Guideline

MOBOTIX Advanced Radiometry App

© 2023 MOBOTIX AG
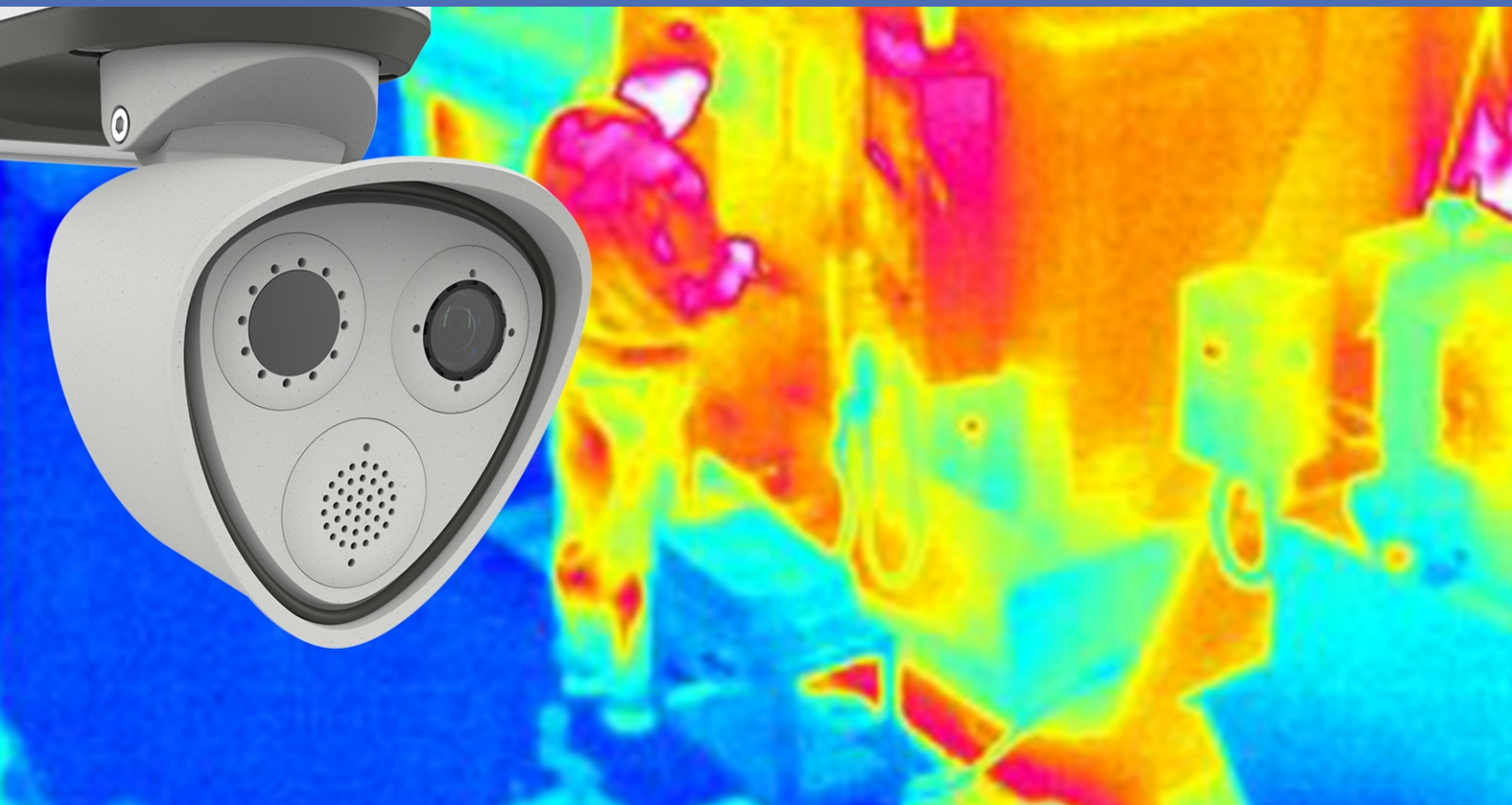
BeyondHumanVision

MOBOTIX

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Before You Start

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 Advanced Radiometry App

MOBOTIX Advanced Radiometry App

Monitor multiple temperature ranges with high accuracy on a single camera image and define different escalation levels. Connection to existing systems and integration into projects is child's play thanks to a variety of standard interfaces.

- Extension of the temperature measurement functions of MOBOTIX Thermal Radiometry cameras (CNPP France compliant)
- Individual calibration of up to 20 temperature measurement area (e.g. emissivity values)
- Temperature events when defined temperature thresholds are exceeded
- Detection of physical manipulation of the thermal sensor (e.g. sensor covered)
- Reporting of temperature data and threshold status of each zone via MODBUS/TCP and JSON

Best suited for the requirements of the following industries:

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

NOTE! this app can only be used with thermal sensors in linear operating mode. If an event profile is defined for a sensor that is either not a thermal sensor or is not in linear mode, the corresponding definition has no effect. If supported by the thermal sensor, you can activate the linear mode in the Thermal Sensor Settings of the camera.

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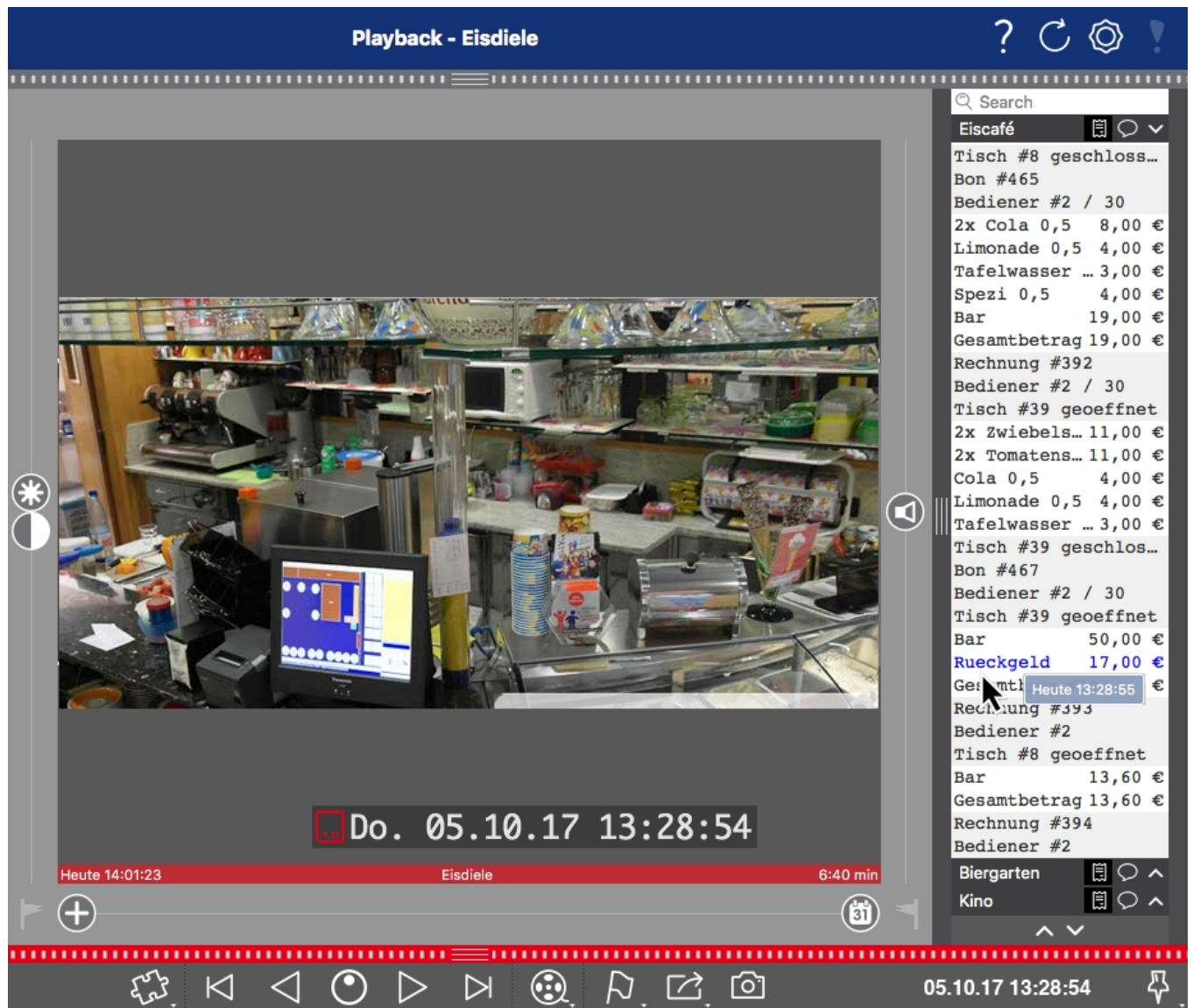
Fig. 1: : Smart Data Bar in MxManagementCenter (Example: POS System)

Technical Specifications

Product Information

Product Name	MOBOTIX Advanced Radiometry App
Supported MOBOTIX Cameras	M73 (Thermal Radiometry Sensor required)
Minimum Camera Firmware	V7.3.1.x
MxManagementCenter Integration	- min. MxMC v2.7 - Advanced Config license required - Event Search: Smart Data Interface license included
MOBOTIX HUB compatibility	- min. MOBOTIX HUB version: 2021 R1 - min. MOBOTIX HUB license level for Analytics Events: L2 - min. MOBOTIX HUB license level for MOBOTIX Event Search Plug-In: L4
Trial license	30-day trial license pre-installed

Product Features

App Features	- Extension of the temperature measurement functions of MOBOTIX Thermal Radiometry cameras (CNPP 19005 compliant) - Definition of up to 20 temperature measurement areas within the field of view of the camera - individual calibration of each temperature measurement area (e.g. emissivity values) - Temperature events when defined temperature thresholds are exceeded - Detection of physical manipulation of the thermal sensor (e.g. sensor covered) - MOBOTIX events via MxMessageSystem
Maximum number of measurement areas	20
Supported thermal sensor types	Thermal Radiometry

Dual / Multi Sensor usage	Yes
MxMessageSystem sup-ported	Yes
Integration Interfaces	■ Milestone X-Protect (via XML) ■ Generic 3rd party integration through XML, JSON and MODBUS/TCP
MOBOTIX events	Yes
ONVIF Events	Yes (Generic Message events)

Scene Requirements for Object Recognition

Recommended camera position	no restrictions

Technical App Specifications

Synchronous / Asynchronous App	Asynchronous
Detection accuracy	Depending on the thermal sensor module used
Simultaneous execution of other apps	Yes (depending on performance expectations)

Licensing Certified Apps

The following licenses are available for the MOBOTIX Advanced Radiometry 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.
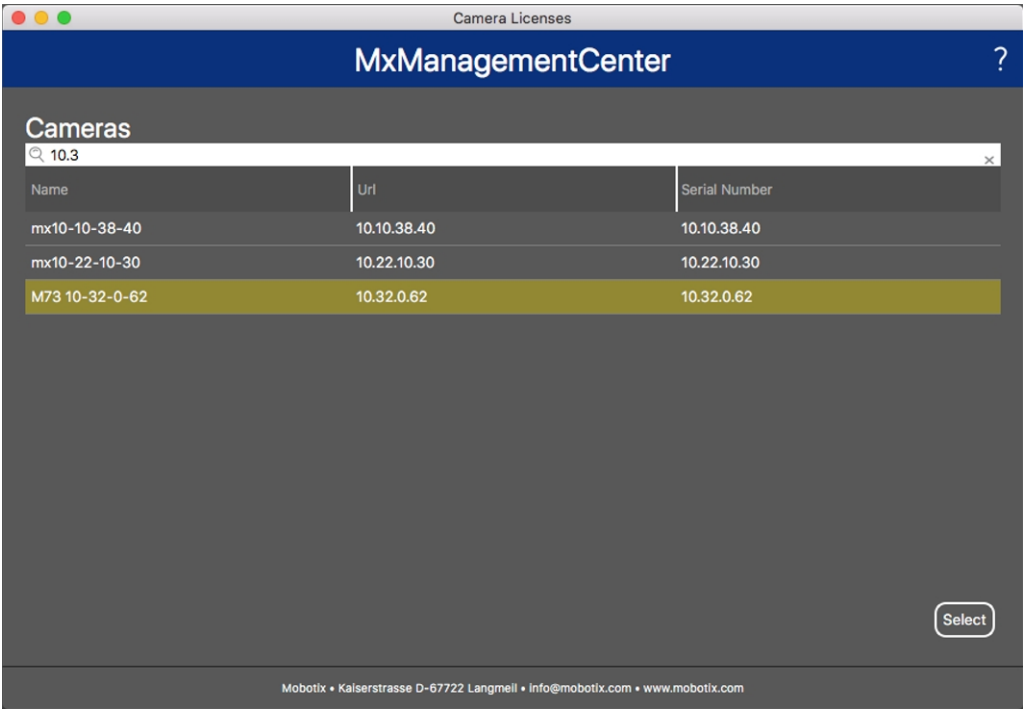
License Activation of Certified Apps in MxManagementCenter

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**.
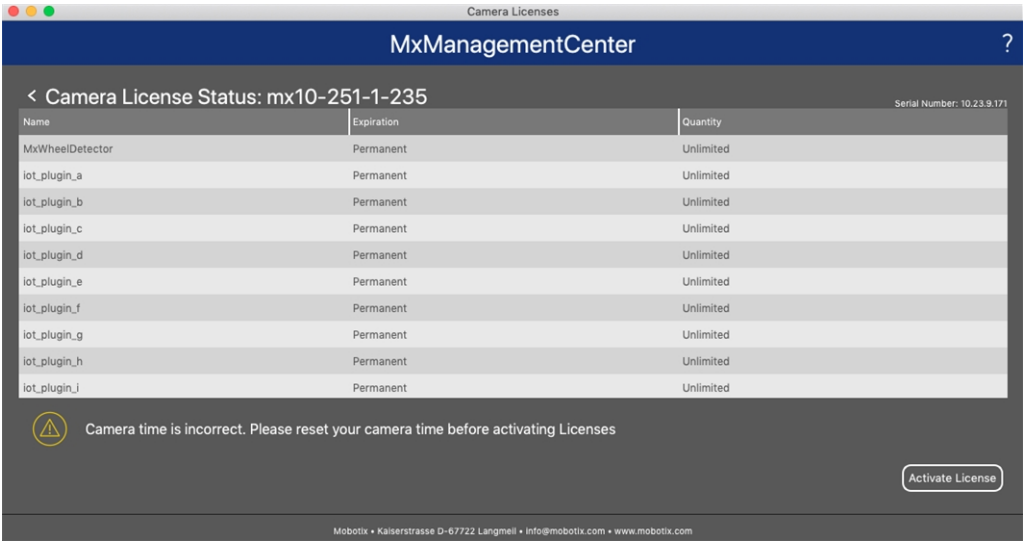2. Select the camera on which you want to license apps and click **Select**.

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.
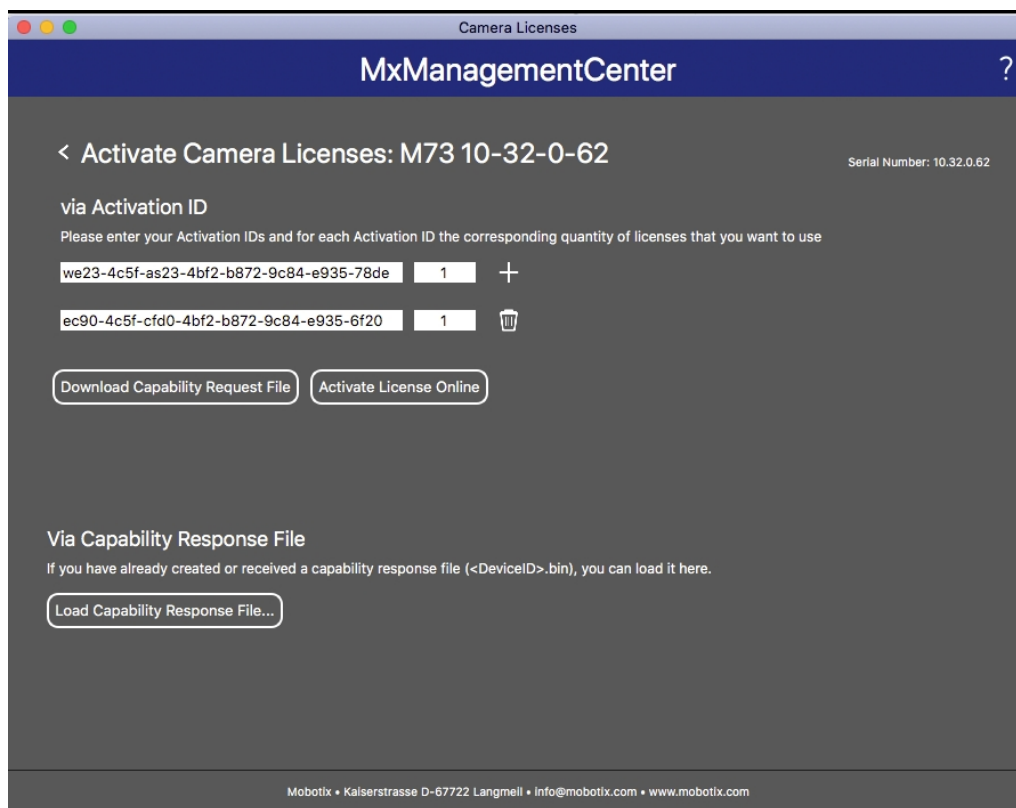
Fig. 4: Adding licenses

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**.
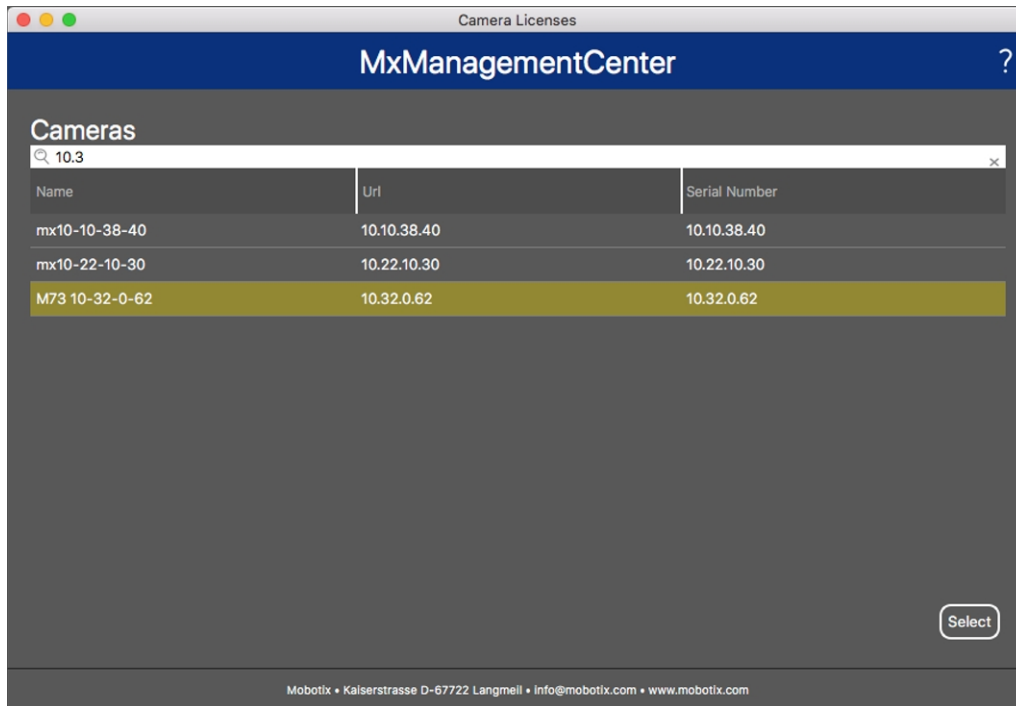

Fig. 6: Overview of the licenses installed on the camera

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

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.
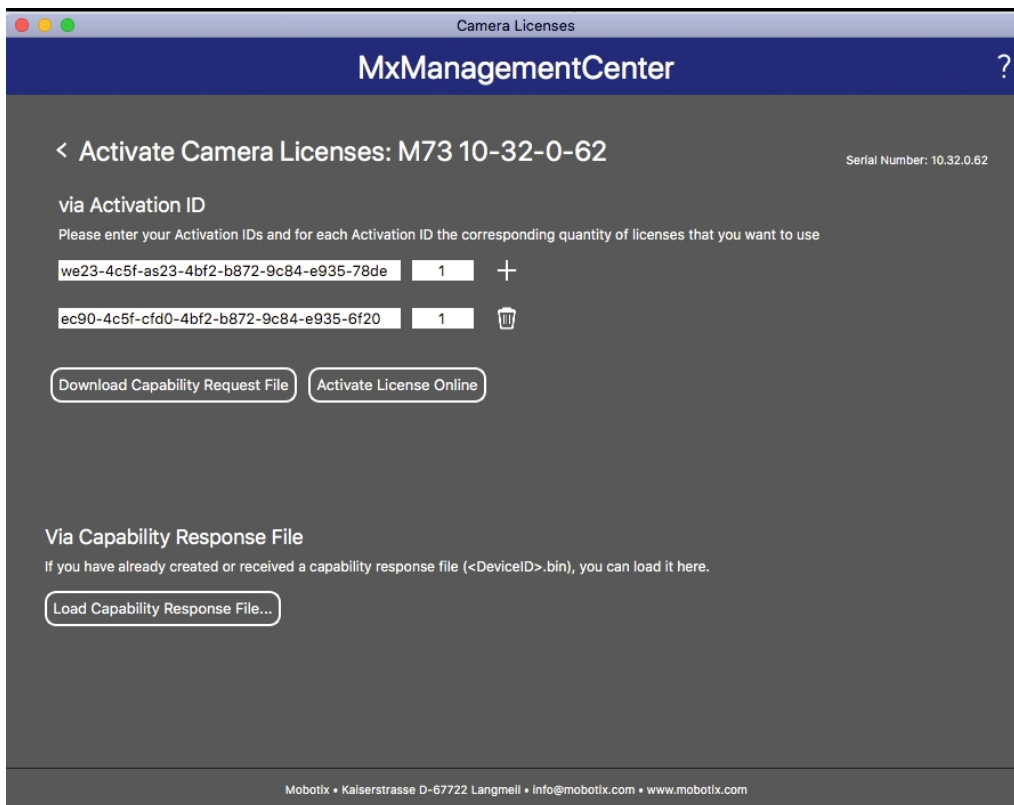
Fig. 7: Adding licenses

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**.
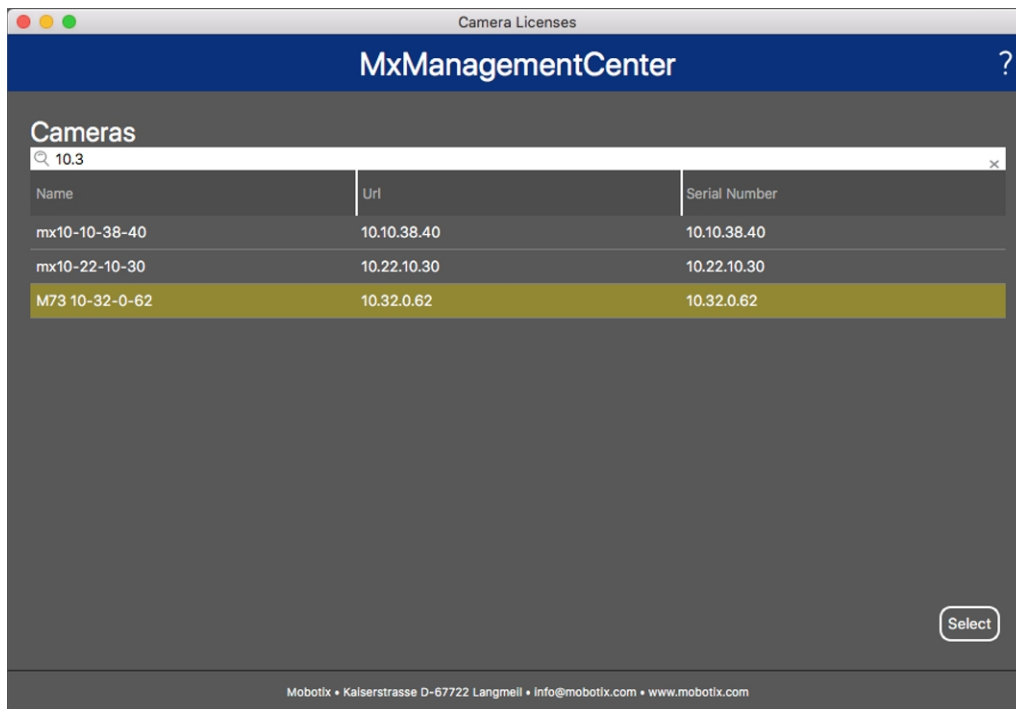
Fig. 8: Overview of Camera App Licenses in MxManagementCenter

An overview of the licenses installed on the camera may be displayed.
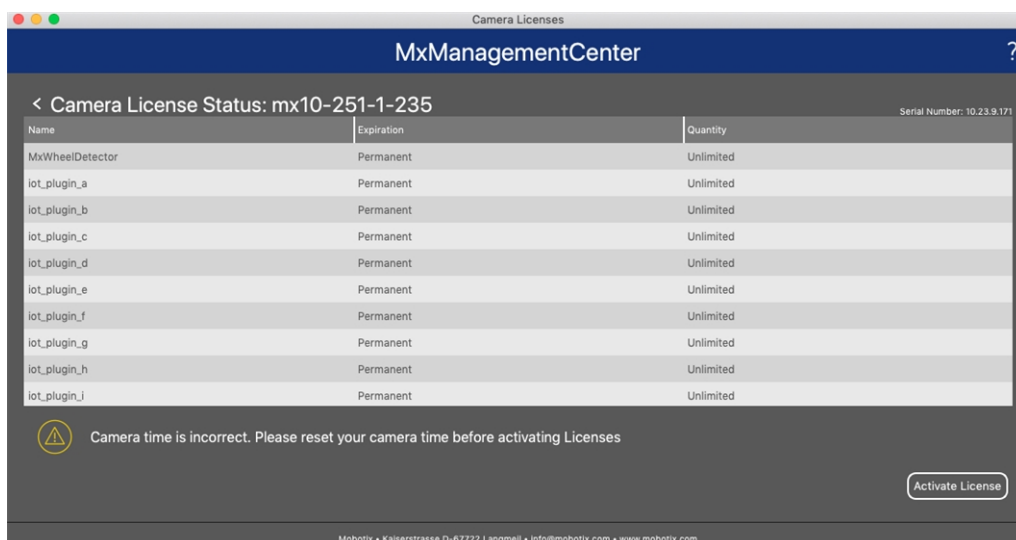
Fig. 9: Overview of the licenses installed on the camera

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 Advanced Radiometry 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). 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).
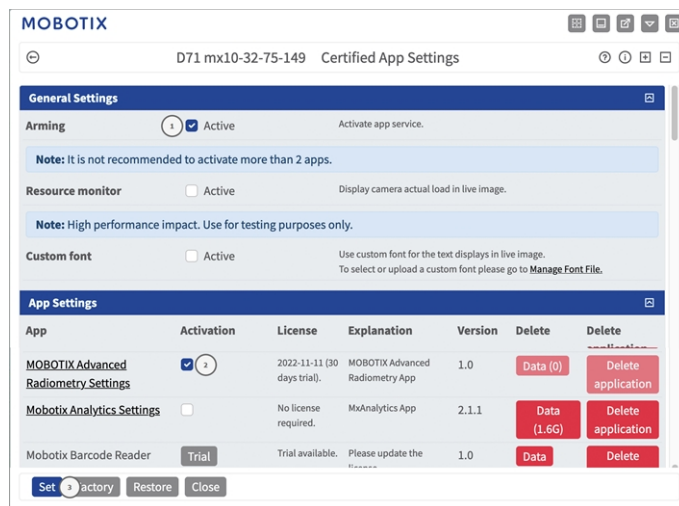

Fig. 10: Certified App: Settings

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 Advanced Radiometry App, p. 18.

Configuration of MOBOTIX Advanced Radiometry App

> **NOTE!** The user must have access to the setup menu (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).
2. Click on the name of the **MOBOTIX Advanced Radiometry App**.

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

General Settings

The following configurations should be taken into account:
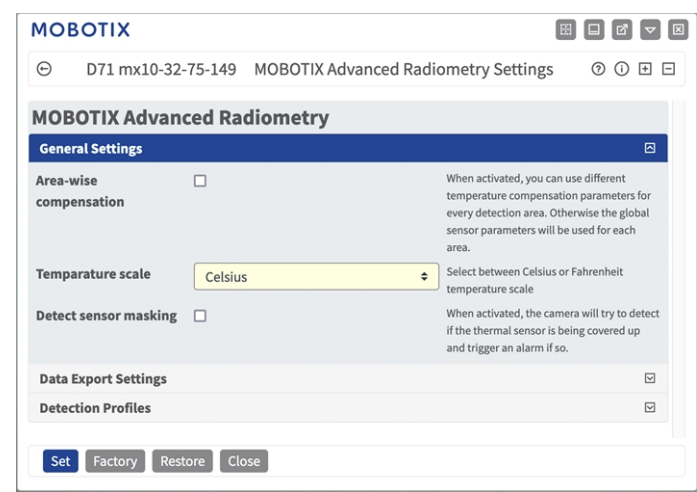
Fig. 11: General Settings

Area-wise compensation: Check to use different temperature compensation parameters for every detection area. Otherwise the global sensor parameters will be used for each area.

Temparature scale: Select between Celsius or Fahrenheit temperature scale.

Detect sensor masking: When activated, the camera will try to detect if the thermal sensor is being covered up and trigger an alarm if so.

> **NOTE!** This function uses additional resources of the camera and thus affects its performance.

Data Export Settings

The following configurations should be taken into account:
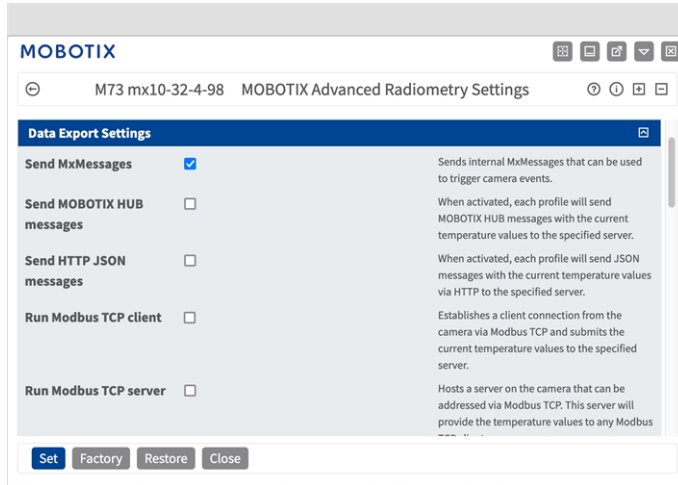
Send MxMessages: When activated, each profile will send camera-internal MxMessages which can be used to trigger camera events.

Send MOBOTIX Hub Messages: When activated, each profile will send MxHUB compatible XML messages containing the current temperature values to the specified server.

> **Server address:** The IP address or host name of the MOBOTIX Hub Server

> **Port number:** The port number of the MOBOTIX Hub Server.

Send HTTP JSON messages: When activated, each profile will send JSON messages with the current temperature values via HTTP to a specified server.

> **HTTP server address:** The URL of the server.

> **Port number:** The port number of the server.

> **Username:** Username for authenticating at the server, if required.

> **Password:** Password for authenticating at the server, if required.

Run Modbus TCP client: Sends the highest, lowest and average temperatures of all event profiles over a Modbus TCP connection. As a client, the camera periodically connects to the specified server and sends the temperature values.

> **IP address:** The IP address of the server.

> **Port number:** The port number of the server.

> **Modbus message frequency:** The message frequency defines the waiting time (in seconds) between individual messages.

Run Modbus TCP server: Sends the highest, lowest and average temperatures of all event profiles over a Modbus TCP connection. As a server, clients can connect to the camera via the specified port.

> **IP address:** The IP address of the server.

> **Port number:** The port number of the server.

> **Modbus message frequency:** The message frequency defines the waiting time (in seconds) between individual messages.

Detection Profiles

The following categories of Detection Profiles are available:

Limit Event profiles: For limit event profiles, you can specify a detection area and a trigger threshold. The temperature in the detection area is compared to this threshold value and the alarm is triggered based on the result.

Range Event profiles: For range event profiles, you can specify a detection area, a low trigger threshold, and a high trigger threshold. The temperature in the detection area is compared to both threshold values and the alarm is triggered based on both results.

Delta Event profiles: For delta event profiles, you can specify a detection area, a temperature value, and a time window. If the temperature in the detection area changes by more than the specified temperature over the specified time window, an alarm is triggered.

Range Event profiles with reference area: Limit and range event profiles can also be operated with a reference area instead of fixed temperature values. The values used to trigger an alarm are then calculated in comparison to the temperatures measured in the reference area.

In each category you can define multiple detection zones as a polygon.

> **NOTE!** Before defining Detection Areas the live image size should be set to a 4:3 format (e.g. Mega). Otherwise the areas might not appear in the expected place.

Detection Profiles Settings

Each profile has the following options. The options can vary depending on the selected profile category.

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⊖   M73 mx10-32-4-69   MOBOTIX Advanced Radiometry Settings   ⑦ ⓘ ⊞ ⊟

Limit Event with reference area profiles

ID	1
Select sensor	Right
Trigger condition	Temperature above threshold
Reference value	Average
Tolerance (degrees)	5
Threshold offset	5
Trigger countdown (seconds)	5
Percentile (0 means a single pixel suffices)	1
Show detection area	☑
Show reference area	☑
Show arrow to hottest spot	☐
Show arrow to coldest spot	☐
Show measured temperatures	Off
Overlay color	Red

Define multiple detection areas as polygons.
Important: Set the live image size to Mega or any other 4:3 format before defining detection areas. Otherwise, the areas may not appear at the desired locations.
Polygon points: Set the position (X,Y) of a polygon point in pixels, with (0,0) being the top left corner of the live image. Allowed values for X (`0..1280`), for Y (`0..960`).

Detection area

780 X 510

780 X 510

780 X 510

[Edit Polygon]

Reference area

780 X 510

780 X 510

780 X 510

[Edit Polygon]

Use thermal offset correction   ☐

🗑 ②

⊞ ①

[Set] [Factory] [Restore] [Close]

Fig. 12: Event Profiles

ID: Select or enter an unique numeric ID for the current profile.

Sensor Selection: If the camera has multiple image sensors, select the one that provides the video stream to be analyzed for the current Detection Area.

The following parameters are only available if **Area-wise compensation** has been activated in the General Settings and **Use thermal offset correction** remains deactivated for this profile. These parameters are used to adapt the measurement to the ambient conditions and allow more accurate results.

Emissivity (percent): Set a percentage value that indicates which part of the heat radiation emitted by an object actually originates from this object and is not due to reflections. This value depends on the material of the object that is being measured. Reflective surfaces have a low emissivity, matte surfaces have a high emissivity.

A value of "100" disables this correction. In this case, no correction is made based on emissivity.

Humidity): A percentage value for the (air) humidity that refers to the area between the sensor and the object to be measured. The relevance of this parameter increases with higher atmospheric temperature and greater distance between camera and object.

Distance to scene: Set the distance to the scene in meters

A value of "0" disables this correction. In this case, no correction is made based on distance, air humidity and air temperature.

Background temperature: Set the temperature of other objects near the object being measured. This value is relevant if the emissivity of the object to be measured is low and the objects in the environment have a significantly higher or lower temperature.

Atmospheric temperature (degrees): Set the temperature of the air between the sensor and the object. The relevance of this parameter increases with higher humidity and distance from the object.

Trigger condition: Select when a profile triggers an event. The choices for this option differ depending on the profile type.

Temperature above threshold: (only for Limit Event profiles) - The profile triggers when the highest temperature measured in the detection area exceeds the threshold value.

Temperature below threshold: (only for Limit Event profiles) - The profile triggers when the highest temperature measured in the detection area drops below the threshold value.

Temperature outside of range: (only for Range Event profiles) - The profile triggers when there are temperatures in the detection area that are outside of the defined temperature range.

Temperature inside range: (only for Range Event profiles) - The profile triggers when there are temperatures in the detection area that are inside the defined temperature range.

Temperature rising: (only for Delta Event profiles) - The profile triggers when the temperature rises faster than allowed.

Temperature falling: (only for Delta Event profiles) - The profile triggers when the temperature drops faster than allowed.

Reference value: (only Limit and Range Event profiles with reference area) - This value specifies which temperature measured in the reference area (Minimum, Maximum, Average) is used as the limit value to trigger the events.

Trigger threshold: (only Limit and Delta Event profiles) - Depending on the **Trigger condition**, this temperature in degrees must either be exceeded or not reached in order to trigger an event. If a **Reference Area** is defined, you can use the maximum, minimum or average temperature measured in the reference area as the threshold instead.

Temperature for triggering events: (only Delta Event profiles) - Specify whether the maximum, minimum or average temperature should be considered.

Low/high trigger threshold: (only Limit and Delta Event profiles) - The values define the temperature range used to trigger the events. The low value must be less than the high value. If a reference area is defined, you can choose between two options instead: You can use either the lowest temperature in the reference area as the lower value and the highest temperature as the upper value. Or you can use the average temperature of the reference area for both values. In the latter case, the temperature range is determined exclusively by the additional offset and tolerance values to be defined.

Tolerance: (only Limit and Range Event profiles) -The tolerance is a fixed value that is offset against the threshold once the **Trigger condition** is met. From this moment on, only the new threshold needs to be met for the profile to continue triggering.

Trigger countdown: (only Limit and Range Event profiles) - specify the minimum duration in seconds during which the corresponding trigger condition must be fulfilled for the profile to trigger. If the parameter is left at "0", the profile triggers immediately if the condition is met. If the countdown is set to "5", for example, the condition must be fulfilled continuously for at least 5 seconds. The countdown is reset again if the trigger condition is no longer fulfilled in the meantime.

Percentile: (only Limit and Range Event profiles) - Specify the percentage of pixels within the detection area that must meet the trigger condition for the profile to trigger. If this value is set to "0", a single pixel for which the condition is met triggers the profile.

When to send message: Select, when a message is to be send:

    Event is triggered: Sends a message when an event is triggered.

    Always: Sends messages on a continuous basis.

Show the Detection Area: Check to show the Detection Area in the Live Image.

Show arrow to hottest spot: Check to show an arrow to the hottest spot within the Detection Area in the Live View

Show arrow to coldest spot: Check to show an arrow to the coldest spot within the Detection Area in the Live View

Show measured temperatures: Select where the measured temperatures should be displayed in the Live View

— Off
— Top Left
— Top Right
— Bottom Left
— Bottom Right
— Centered

Overlay color: Shows an overlay of the selected color on the detection area.

Detection Area: The corner points of the Detection Area. Click **Edit Polygon** to draw the Detection Area in the Live View (see Drawing a Polygon Area in the Live View, p. 25).

Reference Area: As an alternative to fixed thresholds, a reference area can also be defined. If a reference area is defined, the temperatures measured there are used as thresholds to trigger the events. Click **Edit Polygon** to draw the Reference Area in the Live View (see Drawing a Polygon Area in the Live View, p. 25).

> **NOTE!**
>
> Both, the upper and the lower thresholds are taken from this reference area. Depending on the selected Reference value, the behavior is as follows:
>
> Reference value set to Maximum or Minimum: The maximum temperature in the reference area is the upper threshold and the minimum temperature is the lower threshold.
>
> Reference value set to Average: Both, the upper and the lower thresholds are set to the average temperature in the reference area. To define a temperature range, use the Threshold offset parameter as in the example below.

EXAMPLE: If Threshold offset is set to 10, the upper threshold is the average temperature in the reference area +10, the lower threshold is the average temperature -1.

Use thermal offset correction: Check to use thermal offset correction and therefore specify an Offset correction reference area.

Use thermal offset correction	☑	
Reference temperature	5	⇅
Polygon points	491 X 774	
	834 X 668	
	843 X 282	
	381 X 474	
	Edit Polygon	

NOTE! Defining an Offset correction reference area is mandatory when using thermal offset correction. Otherwise temperature deviations cannot be calculated.

Reference temperature: If possible, specify the reference temperature that you have determined e.g. with a Blackbody Radiator.

Polygon Points: The corner points of the Offset correction reference area. Click **Edit Polygon** to draw the Detection Area in the Live View (see Drawing a Polygon Area in the Live View, p. 25

Show offset correction reference area: Check to show the offset correction reference area in the live image.

Adding a Profile

1. Click the **plus icon** ① to add a profile.

Deleting a Profile

1. Click the **bin** icon ② to delete the current profile.

Drawing a Polygon Area in the Live View

In Live View, there you can draw areas based on polygons depending on the App. These areas are e.g. Detection Areas, Excluded Areas, Reference Areas etc.

1. In the Live View simply click and drag a rectangular area.
2. Drag the corner points to the desired position.

3. To add another corner point, drag a smaller point between two corner points on the contour of the area.

4. In the top right corner of the live view click **Submit** to adopt the coordinates of the polygon.

5. Optionally click the **bin** icon to delete the recognition area.

Storing the Configuration

To store the configuration you have the following options:

- Click on the **Set** button to activate your settings and to save them until the next reboot of the camera.

- Click on the **Factory** button to load the factory defaults for this dialog (this button may not be present in all dialogs).

- Click on the **Restore** button to undo your most recent changes that have not been stored in the camera permanently.

- 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.

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

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.

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), 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. MxAdvancedRadiometry).

Fig. 13: Example: Generic message event from MOBOTIX Advanced Radiometry App

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

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)

An action group defines which action(s) is (are) triggered by the MOBOTIX Advanced Radiometry App event.

1. Go to **Setup-Menu / Event Control / Action Group Overview** (http(s)://<Camera IP address>/control/actions).
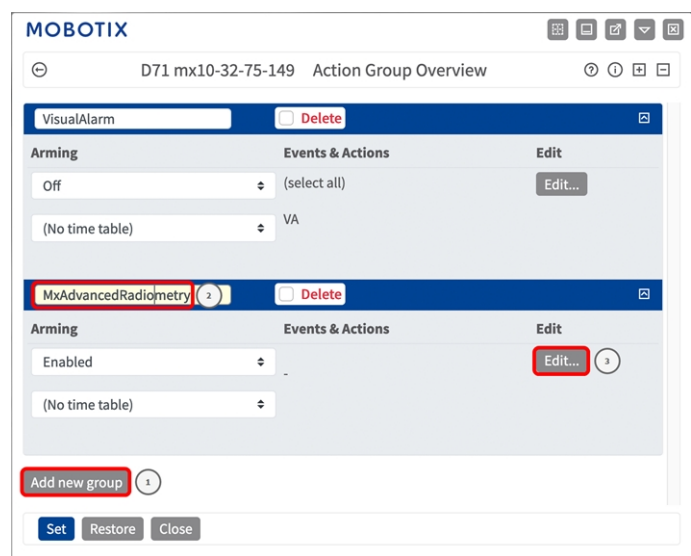
Fig. 15: Defining Action Groups

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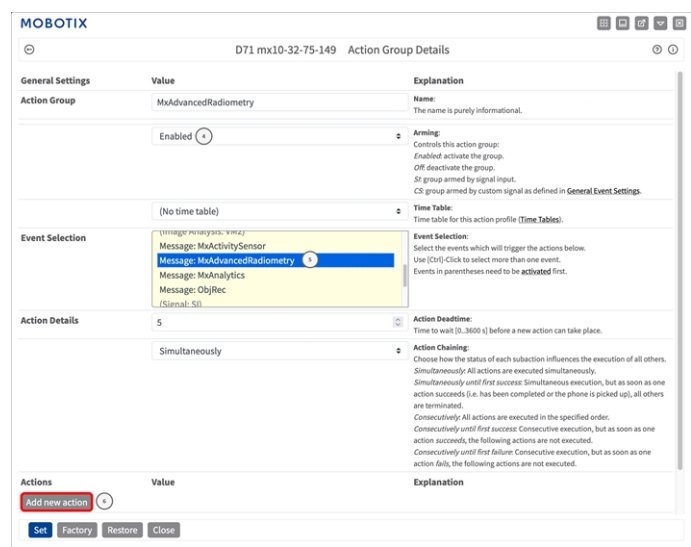
3. Click **Edit** ③ , to configure the group.

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 .

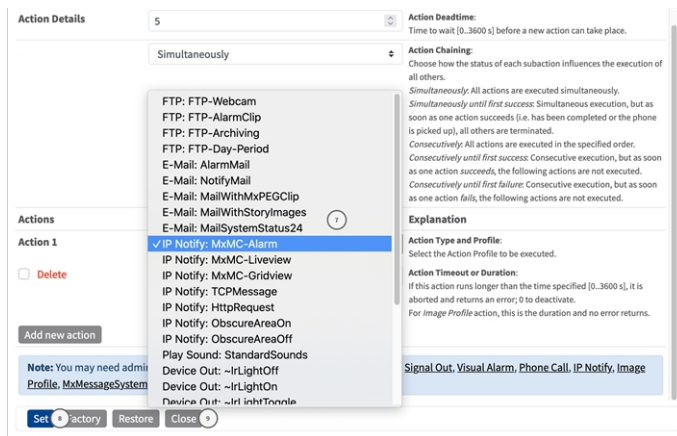7. Select a proper action from list **Action Type and Profile** ⑦ .

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).
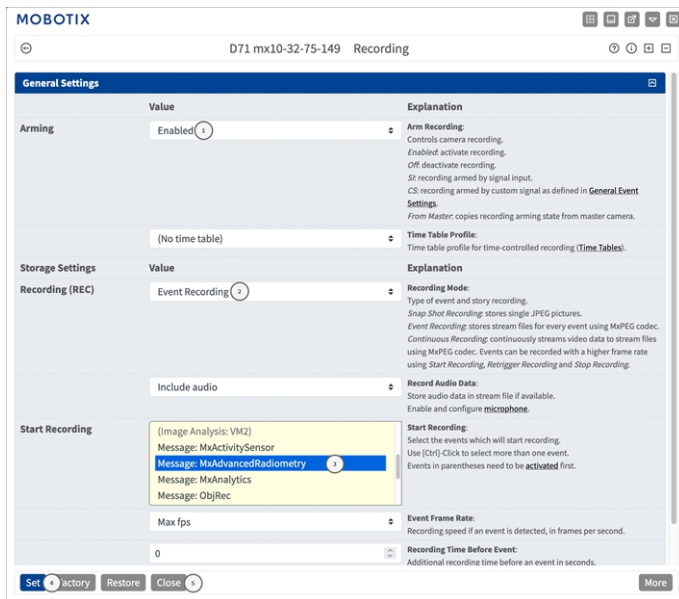
Fig. 18: Configuration of camera recording settings

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** 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 a MxMessage.
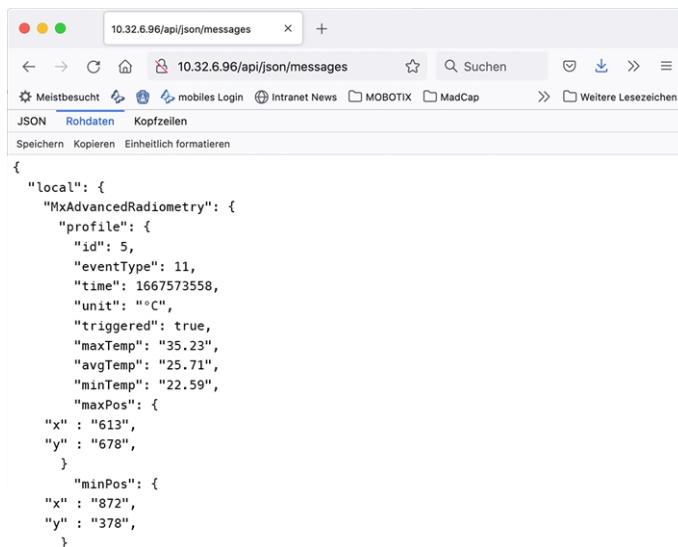

Fig. 19: Example: Meta data transmitted within a MxMessage of the MOBOTIX Advanced Radiometry App

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)/IPAddresseOfYourCamera/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. MxAdvancedRadiometry).
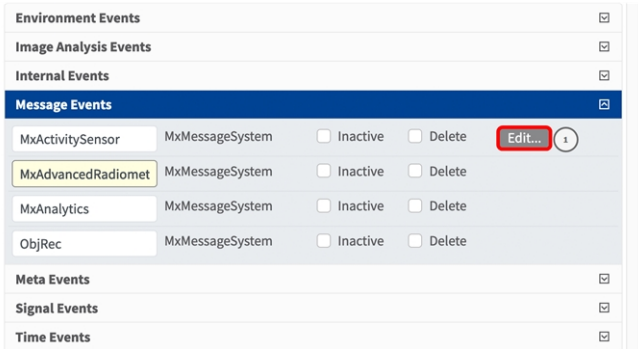

Fig. 20: Example: Generic message event from MOBOTIX Advanced Radiometry App

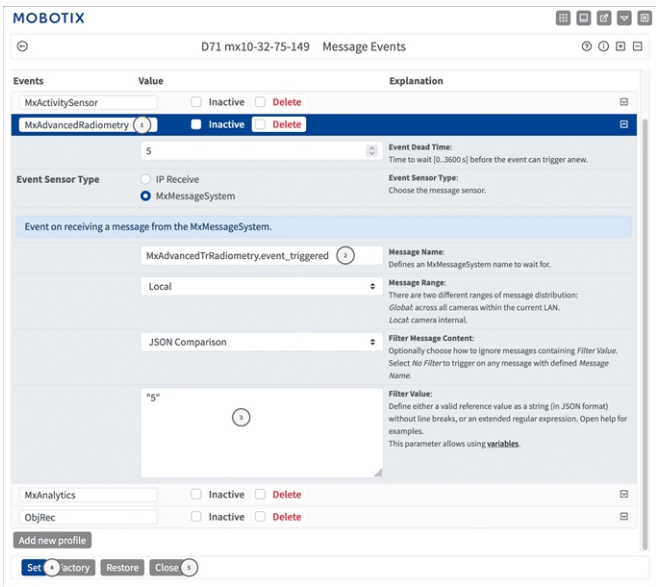2. Click **Edit** ① to display a selection of all configured message events.

Fig. 21: Example: Unique license plate event

3. Click on the event (e. g. MxAdvancedRadiometry) 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 Advanced Radiometry App, p. 35)

   ▪ **Message Range:**
      ▪ Local: Default settings for the MOBOTIX Advanced Radiometry 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 .

> **CAUTION!** "Filter Value" is used to differentiate the MxMessages of an app / bundle. Use this entry to bene-fit 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 Advanced Radiometry App

Event	MxMessage Name	Filter Value (example)	Explanation
Generic Event	MxAdvancedRadiometry		
Event with a profile	MxAdvancedRadiometry.profile		
Id of the profile	MxAdvancedRadiometry.profile.id	"5"	Numeric profile ID
Type of the profile	MxAdvancedRadiometry.profile.eventType	"11"	Numeric profile type
Current time	MxAdvancedRadiometry.profile.time	"1667573558"	UNIX time stamp
Temperature unit	MxAdvancedRadiometry.profile.unit	"°C"	Temperature unit defined in the profile
Profile triggered the alarm	MxAdvancedRadiometry.profile.triggered	"true"	
Maximum temperature	MxAdvancedRadiometry.profile.maxTemp	"35.23"	Maximum profile temperature

Event	MxMessage Name	Filter Value (example)	Explanation
Average temperature	MxAdvancedRadiometry.profile.avgTemp	"25.71"	Average profile temperature
Minimum temperature	MxAdvancedRadiometry.profile.minTemp	"22.59"	Minimum profile temperature
Maximum temperature coordinates	MxAdvancedRadiometry.profile.maxPos		
Maximum temperature x-coordinate	MxAdvancedRadiometry.profile.maxPos.x	"613"	x-coordinates in pixel of the maximum temperature detected within the profile
Maximum temperature y-coordinate	MxAdvancedRadiometry.profile.maxPos.y	"682"	y-coordinate sin pixel of the maximum temperature detected within the profile
Minimum temperature coordinates	MxAdvancedRadiometry.profile.minPos		
Minimum temperature x-coordinate	MxAdvancedRadiometry.profile.minPos.x	"872"	x-coordinates in pixel of the minimum temperature detected within the profile
Minimum temperature y-coordinate	MxAdvancedRadiometry.profile.minPos.y	"305"	y-coordinates in pixel of the minimum temperature detected within the profile
Event with a masked sensor	MxAdvancedRadiometry.sensor_masked		Sensor covered

Event	MxMessage Name	Filter Value (example)	Explanation
The masked sensor	MxAdvancedRadiometry.sensor_masked.-sensor	"0"	Masked sensor ID
Time when sensor got masked	MxAdvancedRadiometry.sensor_masked.-time	"1667573744"	UNIX time stamp

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