

Guideline

MOBOTIX Object Recognition App

© 2022 MOBOTIX AG

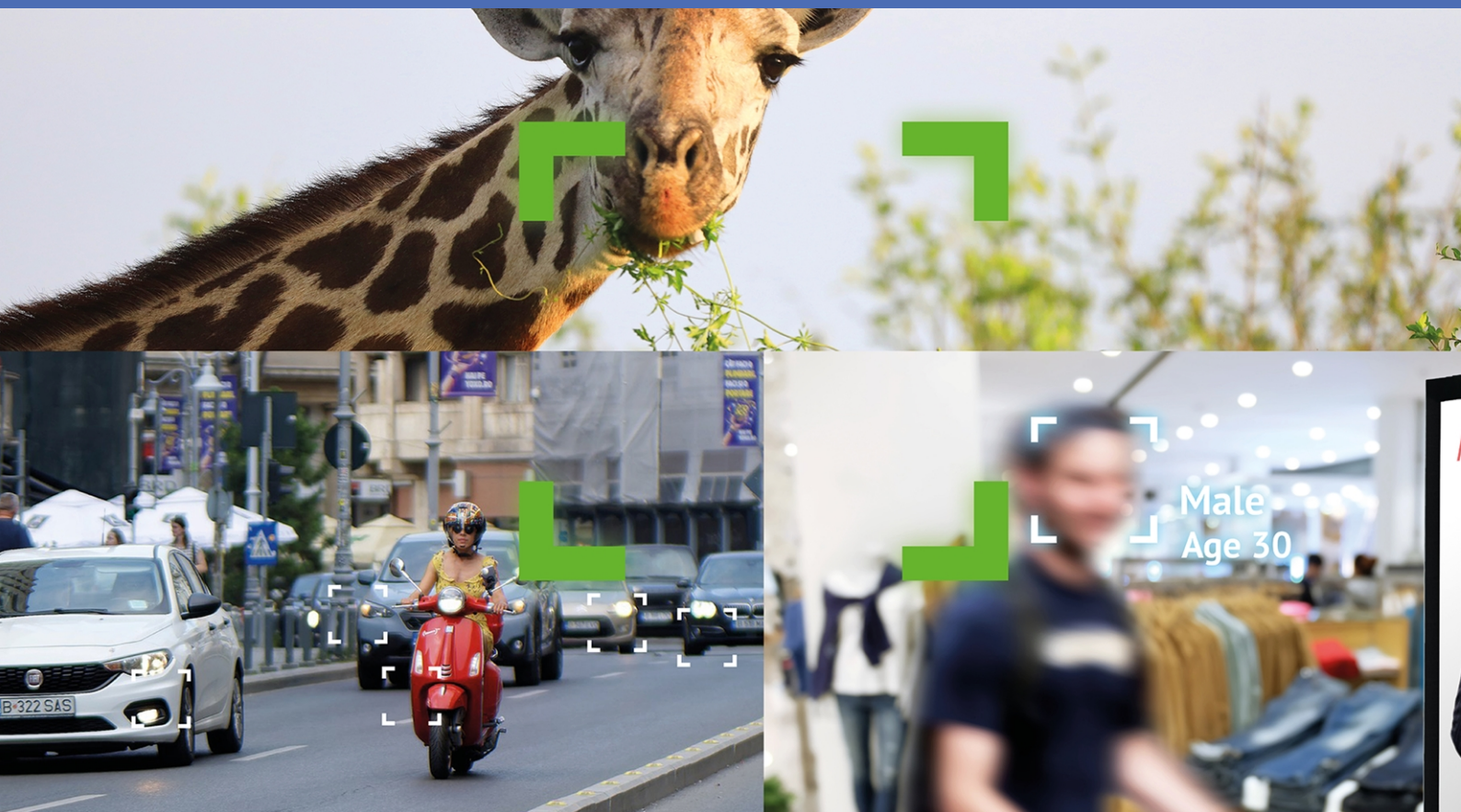


Table of Contents

Table of Contents	2
Before You Start	3
Support	4
Legal Notes	4
About MOBOTIX Object Recognition App	6
Smart Data Interface to MxManagementCenter	6
Technical Specifications	8
Licensing Certified Apps	10
License Activation of Certified Apps in MxManagementCenter	10
Managing Licenses in MxManagementCenter	14
Set Camera into AI Mode	17
Activation of the Certified App Interface	18
Configuration of MOBOTIX Object Recognition App	19
Basic Settings	19
Excluded Areas	20
MxMessageSystem	21
What is MxMessageSystem?	21
Facts about MxMessages	21
Basic configuration: Processing the automatically generated app events	22
Checking automatically generated app events	22
Action handling - Configuration of an action group	23
Action settings - Configuration of the camera recordings	25
Advanced Configuration: Processing the meta data transmitted by apps	27
Meta data transferred within the MxMessageSystem	27
Creating a Custom Message Event	28
Examples for message names and filter values of the MOBOTIX Object Recognition App	29

Before You Start

This section contains the following information:

Support	4
Legal Notes	4

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**



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 Object Recognition App

Object Recognition and Classification Based on Artificial Intelligence

The app's artificial intelligence-based algorithms collect behavioral data on persons, animals and vehicles. The detected objects can be widely classified and color-coded. Furthermore movements in defined restricted areas can be detected.

- Free of charge and license-free.
- Motion detection and object classification in (defined) restricted areas.
- The provides essential AI-based analytics functions for other MOBOTIX apps.
- MOBOTIX events via MxMessageSystem.
- Can be used with all cameras of the MOBOTIX 7 system platform.

Best suited for the requirements of the following industries:

Utilities, Energy & Mining; Industry & Production, Government, Traffic & Transportation, Retail, Healthcare, Education & Science.

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.

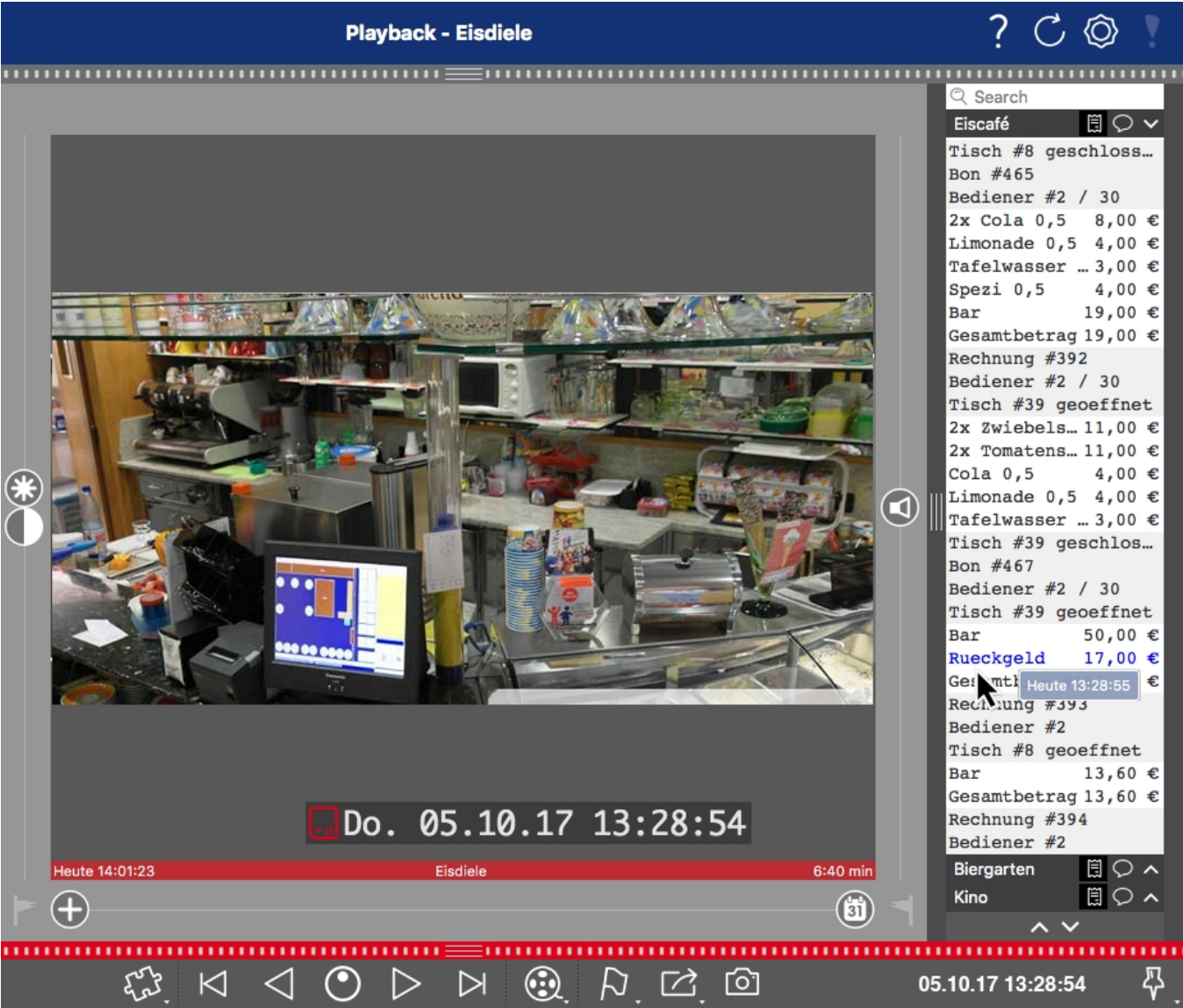


Fig. 1: : Smart Data Bar in MxManagementCenter (Example: POS System)

Technical Specifications

Product Information

Product Name	MOBOTIX Object Recognition App
Supported MOBOTIX Cameras	Mx-M73A, Mx-S74A
Minimum Camera Firmware	V7.0.6.x
MxManagementCenter Integration	■ min. MxMC v2.4 ■ Advanced Config license required

Product Features

App Features	Analytics features: ■ Deep learning object recognition as basis for MxAnalytics features ■ Restricted Area (Motion Detection) Basicfeatures: ■ time table to enable MxAnalytics only within defined schedules (e.g. opening hours) ■ MOBOTIX events via MxMessageSystem
Recognized objects	■ Persons ■ Vehicles: Car, Truck, Bus, Motorcycle, Bicycle, Boat, Airplane, Train ■ Animals: Bird, Cat, Dog, Horse, Sheep, Cow, Elephant, Bear, Zebra, Giraffe
Supported image sensor types	Day, Night, Day/Night
Dual / Multi Sensor usage	No
MxMessageSystem supported	Yes
MOBOTIX events	Yes
ONVIF Events	Yes (Generic Message events)

Hardware Requirements

Camera Sensor Connector	Connector 1 (Only one image sensor usable)
-------------------------	--

Scene Requirements for Object Recognition

Recommended camera position	wall mounted
Recommended installation height (camera)	2m - 4m
Recommended viewing angle on object	0° - 30° (wall mount perspective)
Minimum object size	1/10 of image height

Technical App Specifications

Synchronous / Asynchronous App	Asynchronous
Detection accuracy	Person: > 90% Vehicle: > 80%
Counting accuracy	> 90%
Processed number of frames per second	typ. 5 fps

Licensing Certified Apps

The following licenses are available for the MOBOTIX Object Recognition App:

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

The usage period begins with activation of the app interface (see [Activation of the Certified App Interface](#), p. 18)

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.

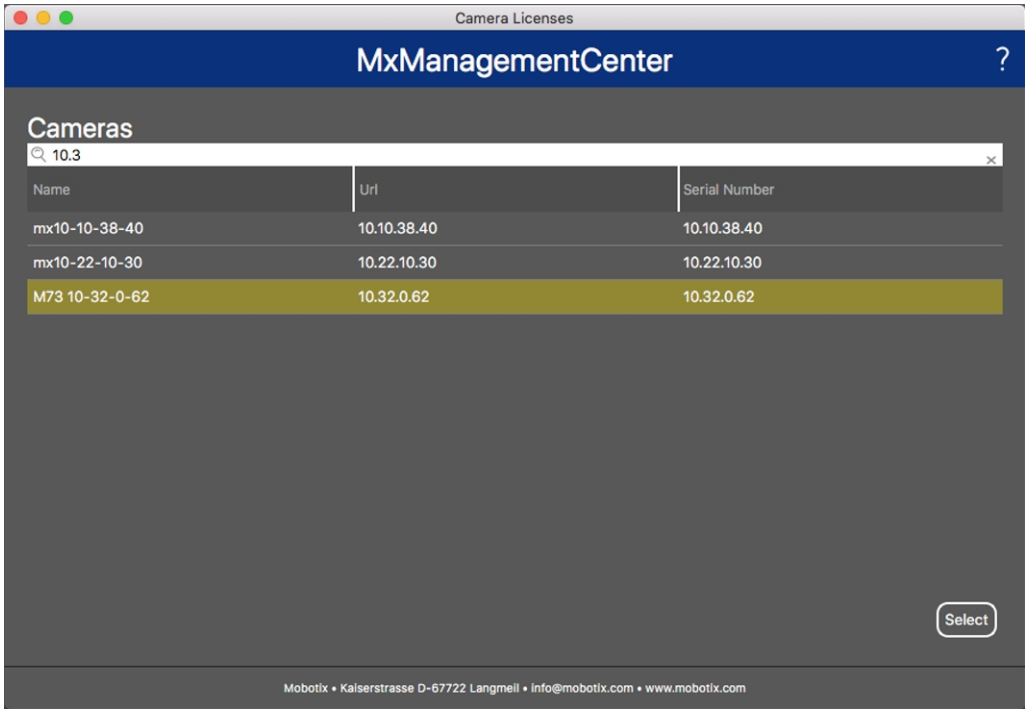
License Activation of Certified Apps in MxManagementCenter

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**.



The screenshot shows the 'Camera Licenses' window in MxManagementCenter. It features a search bar with '10.3' and a table of camera licenses. The table has columns for Name, Url, and Serial Number. The third row is highlighted in yellow.

Name	Url	Serial Number
mx10-10-38-40	10.10.38.40	10.10.38.40
mx10-22-10-30	10.22.10.30	10.22.10.30
M73 10-32-0-62	10.32.0.62	10.32.0.62

A 'Select' button is located at the bottom right of the table area. The footer contains contact information for Mobotix.

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**.



The screenshot shows the 'Camera License Status' for camera 'mx10-251-1-235'. It displays a table of installed licenses with columns for Name, Expiration, and Quantity. A warning message at the bottom indicates that the camera time is incorrect.

Name	Expiration	Quantity
MxWheelDetector	Permanent	Unlimited
iot_plugin_a	Permanent	Unlimited
iot_plugin_b	Permanent	Unlimited
iot_plugin_c	Permanent	Unlimited
iot_plugin_d	Permanent	Unlimited
iot_plugin_e	Permanent	Unlimited
iot_plugin_f	Permanent	Unlimited
iot_plugin_g	Permanent	Unlimited
iot_plugin_h	Permanent	Unlimited
iot_plugin_i	Permanent	Unlimited

A warning message states: 'Camera time is incorrect. Please reset your camera time before activating Licenses'. An 'Activate License' button is at the bottom right. The footer contains contact information for Mobotix.

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 .

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

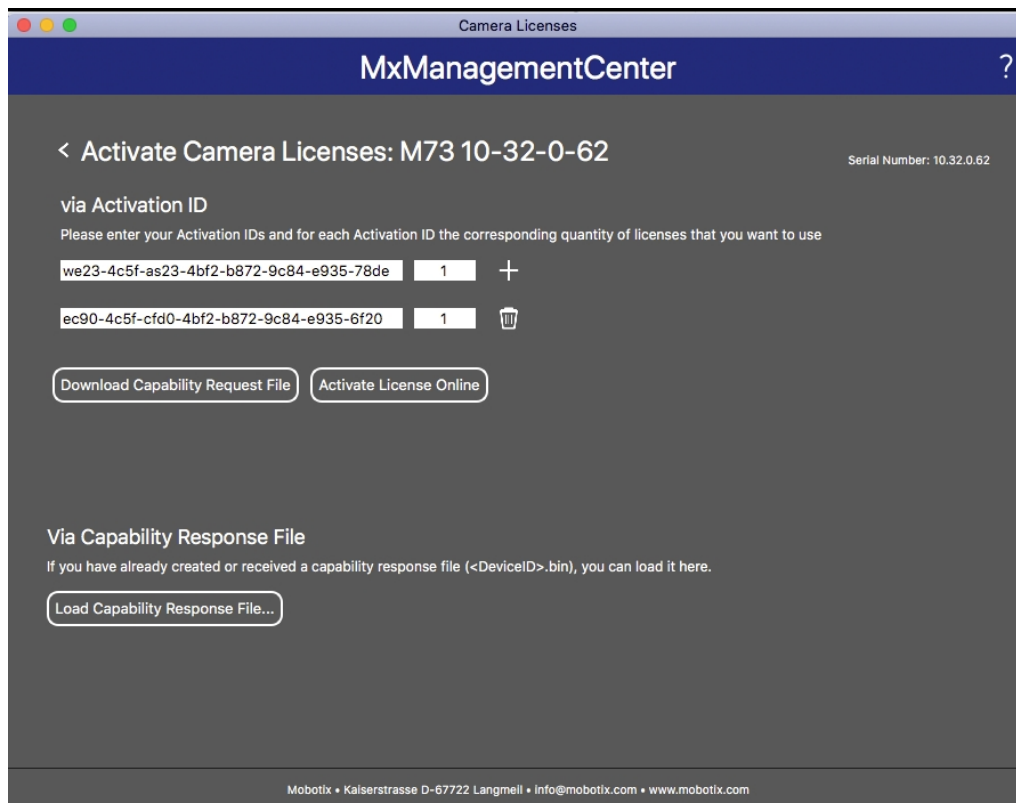


Fig. 4: Adding licenses

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.

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

Name	Url	Serial Number
mx10-10-38-40	10.10.38.40	10.10.38.40
mx10-22-10-30	10.22.10.30	10.22.10.30
M73 10-32-0-62	10.32.0.62	10.32.0.62

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**.

Name	Expiration	Quantity
MxWheelDetector	Permanent	Unlimited
iot_plugin_a	Permanent	Unlimited
iot_plugin_b	Permanent	Unlimited
iot_plugin_c	Permanent	Unlimited
iot_plugin_d	Permanent	Unlimited
iot_plugin_e	Permanent	Unlimited
iot_plugin_f	Permanent	Unlimited
iot_plugin_g	Permanent	Unlimited
iot_plugin_h	Permanent	Unlimited
iot_plugin_i	Permanent	Unlimited
iot_plugin_j	Permanent	Unlimited

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

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

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.

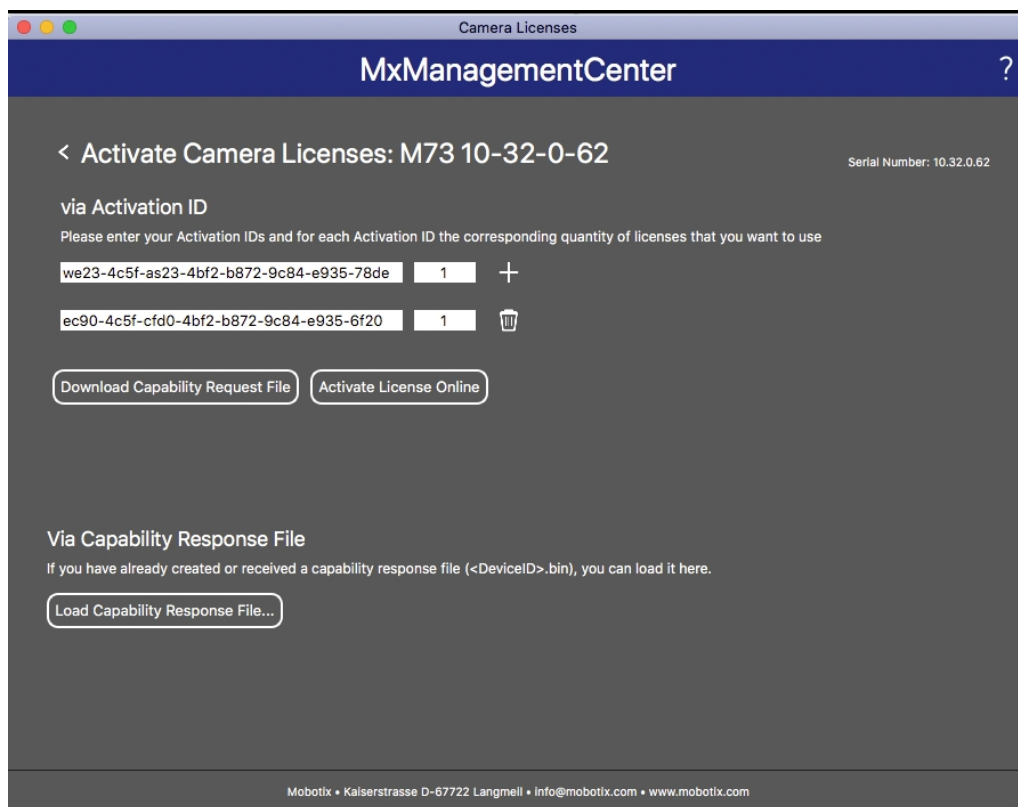


Fig. 7: Adding licenses

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**.

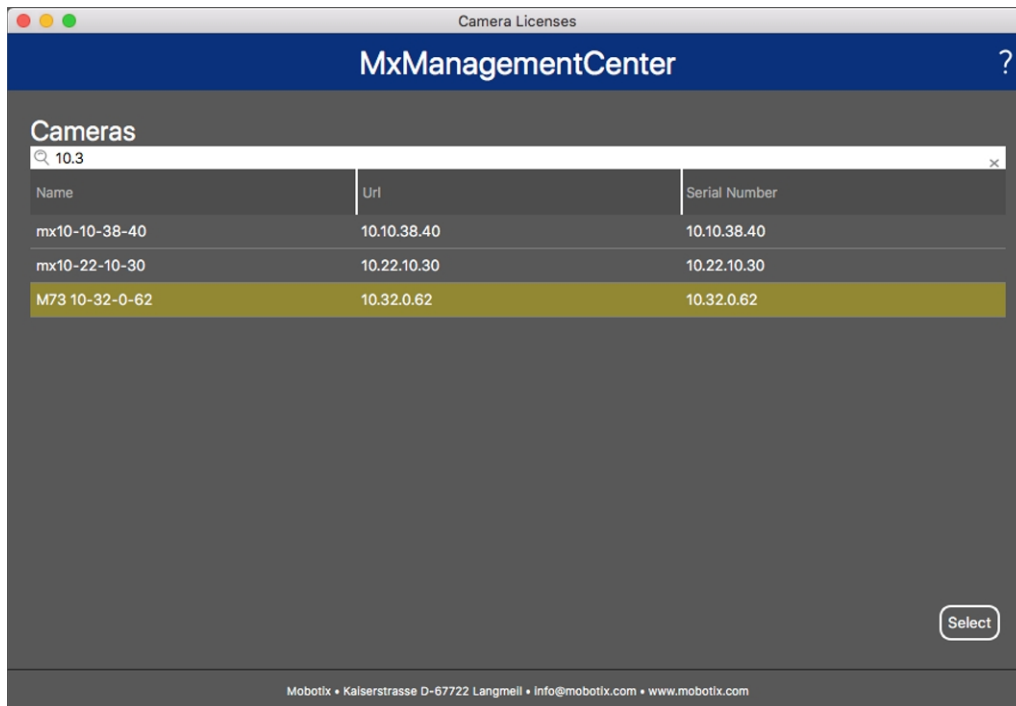


Fig. 8: Overview of Camera App Licenses in MxManagementCenter

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

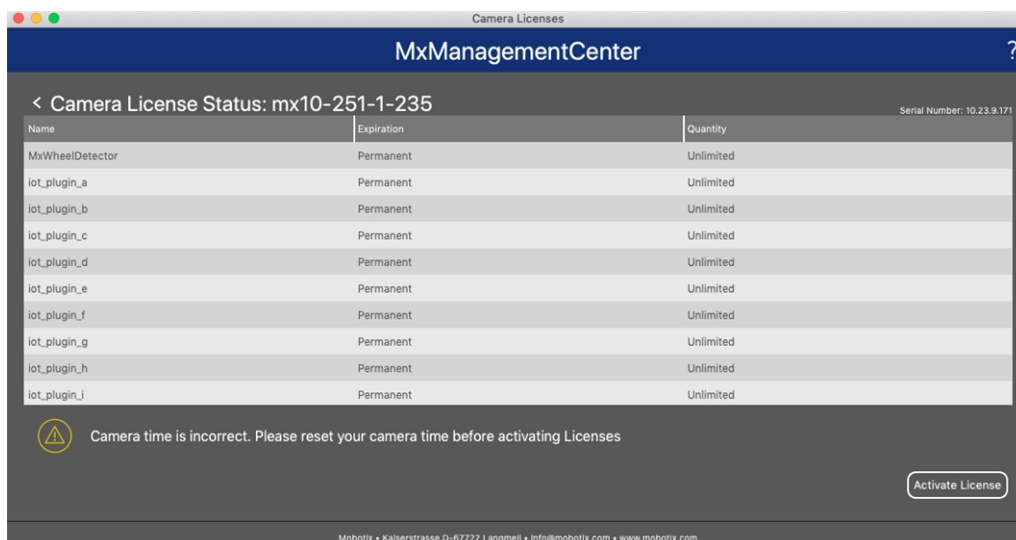


Fig. 9: Overview of the licenses installed on the camera

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.

Set Camera into AI Mode

The MOBOTIX Object Recognition App the camera to run in AI mode.

1. In the camera web interface, open: **Admin Menu / Hardware Configuration /**

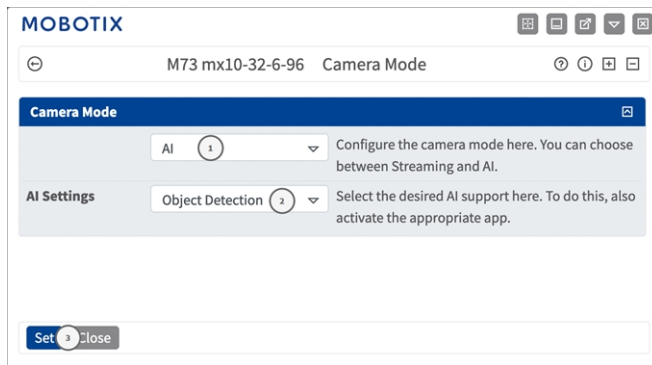


Fig. 10: Camera Mode Settings

2. Under **Camera Mode** select **AI**① .
3. Under **AI Settings** select **Object Recognition**② .
4. Decide how to store the configuration ③ :
 - Click on the **Set** button to activate your settings and to save them until the next reboot of the camera.
 - Click on the **Close** button 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.

Activation of the Certified App Interface

CAUTION! The MOBOTIX Object Recognition 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)).

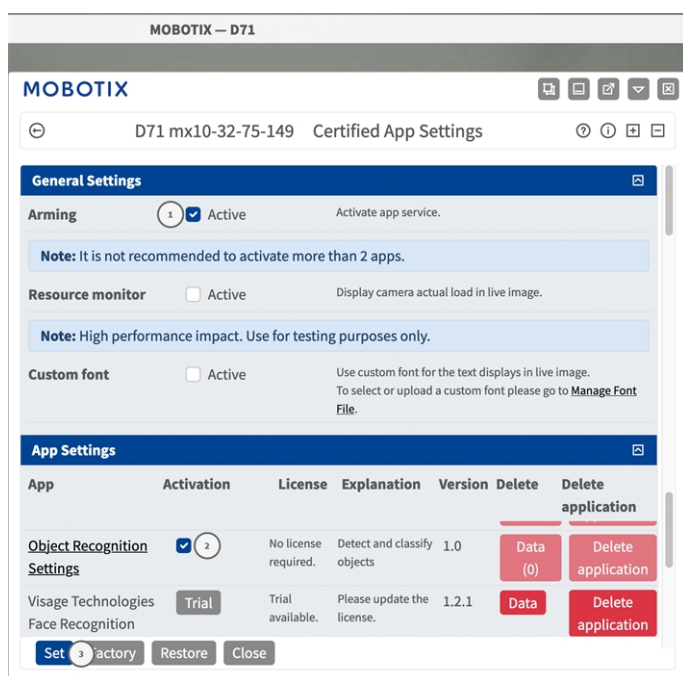


Fig. 11: Certified App: Settings

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 Object Recognition App, p. 19](#).

Configuration of MOBOTIX Object Recognition 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 Object Recognition App**.

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

Basic Settings

The following configurations should be taken into account:

The screenshot shows the 'Object Recognition Settings' window for a D71 mx10-32-75-149 camera. The settings are as follows:

- Object Recognition**
 - Threshold of confidence:** 47 (dropdown menu)
 - Minimum object size:** 36425 (dropdown menu)
 - Set minimum object size:** Set size (button)
- Bounding box display:** Cyan (dropdown menu)
- Text display:** Yellow (dropdown menu)
- Excluded Areas**
 - x:** 817 (input field)
 - y:** 165 (input field)
 - width:** 334 (input field)
 - height:** 794 (input field)
 - Area Label:** All (dropdown menu)
 - Add excluded area:** Add area (button)
- Display excluded areas:** ☒ (checkbox)

Help text on the right side of the settings:

- Threshold of confidence:** Set how much confidence in the result is required to classify an object (in percent). Higher values reduce incorrect classifications but might also cause some objects to not be detected at all.
- Minimum object size:** The minimum size an object needs to have to be detected. (In pixels, relative to a total image size of 1280x960)
- Set minimum object size:** Press "Edit Rectangle" to define a rectangle in the camera image. The rectangle can be drawn with the mouse (fingers for touch displays). Afterwards, the size and position can be changed using the handles at the corners. Confirm the rectangle with the check mark in the upper right corner of the camera image. Note that the rectangle should be a bit smaller than the smallest objects you wish to detect.
- Bounding box display:** The color in which the object boundaries will be drawn.
- Text display:** The color in which the confidence and object class will be drawn.
- Excluded Areas:** The object detection is always performed on the whole image in order to achieve the best results. You can however define areas in which any detected objects will be ignored.
- Add excluded area:** Press "Edit Rectangle" to define a rectangle in the camera image. The rectangle can be drawn with the mouse (fingers for touch displays). Afterwards, the size and position can be changed using the handles at the corners. Confirm the rectangle with the check mark in the upper right corner of the camera image.
- Display excluded areas:** Whether to show the excluded areas in the live-image

Fig. 12: Basic settings

Threshold of confidence: Set a percentage confidence value that is the minimum required for the analysis result to classify an object. Higher values reduce false classifications, but may also result in some objects not being recognized.

Minimum object size: The minimum size in pixels that an object must have in order to be recognized (based on a total image size of 1280x960 px).

Set minimum object size: Click **Set Size** to switch into the live view where you can draw a rectangle defining the minimum object size. In the top right corner of the live view click **Submit** to adopt the coordinates of the rectangle.

Bounding box display: The color of the text describing the confidence and object class.

Text display: Bounding box display.

Excluded Areas

The object detection is always performed on the whole image in order to achieve the best results. You can however define areas in which any detected objects will be ignored.

x / y: Set the coordinates of the top left corner of the Excluded Area.

width: width in pixel of the Excluded Area.

height: height in pixel of the Excluded Area.

Area Label: Select an Area label for the Excluded Area or select multiple labels by holding the command tab.

Adding an Excluded Area

1. Click **Add Area** ① to switch into the live image.
2. In the live view simply click and drag a rectangular excluded area.
3. Drag the corner points to refine the Excluded area.
4. In the top right corner of the live view click **Submit** to adopt the coordinates of the rectangle.
5. Optionally click the **bin** icon ② to delete the recognition area.

Display excluded Areas: Check to show Excluded Areas in the live image.

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 an MxMessage generated by a camera app with an Mx6 camera that does not support certified MOBOTIX apps.

Facts about MxMessages

- 128-bit encryption ensures 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 an MxMessage within its own camera system (e.g. through a Certified App).
 - **Global:** the camera expects an 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.

Basic configuration: Processing the automatically generated app events

Checking automatically generated app events

NOTE! After successfully activating the app (see [Activation of the Certified App Interface, p. 18](#)), 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 (e. g. ObjRec).

Environment Events				
Image Analysis Events				
Internal Events				
Message Events				
ColorRecognition	MxMessageSystem	☐ Inactive	☐ Delete	1
FFLPR_MMCR	MxMessageSystem	☐ Inactive	☐ Delete	
MxActivitySensor	MxMessageSystem	☐ Inactive	☐ Delete	
MxAnalytics	MxMessageSystem	☐ Inactive	☐ Delete	
ObjRec	MxMessageSystem	☐ Inactive	☐ Delete	
VaxALPR	MxMessageSystem	☐ Inactive	☐ Delete	
VaxALPRMMC	MxMessageSystem	☐ Inactive	☐ Delete	
Meta Events				
Signal Events				
Time Events				

Fig. 13: Example: Generic message event from MOBOTIX Object Recognition App

- Click **Edit**^① to display a selection of all configured message events.

MOBOTIX

D71 mx10-32-75-149 Message Events

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

Events	Value	Explanation
IRIS	☐ Inactive ☐ Delete	
MxAnalytics	☐ Inactive ☐ Delete	
ObjRec	☒ Inactive ☐ Delete	

Event Dead Time: 5
Time to wait [0..3600 s] before the event can trigger anew.

Event Sensor Type: ☐ IP Receive ☒ MxMessageSystem
Choose the message sensor.

Event on receiving a message from the MxMessageSystem.

ObjRec
Message Name: Defines an MxMessageSystem name to wait for.

Local
Message Range: There are two different ranges of message distribution:
Global: across all cameras within the current LAN.
Local: camera internal.

No Filter
Filter Message Content: Optionally choose how to ignore messages containing Filter Value. Select No Filter to trigger on any message with defined Message Name.

Add new profile

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 Object Recognition App event.

- Go to **Setup-Menu / Event Control / Event Overview / Action Group Overview** ([http\(s\)://<Camera IP address>/control/actions](http(s)://<Camera IP address>/control/actions)).

Basic configuration: Processing the automatically generated app events

Action handling - Configuration of an action group

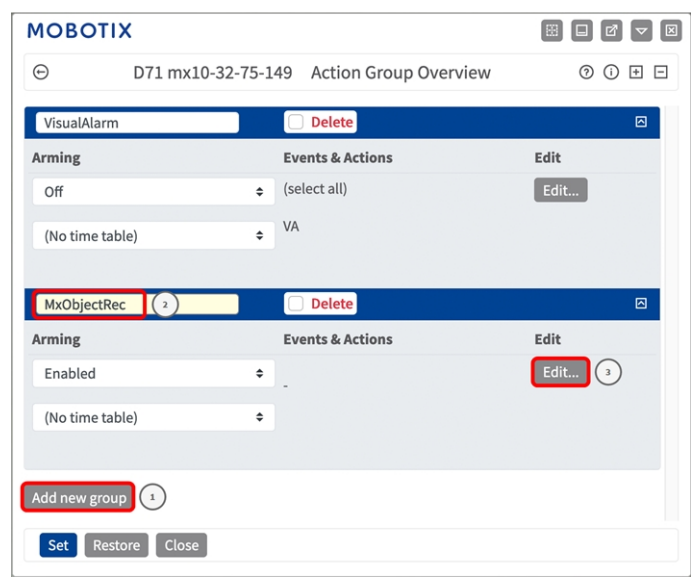


Fig. 15: Defining Action Groups

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

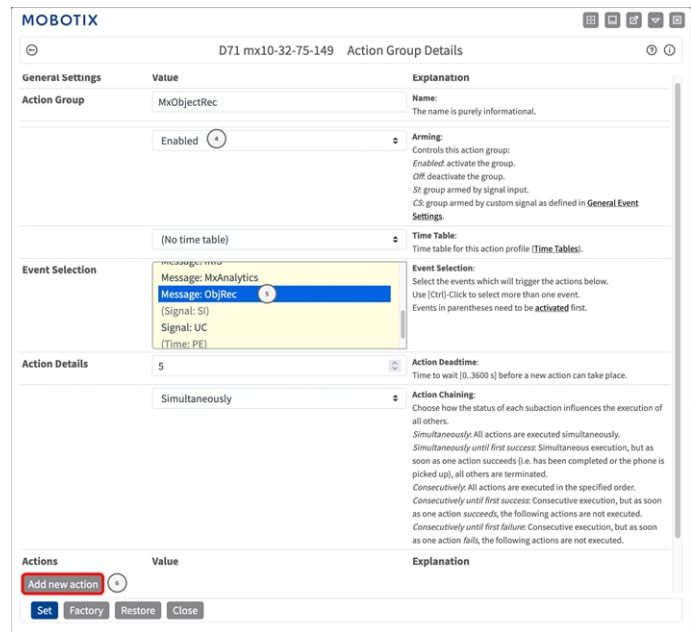


Fig. 16: Configuring an Action Group

- 4. Enable **Arming**④ of the Action Group.
- 5. Select your message event in the **Event selection** list ⑤ . To select multiple events, hold the shift key.
- 6. Click **Add new Action**⑥ .
- 7. Select a proper action from list **Action Type and Profile**⑦ .

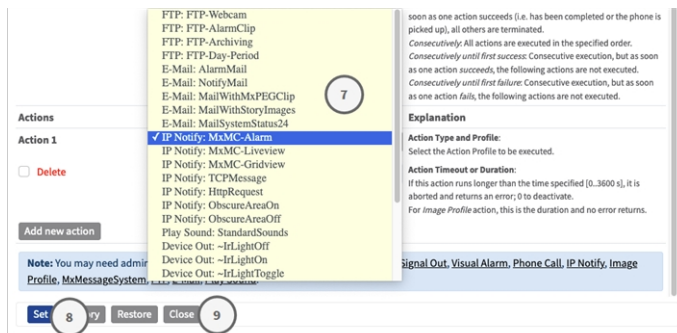


Fig. 17: Select Action Type- and Profile

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).

8. Click on the **Set** ⁸ button at the end of the dialog box to confirm the settings.
9. Click on **Close** ⁹ to save your settings permanently.

Action settings - Configuration of the camera recordings

1. Go to **Setup Menu / Event Control / Recording** ([http\(s\)://<Camera IP address>/control/recording](http(s)://<Camera IP address>/control/recording)).

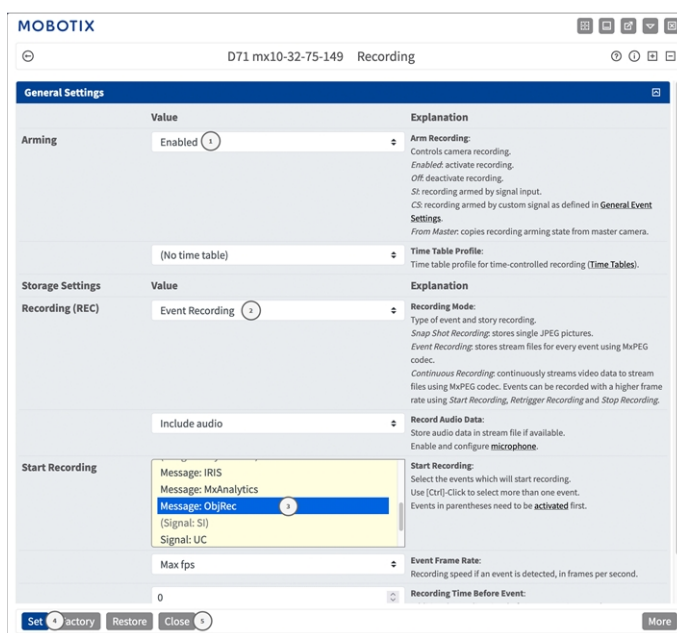


Fig. 18: Configuration of camera recording settings

Basic configuration: Processing the automatically generated app events

Action settings - Configuration of the camera recordings

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.

Advanced Configuration: 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 an MxMessage.

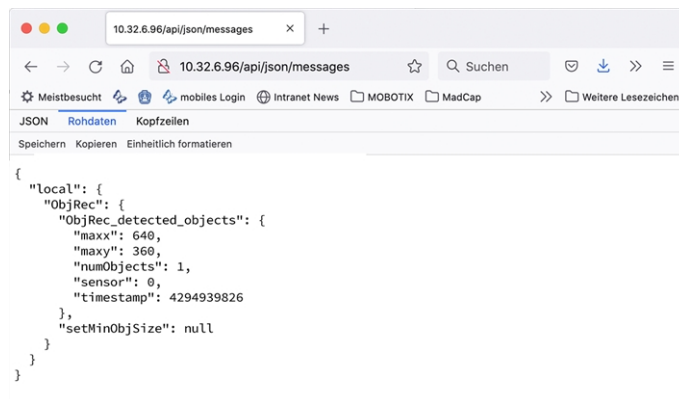


Fig. 19: Example: Meta data transmitted within an MxMessage of the MOBOTIX Object Recognition App

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`

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 (e. g. ObjRec).

Environment Events				
Image Analysis Events				
Internal Events				
Message Events				
ColorRecognition	MxMessageSystem	☐ Inactive	☐ Delete	Edit... 1
FFLPR_MMCR	MxMessageSystem	☐ Inactive	☐ Delete	
MxActivitySensor	MxMessageSystem	☐ Inactive	☐ Delete	
MxAnalytics	MxMessageSystem	☐ Inactive	☐ Delete	
ObjRec	MxMessageSystem	☐ Inactive	☐ Delete	
VaxALPR	MxMessageSystem	☐ Inactive	☐ Delete	
VaxALPRMMC	MxMessageSystem	☐ Inactive	☐ Delete	
Meta Events				
Signal Events				
Time Events				

Fig. 20: Example: Generic message event from MOBOTIX Object Recognition App

2. Click **Edit** 1 to display a selection of all configured message events.

MOBOTIX — D71 mx10-32-75-149

MOBOTIX

D71 mx10-32-75-149

Message Events

ObjRec 1

Inactive

Delete

5

Event Dead Time:
Time to wait (0..3600 s) before the event can trigger anew.

Event Sensor Type

☐ IP Receive

☒ MxMessageSystem

Event Sensor Type:
Choose the message sensor.

Event on receiving a message from the MxMessageSystem.

ObjRec 2

Local

Regular Expression

Message Name:
Defines an MxMessageSystem name to wait for.

Message Range:
There are two different ranges of message distribution:
Global: across all cameras within the current LAN.
Local: camera internal.

Filter Message Content:
Optionally choose how to ignore messages containing *Filter Value*. Select *No Filter* to trigger on any message with defined *Message Name*.

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*.

Set 4 Factory

Restore

Close 5

Fig. 21: Example: Unique license plate event

3. Click on the event (e. g. ObjRec) to open the event settings.
4. Configure the parameters of the event profile as follows:

- **Message Name:** Enter the "Message Name" ② according to the event documentation of the corresponding app (see [Examples for message names and filter values of the MOBOTIX Object Recognition App, p. 29](#))
- **Message Range:**
 - Local: Default settings for the MOBOTIX Object Recognition 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:** ③ see [Examples for message names and filter values of the MOBOTIX Object Recognition App, p. 29](#).

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**④ at the end of the dialog box to confirm the settings.
3. Click on **Close**⑤ to save your settings permanently.

Examples for message names and filter values of the MOBOTIX Object Recognition App

MxMessage Name	Filter Value	Explanation
ObjRec	"numObjects":[^\0]	Message if any object is found in the image
ObjRec	"car"	Message when a car is detected in the image
ObjRec	"object3"	Message if at least 3 arbitrary objects were found in the image
ObjRec	^([^\]*"person"){4}	Message, if at least 4 persons were found



EN_07/22

MOBOTIX AG • Kaiserstrasse • D-67722 Langmeil • Tel.: +49 6302 9816-103 • sales@mobotix.com • www.mobotix.com

MOBOTIX is a trademark of MOBOTIX AG registered in the European Union, the U.S.A., and in other countries. Subject to change without notice. MOBOTIX do not assume any liability for technical or editorial errors or omissions contained herein. All rights reserved. © MOBOTIX AG 2020