elefant Detected) and an 'Events & Actions' section with a dropdown menu (set to '(select all)' for VisualAlarm and '-' for Elefant Detected). There is an 'Edit...' button for each group. At the bottom left, there is a red box around the 'Add new group' button, which is labeled with a circled '1'. Another red box is around the 'Edit...' button for the 'Elefant Detected' group, which is labeled with a circled '2'. At the bottom of the interface, there are three buttons: 'Set', 'Restore', and 'Close'.

Fig. 15: Defining Action Groups

2. Click **Add new group**^① and give a meaningful name.
3. Click **Edit** ^②, to configure the group.

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Action Group Details

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General Settings	Value	Explanation
Action Group	Elefant Detected	Name: The name is purely informational.
	Enabled <div>3</div>	Arming: 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.
	(No time table)	Time Table: Time table for this action profile (Time Tables).
Event Selection	<div>Image Analysis: VM (Image Analysis: VM) (Image Analysis: VM2) Message: MxActivitySensor <div>4</div> Message: MxAnalytics Message: ObiRec</div>	Event Selection: 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	5	Action Deadtime: Time to wait [0..3600 s] before a new action can take place.
	Simultaneously	Action Chaining: 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	Value	Explanation
<div>Add new action <div>5</div></div>		
<div>Set</div>	<div>Factory</div>	<div>Restore</div> <div>Close</div>

Fig. 16: Configuring an Action Group

1. Enable **Arming**³ of the Action Group.
2. Select your message event in the **Event selection** list ⁴ . To select multiple events, hold the shift key.
3. Click **Add new Action**⁵ .
4. Select a proper action from list **Action Type and Profile**⁶ .

Fig. 17: Select Action Type- and Profile

NOTE! If the required action profile is not yet available, you can create a new profile in the Admin Menu sections "MxMessageSystem", "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).

- Click on the **Set** ⑦ button at the end of the dialog box to confirm the settings.
- Click on **Close** ⑧ to save your settings permanently.

Action settings - Configuration of the camera recordings

- 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)).

←D71 mx10-32-75-149Recording? ⓘ + −

General Settings

	Value	Explanation
Arming	Enabled ①	Arm Recording: Controls camera recording. <i>Enabled:</i> activate recording. <i>Off:</i> deactivate recording. <i>SI:</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).

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: MxActivitySensor ③
Message: MxAnalytics
Message: ObjRec
(Signal: SI)

Start Recording:
Select the events which will start recording. Use [Ctrl]-Click to select more than one event. Events in parentheses need to be **activated** first.

Set ④actoryRestoreClose ⑤More

Fig. 18: Configuration of camera recording settings

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** ⓘ 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.

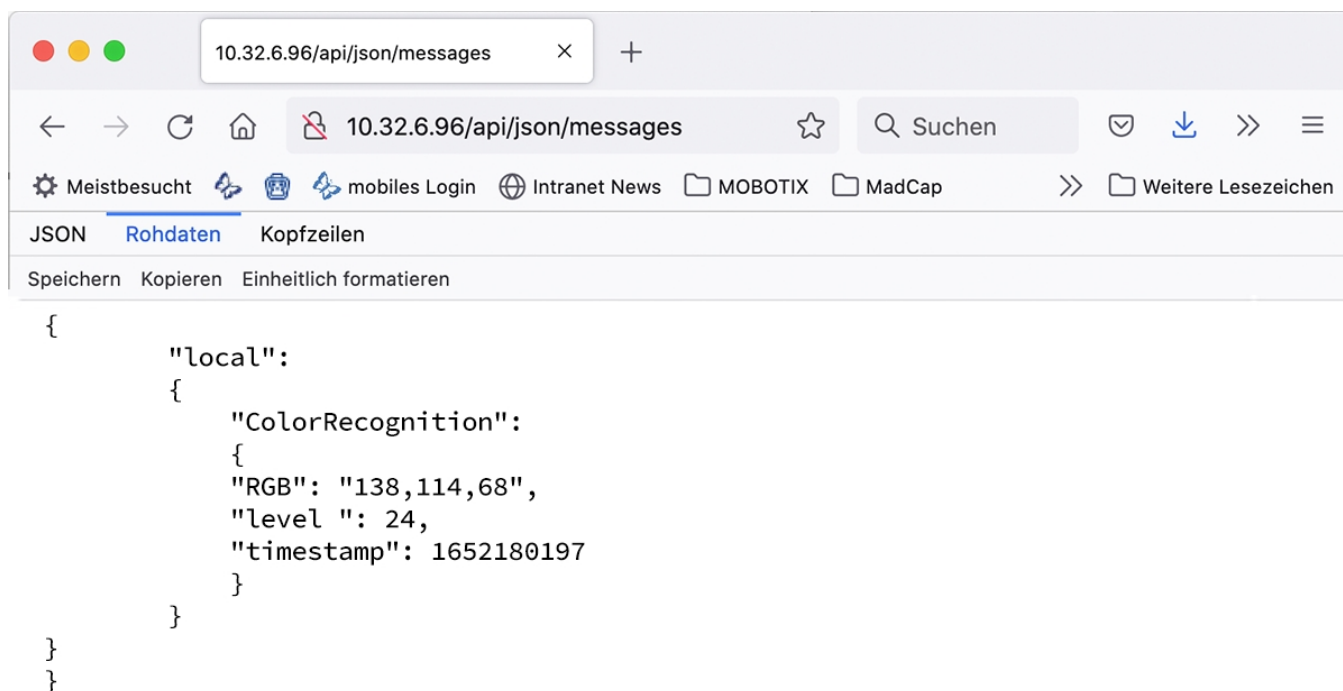


Fig. 19: Example: Meta data transmitted within a MxMessage of the MOBOTIX ActivitySensor AI App

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).

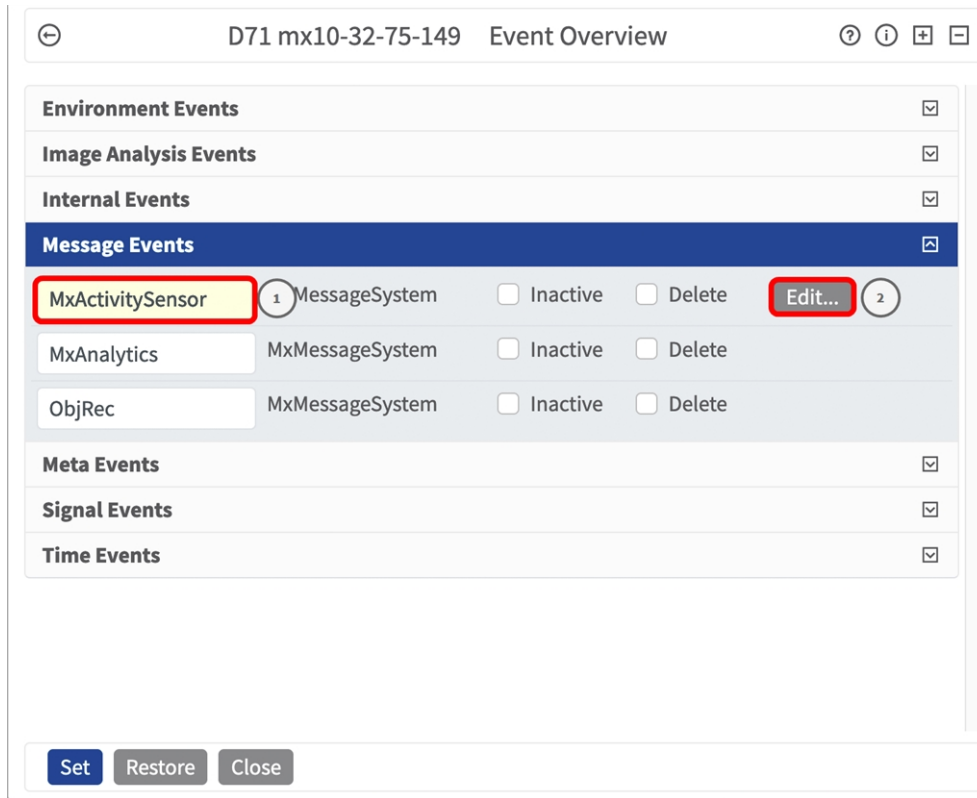


Fig. 20: Example: Generic message event from MOBOTIX ActivitySensor AI App

2. Click **Edit** ② to display a selection of all configured message events.

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TCP port to listen on.

Events	Value	Explanation
ColorRecognition 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	Event Sensor Type: Choose the message sensor.
Event on receiving a message from the MxMessageSystem.		
	ColorRecognition.Color 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.
	JSON Comparison	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> .
	"120,120,156" ⑤	Filter Value: Define either a valid reference value as a string (in JSON format) without line breaks, or an extended regular expression. Open help for examples. This parameter allows using variables .
MxAnalytics	<input type="checkbox"/> Inactive <input type="checkbox"/> Delete	<input checked="" type="checkbox"/>
ObjRec	<input type="checkbox"/> Inactive <input type="checkbox"/> Delete	<input checked="" type="checkbox"/>
VaxOCRUC	<input type="checkbox"/> Inactive <input type="checkbox"/> Delete	<input checked="" type="checkbox"/>
Add new profile		
Set ⑥	Factory	Restore Close

Fig. 21: Example: Corridor message event

3. Click on the event (e. g. MxActivitySensor) 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 MOBOTIX ActivitySensor AI App, p. 37](#))
- **Message Range:**
 - Local: Default settings for the MOBOTIX ActivitySensor AI 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 MOBOTIX ActivitySensor AI App, p. 37](#).

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 MOBOTIX ActivitySensor AI App

	MxMessage-Name	Filter value
Generic Event	ColorRecognition	
Color Event	ColorRecognition.RGB	"120,155,99"
Level Event	ColorRecognition.level	"90"
Timestamp Event	ColorRecognition.timestamp	Date string e. g.: "2021-10- 11T11:48:52+0200"



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