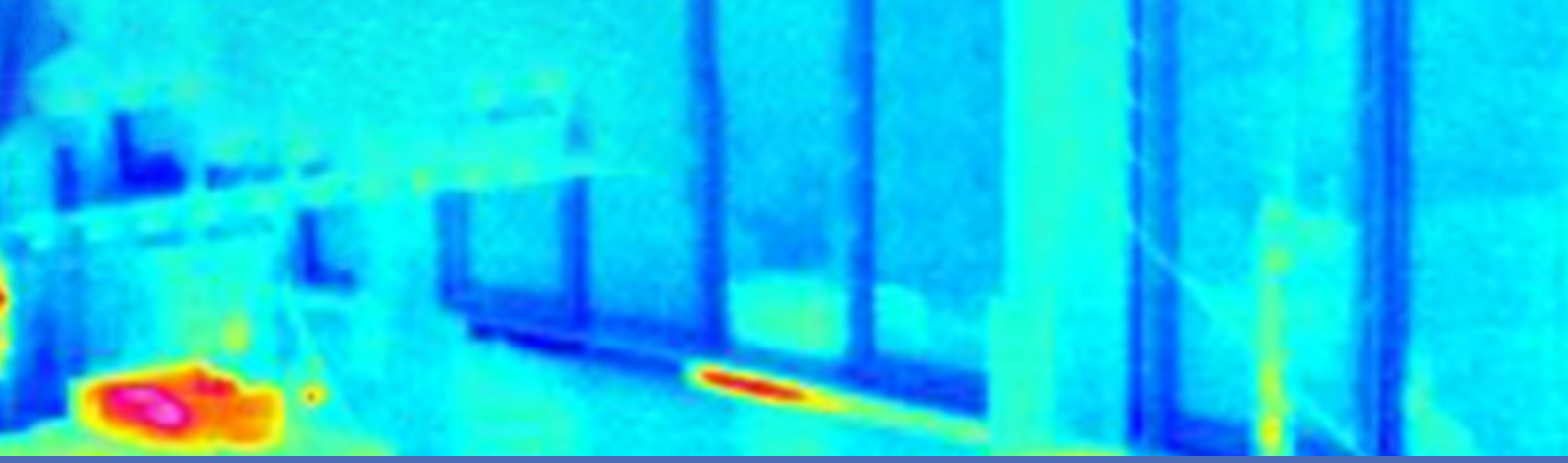


Guideline

MOBOTIX Thermal-Heat-Detection App

BeyondHumanVision

MOBOTIX

V1.08_8/14/2023, Order Code: Mx-APP-MX-THD

Table of Contents

1

Before You Start

Support

MOBOTIX Support

If you need technical support, please contact your MOBOTIX dealer. If your dealer cannot help you, he will contact the support channel to get an answer for you as quickly as possible.

If you have internet access, you can open the MOBOTIX help desk to find additional information and software updates.

Please visit **www.mobotix.com > Support > Help Desk**.

MOBOTIX eCampus

The MOBOTIX eCampus is a complete e-learning platform. It lets you decide when and where you want to view and process your training seminar content. Simply open the site in your browser and select the desired training seminar.

Please visit **www.mobotix.com/ecampus-mobotix**.

MOBOTIX Community

The MOBOTIX community is another valuable source of information. MOBOTIX staff and other users are sharing their information, and so can you.

Please visit **community.mobotix.com**.

Safety Notes

- This 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 Thermal-Heat-Detection App

MOBOTIX Thermal Heat Detection App

Approved by the CNPP. Suitable for early fire detection and reliable monitoring of critical areas. 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 a breeze.

- Extension of the temperature measurement functions of MOBOTIX Thermal Radiometry cameras (according to CNPP France 19005 certification)
- 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. covering the sensor)
- MOBOTIX events via MxMessageSystem
- Required for the installation of a CNPP-certified thermal camera

Best suited for the requirements of the following industries:

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

NOTE! The Mobotix MOBOTIX Thermal-Heat-Detection App is designed to detect temperature according to the CNPP Technical Specifications ST-LPMES-DEC.19.005 (01/02/2019)

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.

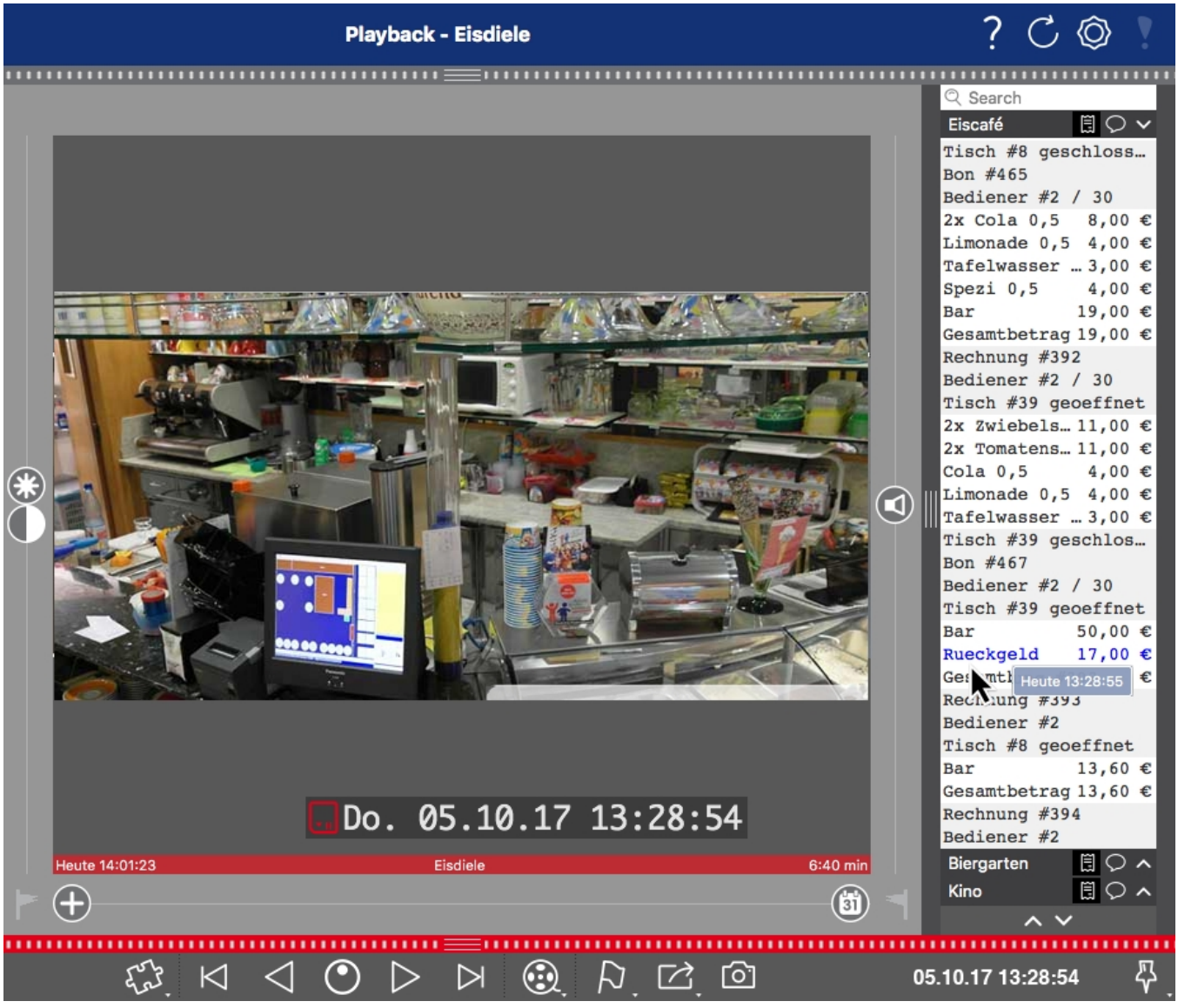


Fig. 1: : Smart Data Bar in MxManagementCenter (Example: POS System)

Technical Specifications

Product Information

Product Name	MOBOTIX Thermal-Heat-Detection 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. license level for Analytics Events: L2
	  ■ min. license level for MOBOTIX Event Search Plug-In: L4
	■ MOBOTIX HUB version: 2022 R3
	  ■ min. license level for Analytics Events: L2
	  ■ min. license level for MOBOTIX Event Search Plug-In: L2

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 supported	Yes
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)

Hardware Requirements

CAUTION! To be compliant with CNPP 19005 Certification, no sensor cable length should exceed 3m

NOTE! Only Thermal Radiometry sensors can be used for this application

MOBOTIX M73

The MOBOTIX M73 camera with TR sensor, the associated app and certified power supply unit is CNPP-certified and can be integrated into a fire alarm system. If you already have an M73 installed, you can simply upgrade the components and install the MOBOTIX Thermal-Heat-Detection App - done. Additional optical sensors can also be used in the same device without invalidating the certification.

- Detects fires even before they occur
- Up to 20 measurement windows simultaneously from up to 72 m away
- Any number of escalation levels
- Makes fire sources and embers visible even when smoke and steam make visibility impossible
- Works even in total darkness

Order Number	Description
Mx-M73A-RJ45	M73 Body with RJ45 Connector Box (white)
Mx-M73A-RJ45-wg	M73 Body with RJ45 Connector Box (white-gray)

MOBOTIX M73 Sensors and Accessories

Order Number	Description
Mx-O-M73TB-336R100	Thermal module 336-R100 with front plate for M73 (B model)
Mx-O-M73TB-336R150	Thermal module 336-R150 with front plate for M73 (B model)
Mx-O-M73TB-336R280	Thermal module 336-R280 with front plate for M73 (B model)

Order Number	Description
Mx-O-M73TB-640R050	Thermal module 640-R050 with front plate for M73 (B model)
Mx-O-M73TB-640R080	Thermal module 640-R080 with front plate for M73 (B model)
Mx-O-M73TB-640R100	Thermal module 640-R100 with front plate for M73 (B model)
Mx-O-M73TB-640R150	Thermal module 640-R150 with front plate for M73 (B model)

MOBOTIX S74

Like the M73, existing systems can be converted into a CNPP-certified fire detector via app and with a suitable thermal sensor, even if this designation does not quite do justice to its performance. With its versatile connections and sensor housings, however, the MOBOTIX S74 scores particularly well in complex spatial conditions and wherever a single viewing angle is simply not enough.

- Detects fires even before they occur
- Up to 20 measurement windows simultaneously from up to 72 m away
- Any number of escalation levels
- Makes fire sources and embers visible even when smoke and steam make visibility impossible
- Works even in total darkness

Order Number	Description
Mx-S74A	S74 Body for 4 Sensor- and Functional Modules
Mx-F-S7A-RJ45-VDC	S74 RJ45 Network slide in board with 12/24 VDC Power Supply
Mx-F-S7A-INT01	S74 IO Slide in Board

MOBOTIX S74 Sensors and Accessories

Order Number	Description
Mx-O-M7SB-336RP100	S7x PTMount Thermal 336-R100 (B model)
Mx-O-M7SB-336RP150	S7x PTMount Thermal 336-R150 (B model)
Mx-O-M7SB-336RP280	S7x PTMount Thermal 336-R280 (B model)

Order Number	Description
Mx-O-M7SB-336RS100	S7x Thermal Module 336-R100 (B model)
Mx-O-M7SB-336RS150	S7x Thermal Module 336-R150 (B model)
Mx-O-M7SB-336RS280	S7x Thermal Module 336-R280 (B model)
Mx-O-M7SB-640RP050	S7x PTMount Thermal 640-R050 (B model)
Mx-O-M7SB-640RP080	S7x PTMount Thermal 640-R080 (B model)
Mx-O-M7SB-640RP100	S7x PTMount Thermal 640-R100 (B model)
Mx-O-M7SB-640RP150	S7x PTMount Thermal 640-R150 (B model)
Mx-O-M7SB-640RS050	S7x Thermal Module 640-R050 (B model)
Mx-O-M7SB-640RS080	S7x Thermal Module 640-R080 (B model)
Mx-O-M7SB-640RS100	S7x Thermal Module 640-R100 (B model)
Mx-O-M7SB-640RS150	S7x Thermal Module 640-R150 (B model)

Connecting the Camera

Please refer to the additional technical documents for the CNPP compliant cameras, especially the Technical Specifications and the Installation Instructions:

Camera	Technical Specifications	Quick Installation Guide
M73	https://www.mobotix.com/media/2979	https://www.mobotix.com/media/3068
S74	https://www.mobotix.com/media/3691	https://www.mobotix.com/media/3694

CAUTION! To be compliant with CNPP 19005 Certification, a PoE+ power source according to EN54-4 is mandatory.

CAUTION! To be compliant with CNPP 19005 Certification, no sensor cable length should exceed 3m

NOTE! Only Thermal Radiometry sensors can be used for this application

S74 - Connection Scheme

Optical sensor is optional.

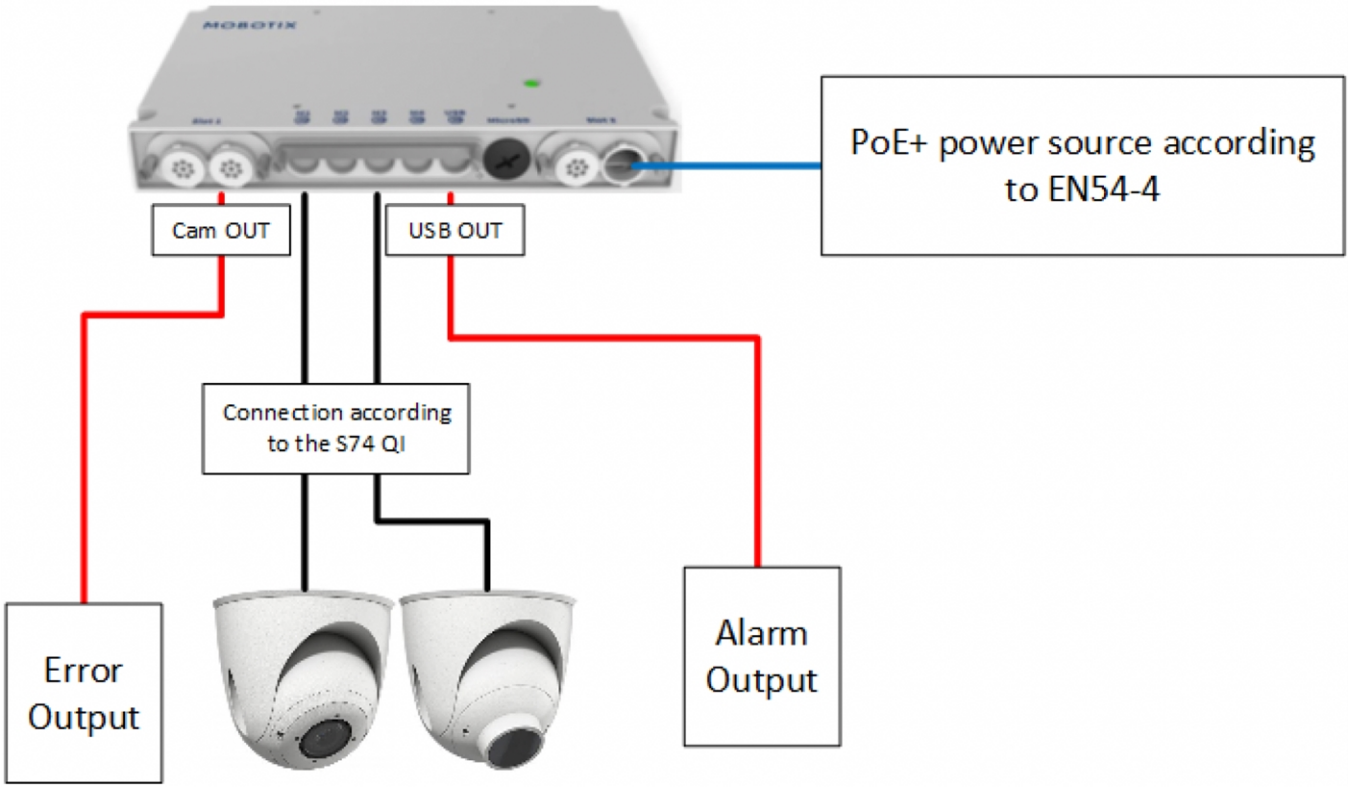


Fig. 2: CNPP compliant installation of the MOBOTIX S74

Connecting the Outputs

Fig. 3: CNPP compliant connection to the S74 Camera

- The Output for error messages must be connected to Slot 1 ① of the S74.
- The Ouput for alarm trigger must be connected to the USB OUT ② connector of the S74.

M73 - Connection Scheme

Optical sensor is optional.

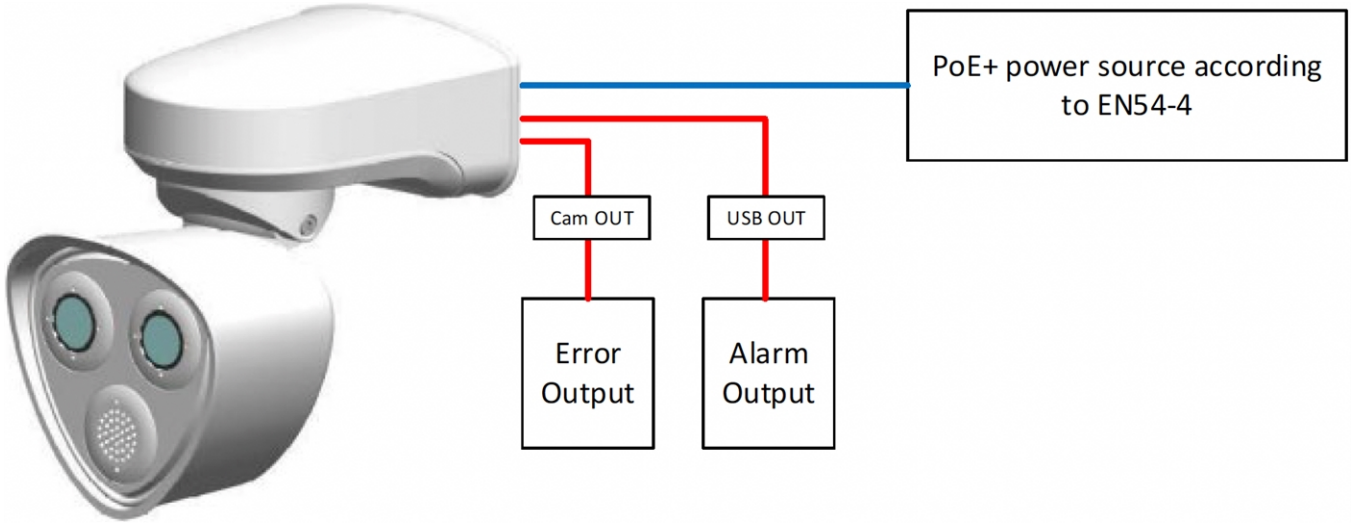


Fig. 4: CNPP compliant installation of the MOBOTIX M73

Connecting the Outputs

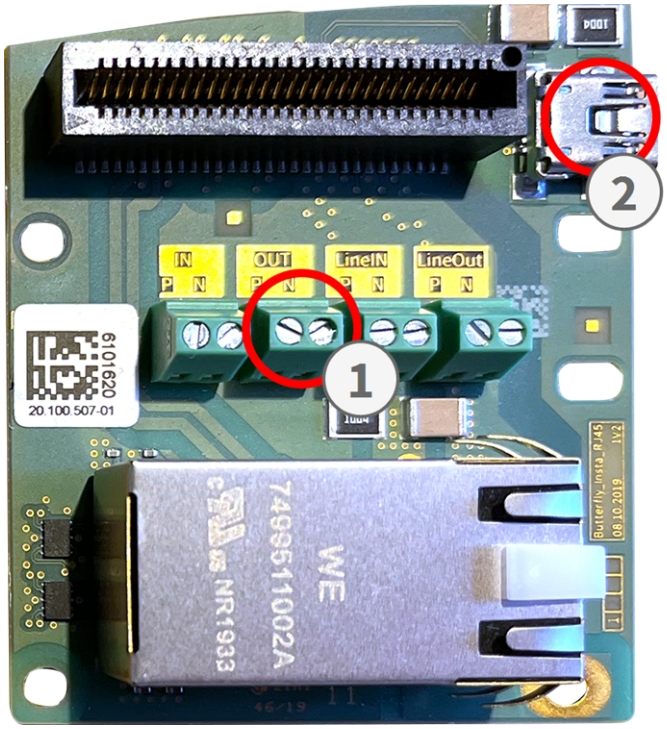


Fig. 5: CNPP compliant connection to the M73 Connector Box RJ45

- The Output for error messages must be connected to the OUT ① of the M73 Connector Box RJ45.
- The Ouput for alarm trigger must be connected to the USB OUT connector ② of the M73 Connector Box RJ45.

Licensing Certified Apps

The following licenses are available for the MOBOTIX Thermal-Heat-Detection 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**.

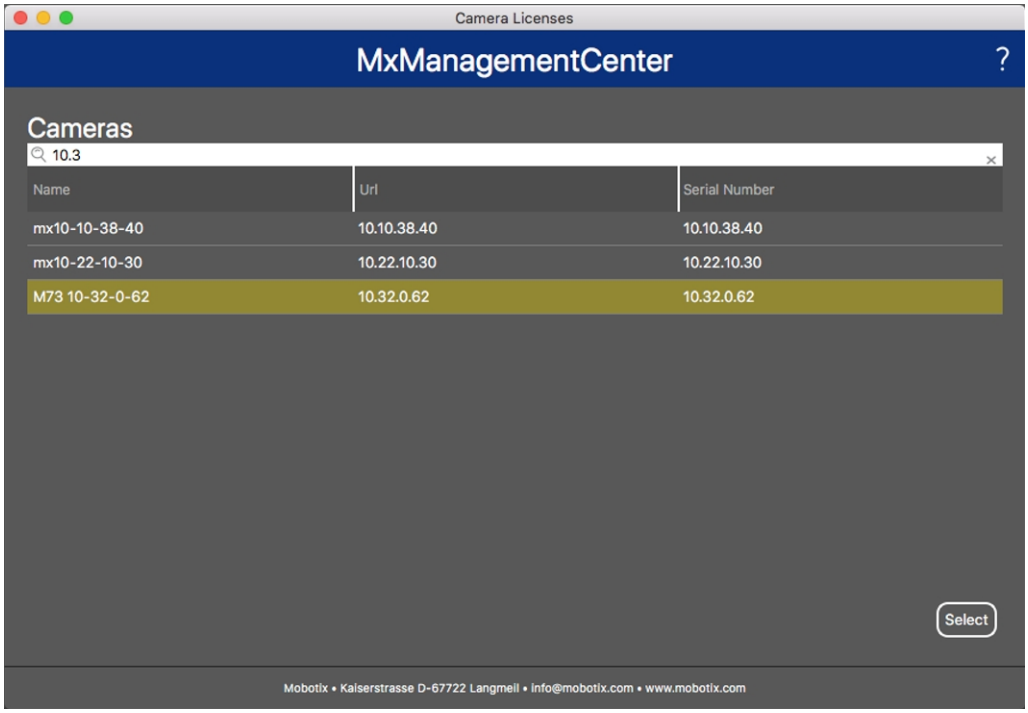


Fig. 6: Overview of Camera App Licenses in MxManagementCenter

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**.

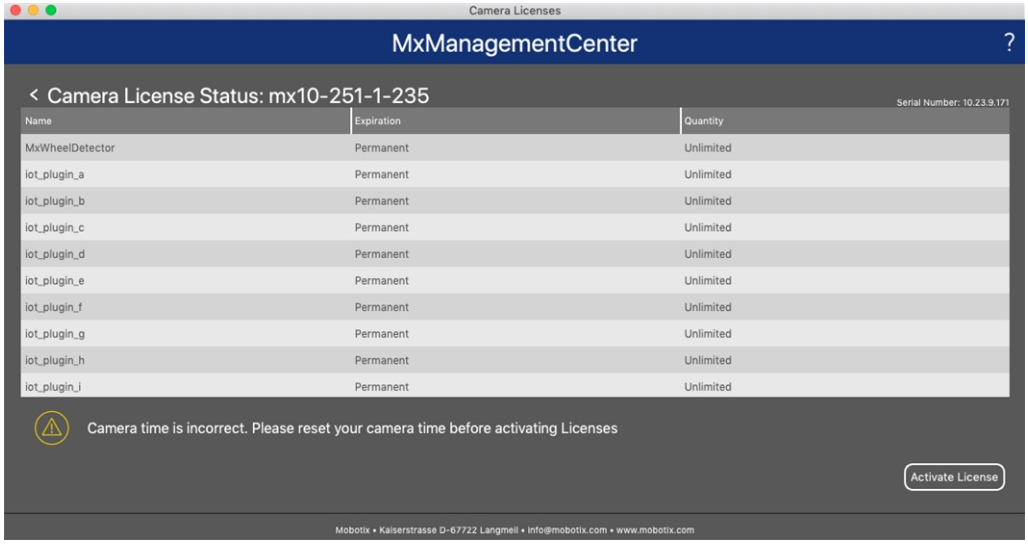


Fig. 7: Overview of the licenses installed on the camera

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.

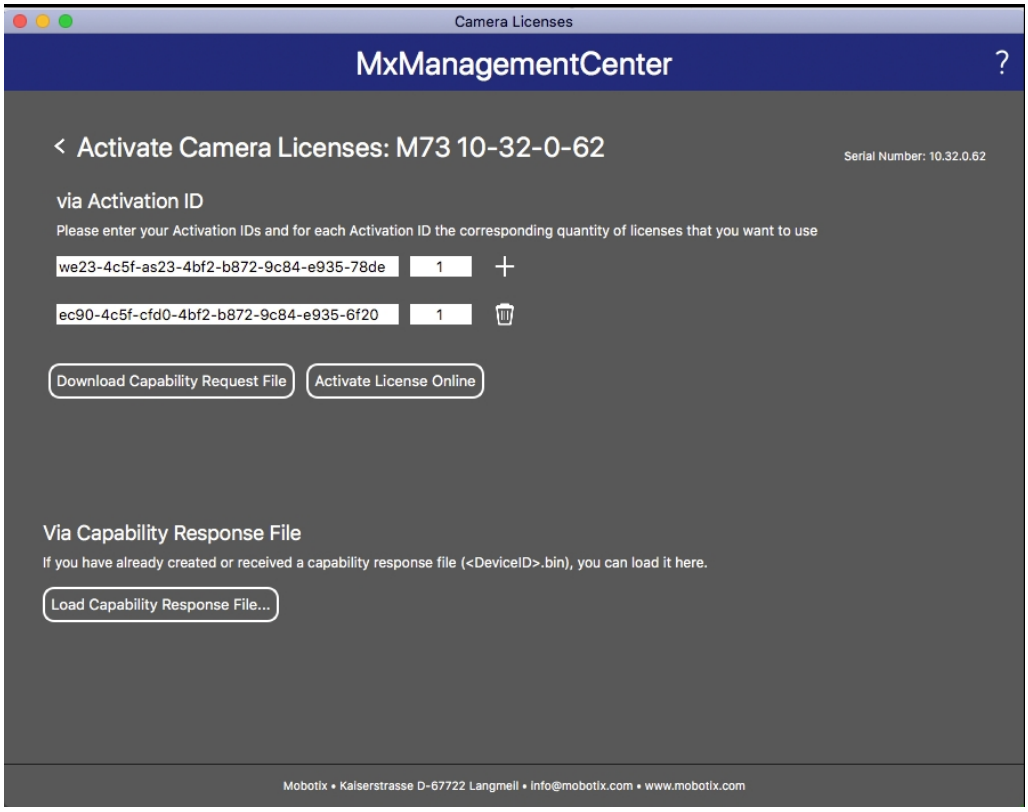


Fig. 8: Adding licenses

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. 21).

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**.

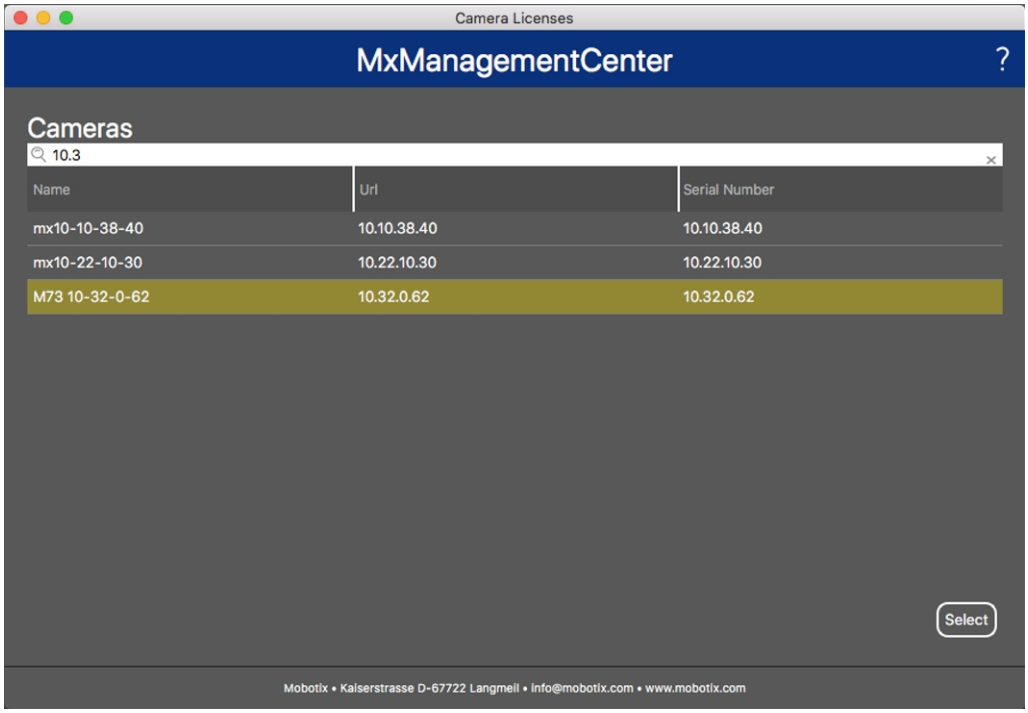


Fig. 9: Overview of Camera App Licenses in MxManagementCenter

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**.

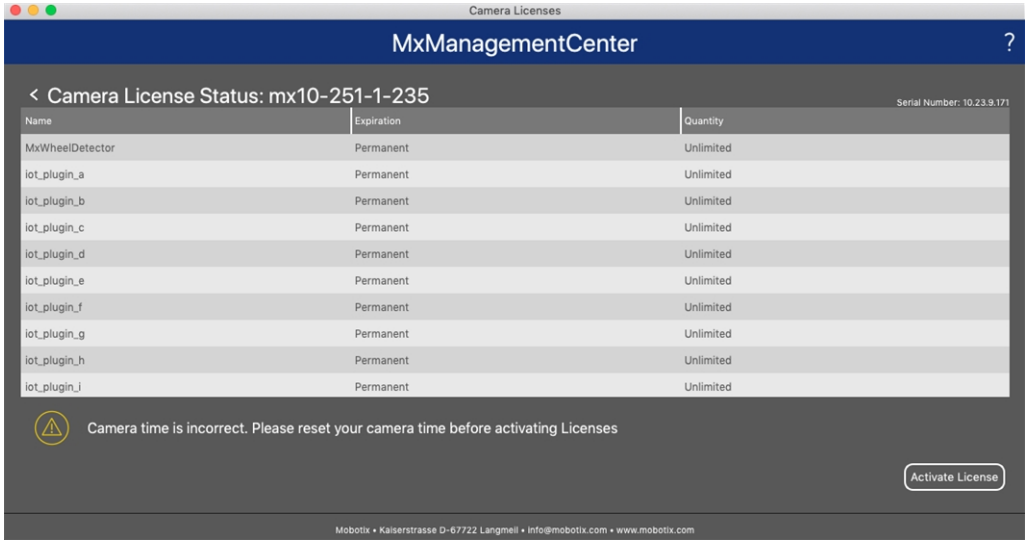


Fig. 10: Overview of the licenses installed on the camera

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.

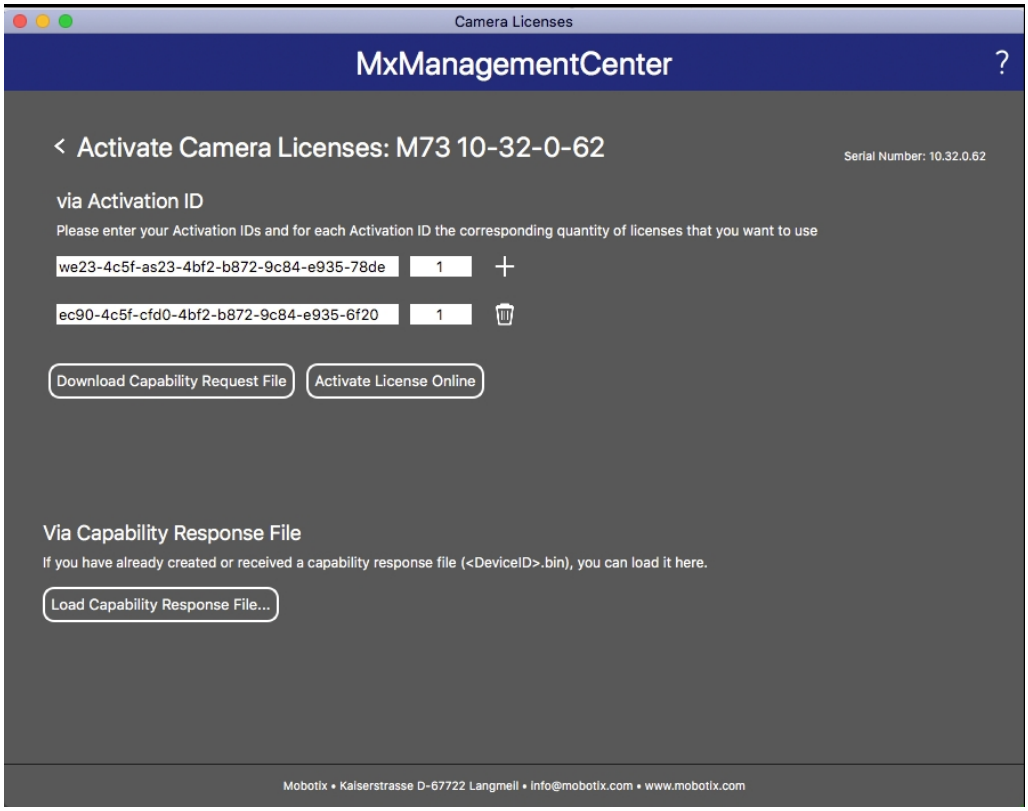


Fig. 11: Adding licenses

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**.

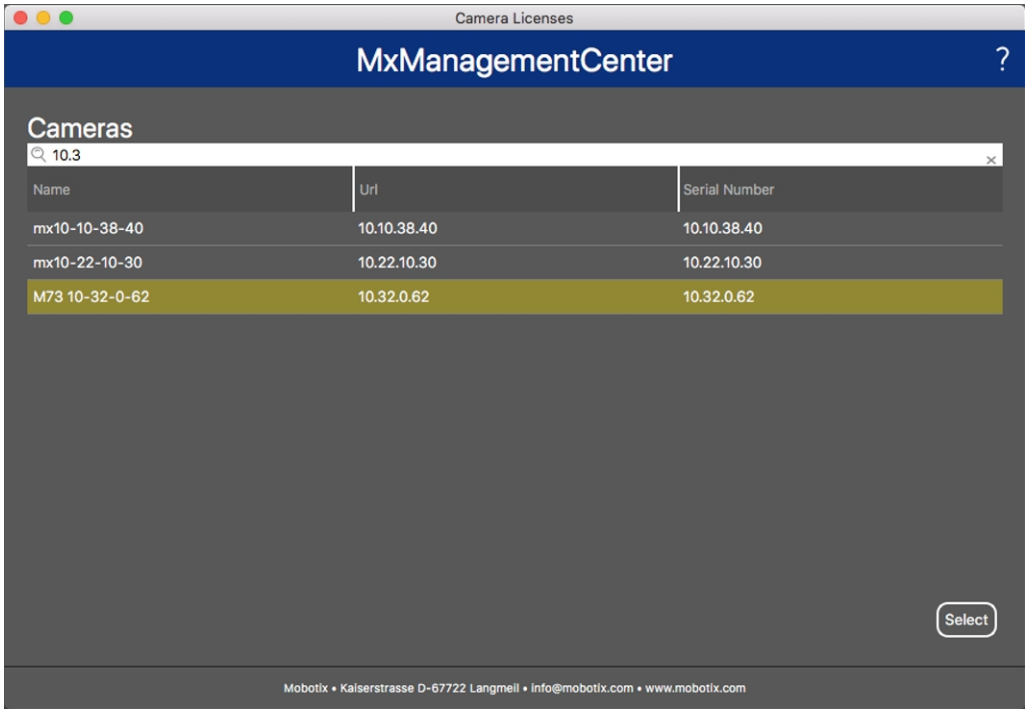


Fig. 12: Overview of Camera App Licenses in MxManagementCenter

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

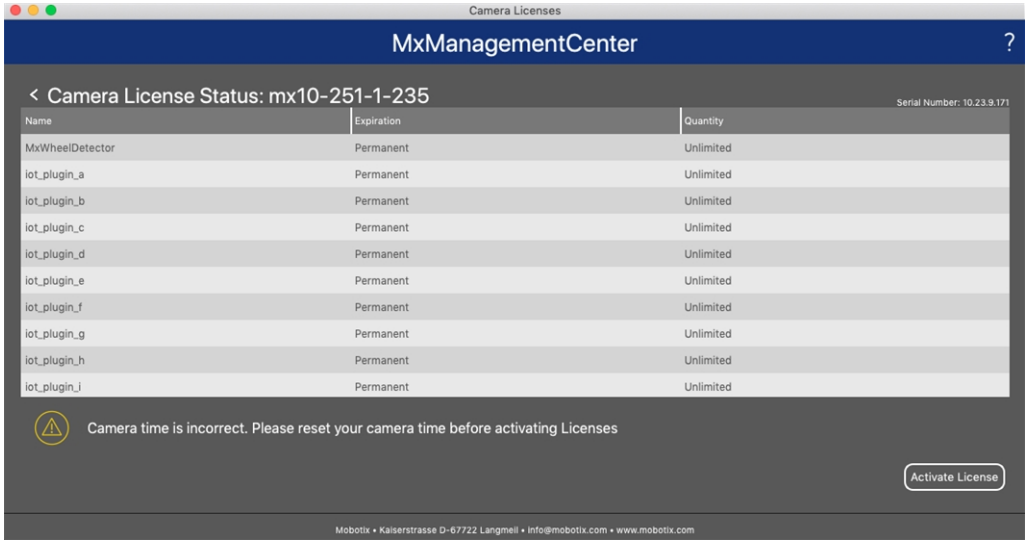


Fig. 13: Overview of the licenses installed on the camera

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.

Camera Software Configuration

1. In the camera web interface, open: **Admin Menu / Update System Software**.

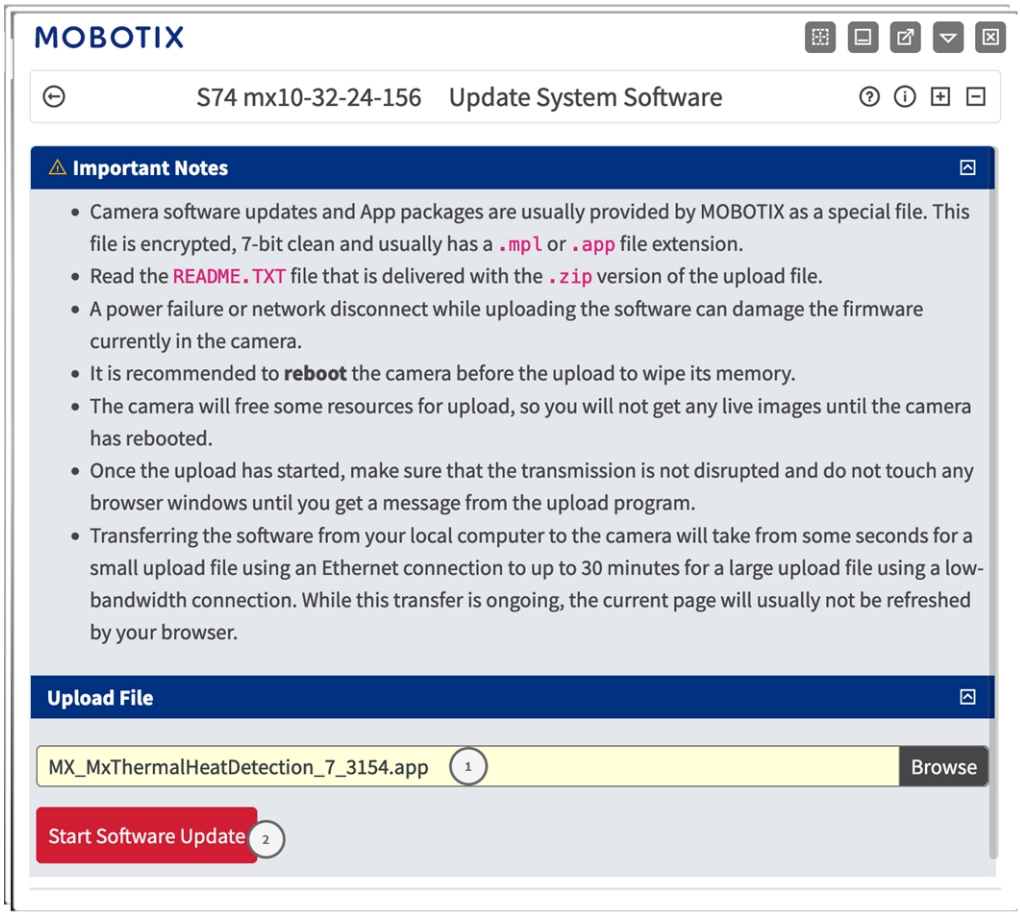


Fig. 14: Installing an MOBOTIX P7 App

2. In section **Upload File** browse for the **MOBOTIX Thermal-Heat-Detection App**① .
3. Click **Start Software Update**.
4. Reboot the camera.

Installing the MOBOTIX Thermal-Heat-Detection App

1. In the camera web interface, open: **Admin Menu / Update System Software**.

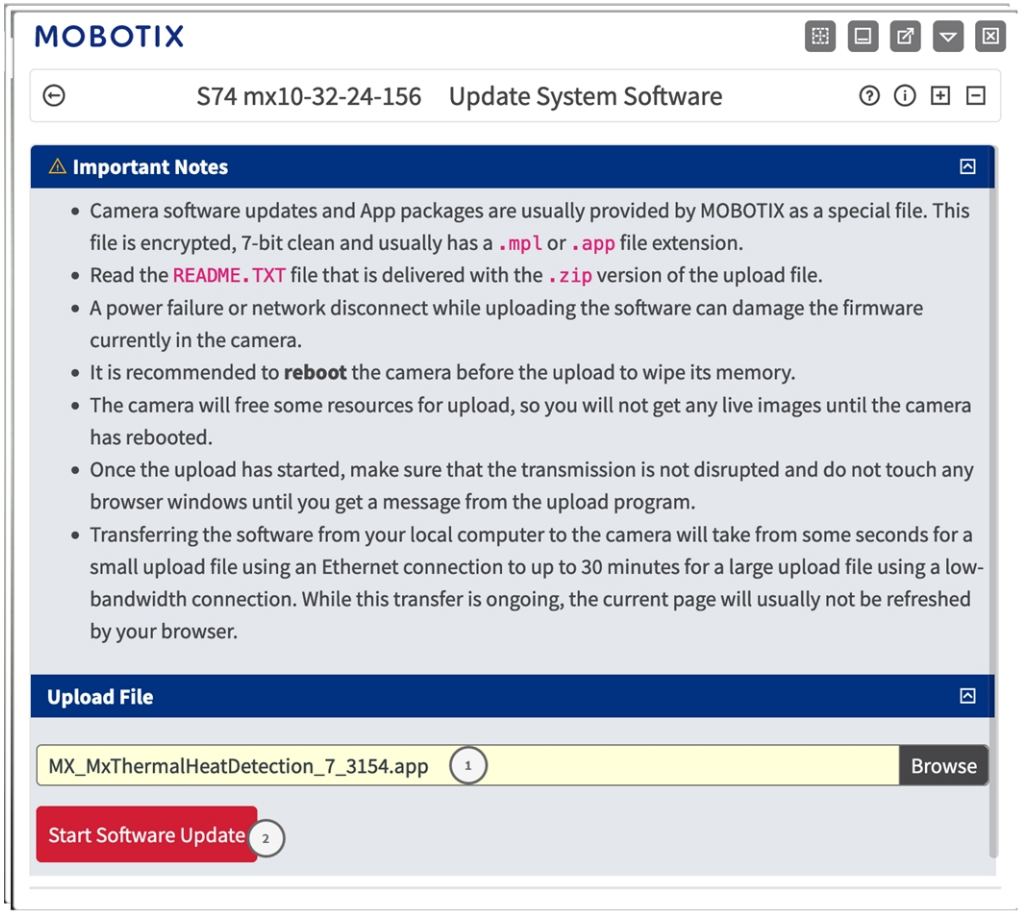


Fig. 15: Installing a MOBOTIX P7 App

2. In section **Upload File** browse for the **MOBOTIX Thermal-Heat-Detection App**① .
3. Click **Start Software Update**.
4. Reboot the camera.

Activating the USB Output

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

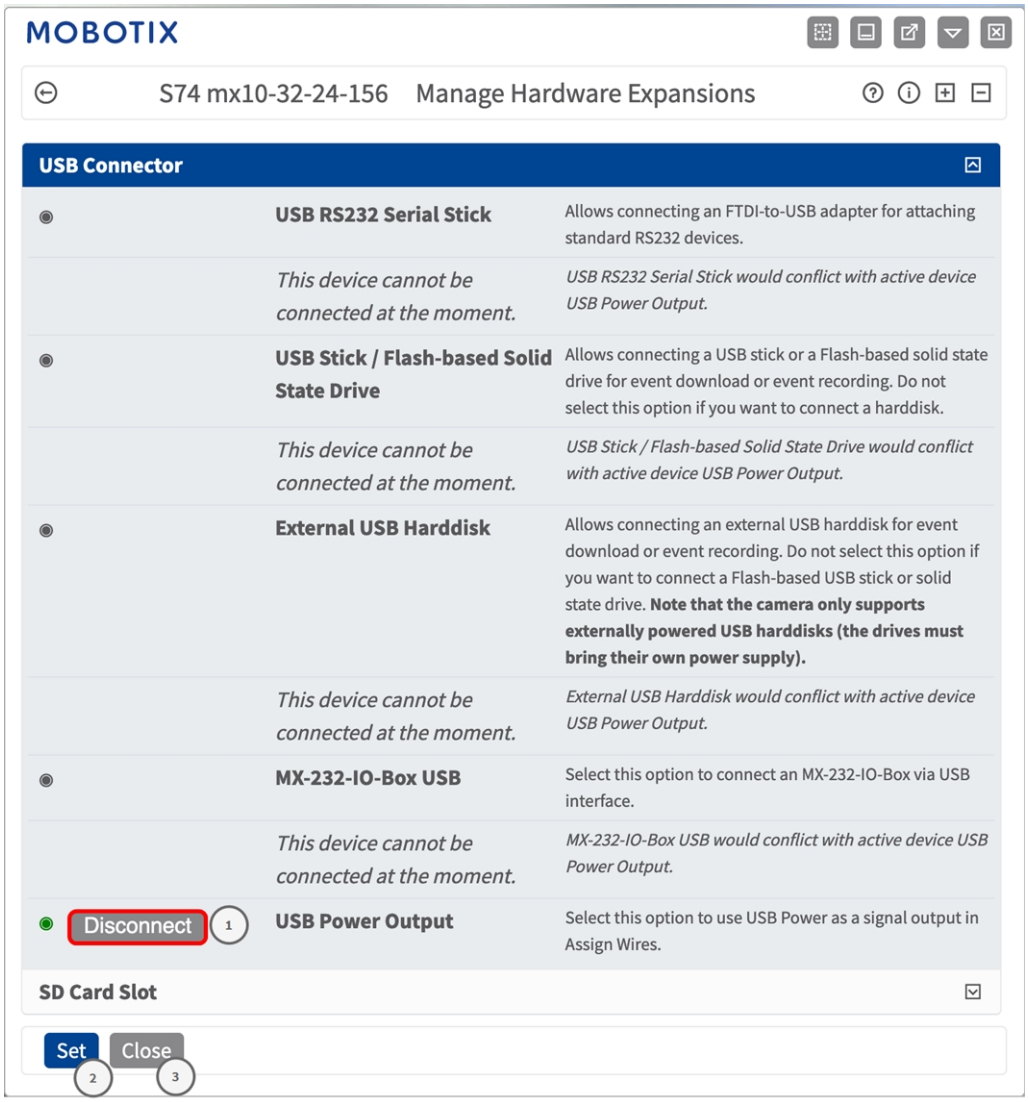


Fig. 16: Installing a MOBOTIX P7 App

2. In section **USBPower Output** click **Connect** ① .
3. Click **Start Software Update**.
4. Click **Set** ② to apply the changes then **Close** ③ to close the window.

Setting the Signal Out Profiles

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

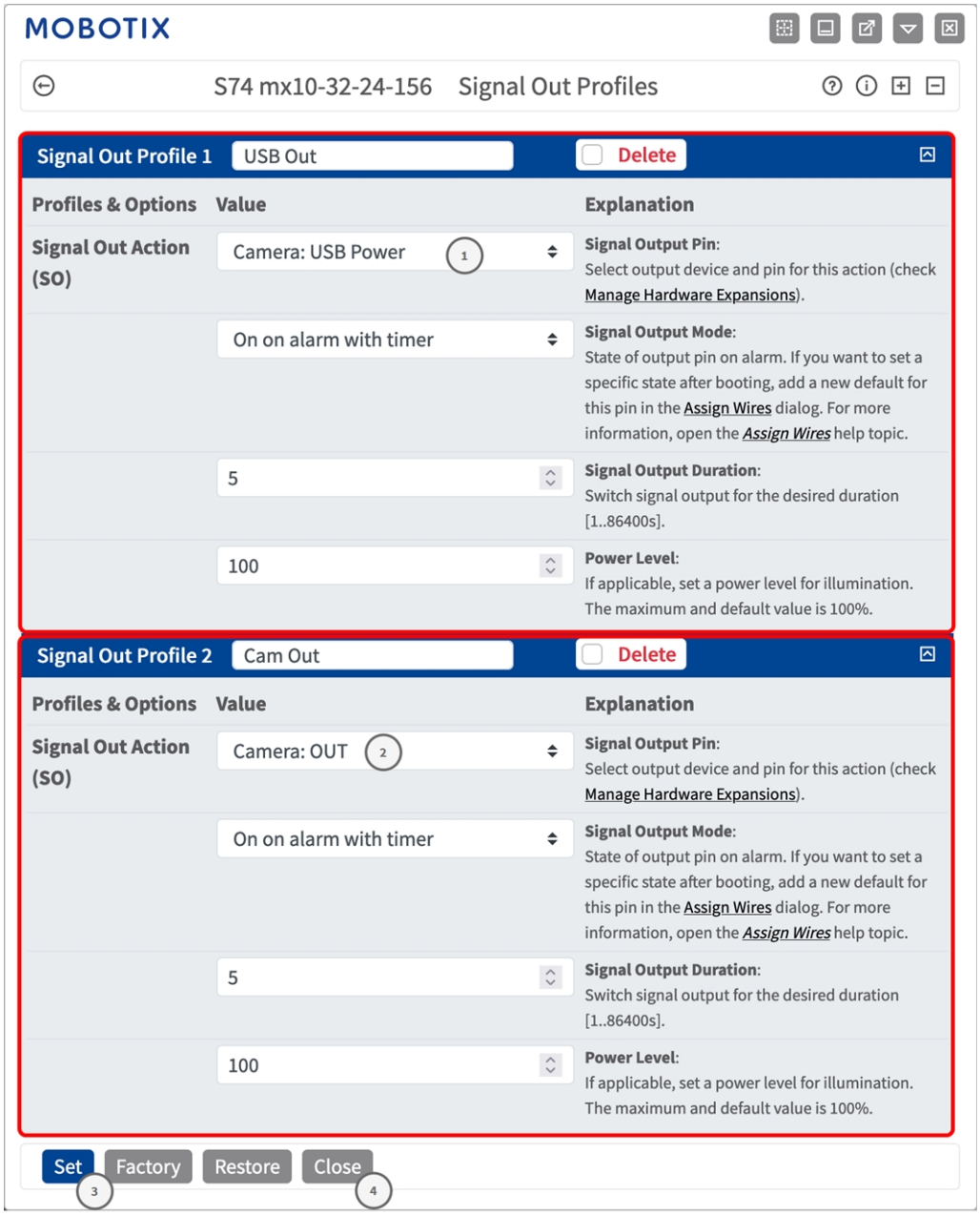


Fig. 17: Setting Signal Out Profiles

2. Add two profiles - one for **USB Out** and one for **Camera IO output**.
3. **For USB OUT:** as **Signal Out Action** select **Camera: USB Power** ① .
4. **For Camera IO output:** as **Signal Out Action** select **Camera: Out**② .
5. Click **Set** ③ to apply the changes then **Close** ④ to close the window.

Setting the default Output

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

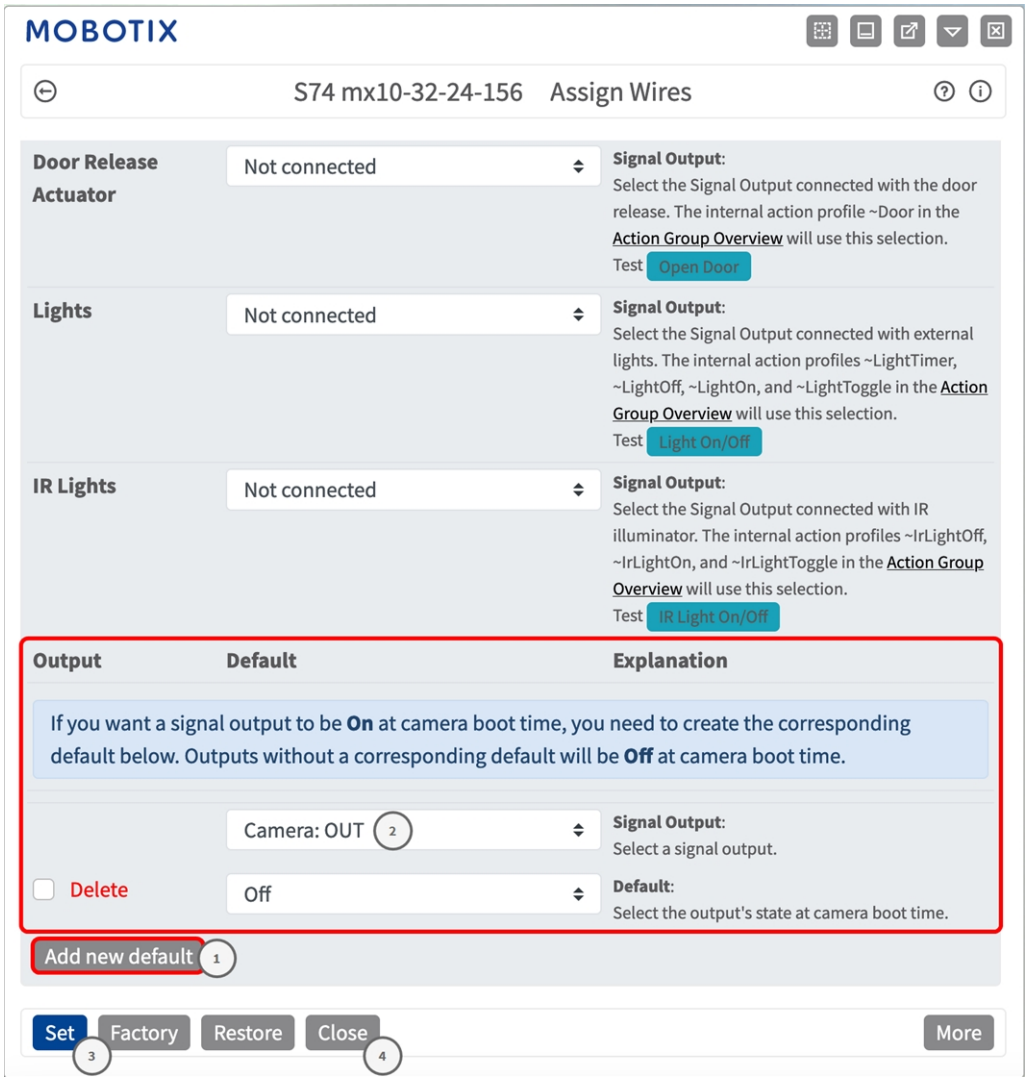


Fig. 18: Setting Signal Out Profiles

2. Click Ad new default ①
3. As signal Output select Camera Out ② .
4. Click **Set** ③ to apply the changes then **Close** ④ to close the window.

Activation of the Certified App Interface

CAUTION! The MOBOTIX Thermal-Heat-Detection 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).

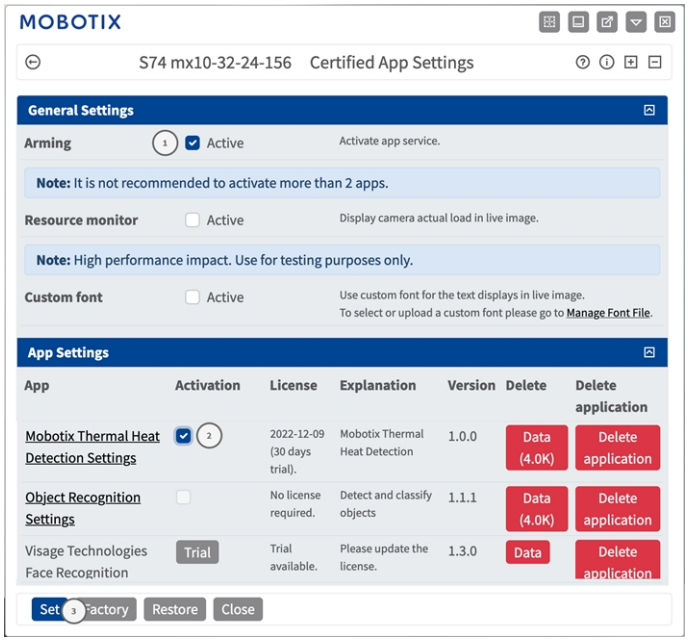


Fig. 19: Certified App: Settings

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 Thermal-Heat-Detection App, p. 32.

Configuration of MOBOTIX Thermal-Heat-Detection 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 Thermal-Heat-Detection App**.

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

Detection Area Settings

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.

Multiple Detection Areas with individual parameters can be defined.

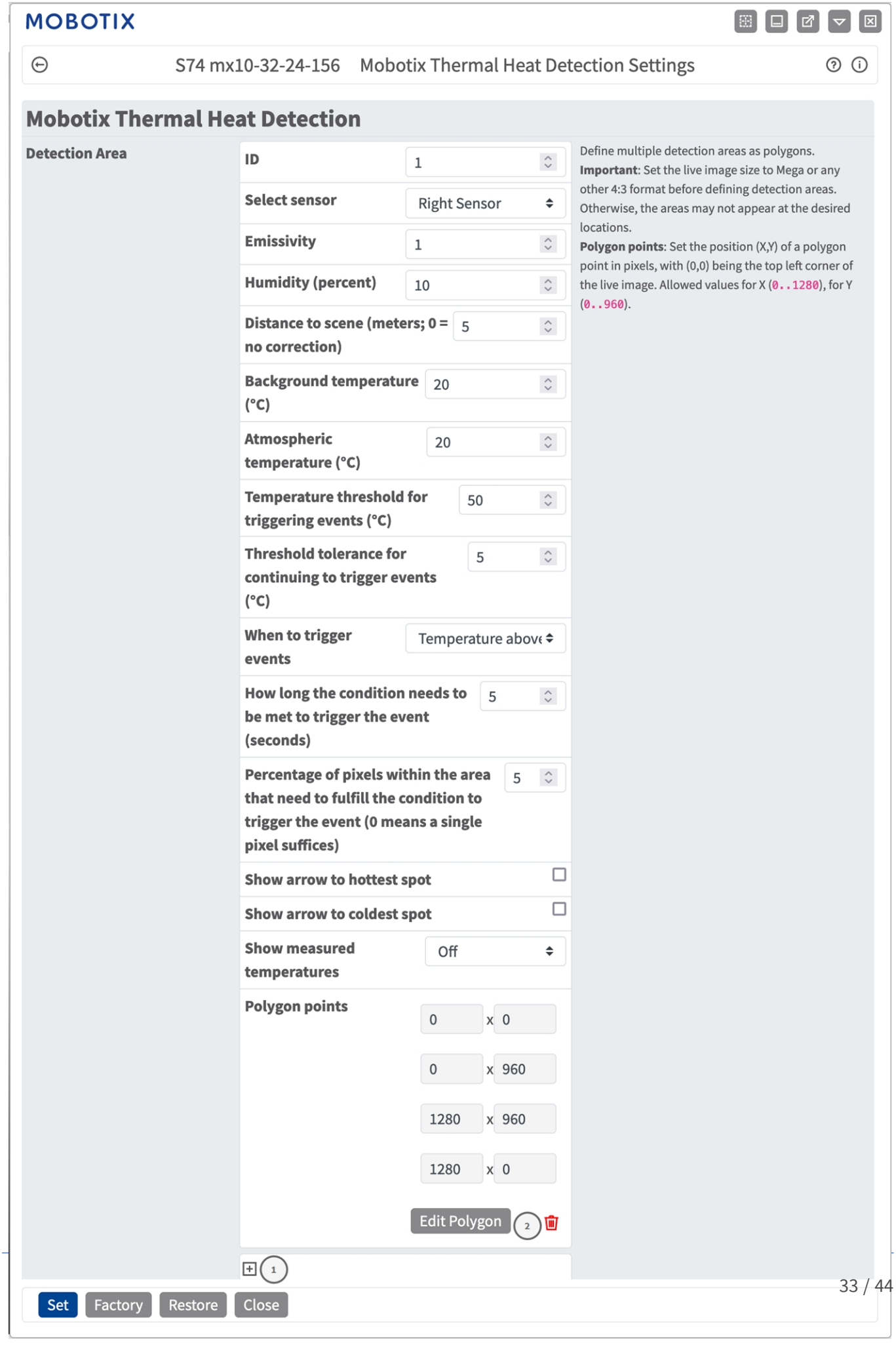

MOBOTIX
S74 mx10-32-24-156 Mobotix Thermal Heat Detection Settings
Mobotix Thermal Heat Detection
Detection Area
ID
1
Select sensor
Right Sensor
Emissivity
1
Humidity (percent)
10
Distance to scene (meters; 0 = no correction)
5
Background temperature (°C)
20
Atmospheric temperature (°C)
20
Temperature threshold for triggering events (°C)
50
Threshold tolerance for continuing to trigger events (°C)
5
When to trigger events
Temperature above
How long the condition needs to be met to trigger the event (seconds)
5
Percentage of pixels within the area that need to fulfill the condition to trigger the event (0 means a single pixel suffices)
5
Show arrow to hottest spot
Show arrow to coldest spot
Show measured temperatures
Off
Polygon points
0 x 0
0 x 960
1280 x 960
1280 x 0
Edit Polygon
2
1
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).
Set
Factory
Restore
Close

Fig. 20: 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.

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 (percent): 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.

Temperature threshold for triggering events (°C): This temperature must either be exceeded or not reached in order to trigger an event.

Threshold tolerance for continuing to trigger events (°C): 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.

When to trigger events: Select when a profile triggers an event. The choices for this option differ depending on the profile type.

- **Temperature above threshold:** n The profile triggers when the highest temperature measured in the detection area exceeds the threshold value.
- **Temperature below threshold:** The profile triggers when the highest temperature measured in the detection area drops below the threshold value.

How long the condition needs to be met to trigger the event (seconds): 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.

Percentage of pixels within the area that need to fulfill the condition to trigger the event: 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.

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

Polygon Points: The defined 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. 35).

Adding a Detection Area

1. Click the **plus icon** ① to add a detection area.

Deleting a Detection Area

1. Click the **bin** icon ② to delete the current detection. area.

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

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

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, p. 31), 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. MxThermalHeatDetection).

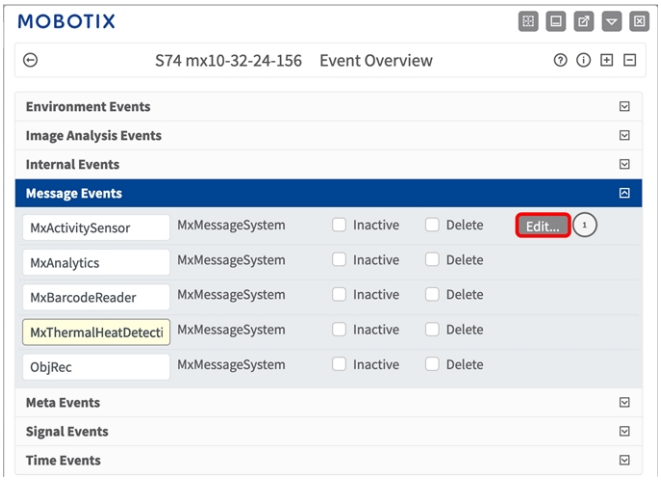


Fig. 21: Example: Generic message event from MOBOTIX Thermal-Heat-Detection App

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

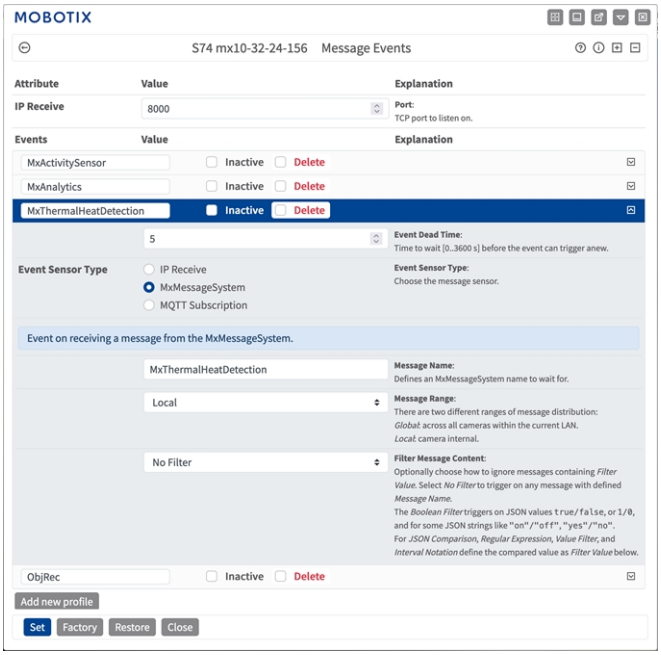


Fig. 22: Example: Generic message event details - no filter

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 Thermal-Heat-Detection App event.

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

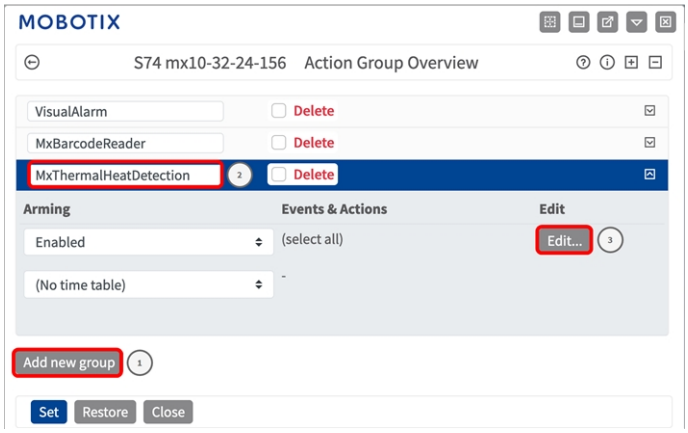


Fig. 23: Defining Action Groups

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

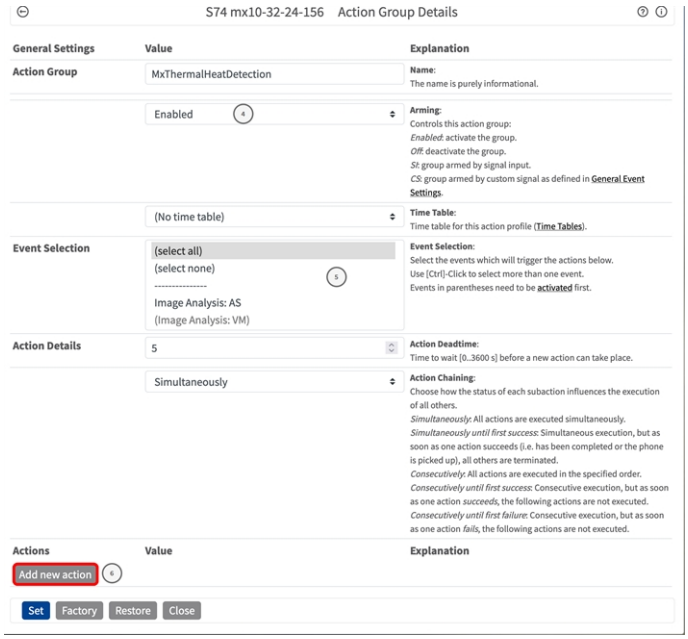


Fig. 24: Configuring an Action Group

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 .

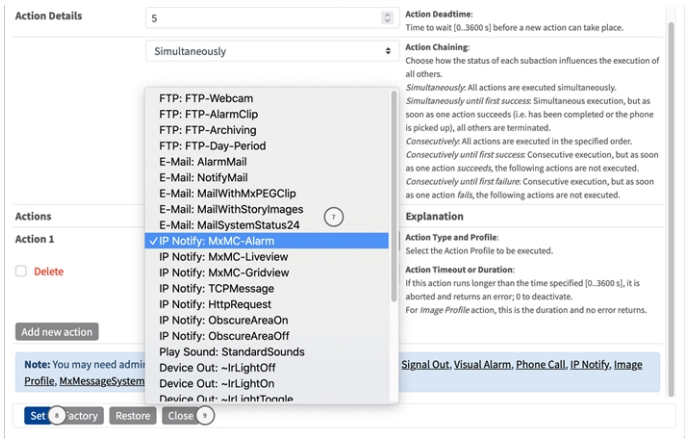


Fig. 25: Select Action Type- and Profile

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).

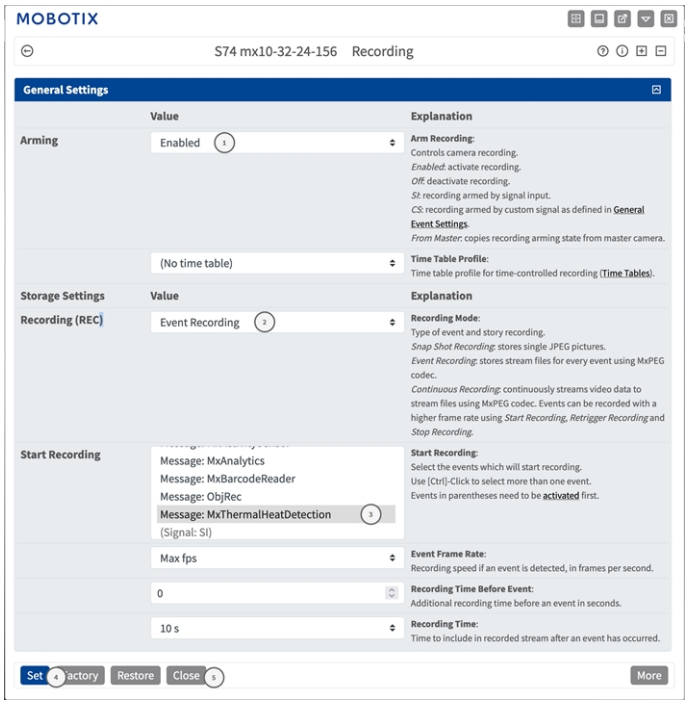


Fig. 26: Configuration of camera recording settings

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

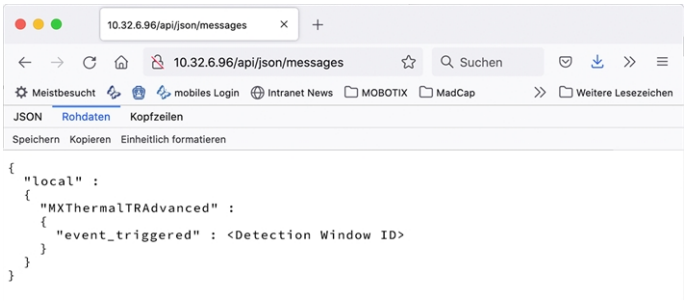
4. In list **Start recording** ③ select the message event just created.
5. Click on the **Set**④ button at the end of the dialog box to confirm the settings.
6. Click on **Close**⑤ to save your settings permanently.

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.



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. MxThermalHeatDetection).

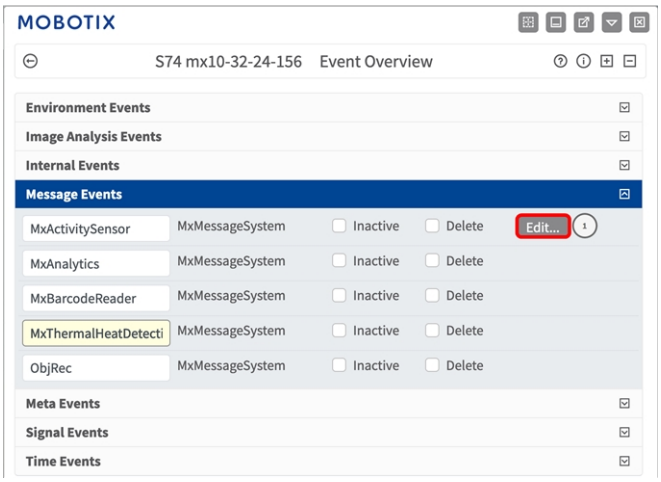


Fig. 27: Example: Generic message event from MOBOTIX Thermal-Heat-Detection App

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

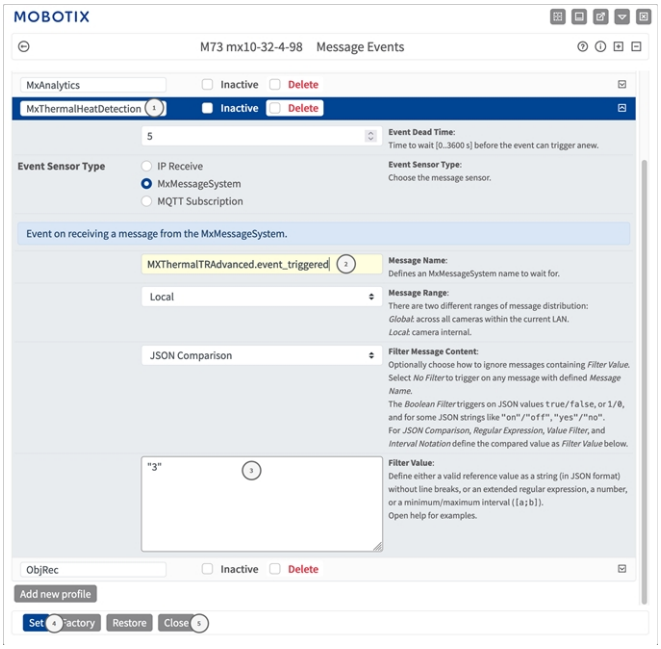


Fig. 28: Example: Heat detection triggered

3. Click on the event (e. g. MxThermalHeatDetection) 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 Thermal-Heat-Detection App, p. 43)

- **Message Range:**
  - Local: Default settings for the MOBOTIX Thermal-Heat-Detection 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 Thermal-Heat-Detection App, p. 43.

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 Thermal-Heat-Detection App

Event	MxMessage Name	Filter Value	Explanation
Temperature Event	MXThermalTRAdvanced.event_triggered	“<Detection Window ID>”	Temperature Event
Failure Event	MXThermalTRAdvanced.sensor_masked	“0”	Failure Event

MOBOTIX

BeyondHumanVision

EN_08/23

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