MOBOTIX 7 Thermal Validation App

This application note is intended to describe the general functionality of the Thermal Validation App. It should provide guidance on how to properly use the App, its core functionality and limitations.

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1   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.

MOBOTIX Thermal cameras should only be installed and configured by trained personal. MOBOTIX advises to successfully complete the MOBOTIX VDS Early Fire Detection certification and/or another MOBOTIX Thermal training before using the Thermal Validation App in order to be able to operate and install MOBOTIX Thermal cameras in general.

The performance of Thermal cameras is subject to environmental conditions such as temperature, humidity, etc. Those must be taken into account when setting up the camera.

2   General Description

The MOBOTIX Thermal Validation app detects and filters out objects that appear in the camera image but are not critical to the application at hand; one example of this would be a vehicle with a hot engine driving through the monitored area. Using this method, this intelligent app effectively reduces the number of false alarms.

This function uses MOBOTIX TR (Thermal Radiometry) technology, which measures heat radiation throughout the image area and assigns a temperature value to each pixel. The Thermal Validation app uses a combination of different algorithms to filter objects and decide whether they are valid or invalid.

3   Decision Matrix

The following describes how the Thermal Validation App is deciding whether a heated object is valid or invalid for an alarm.
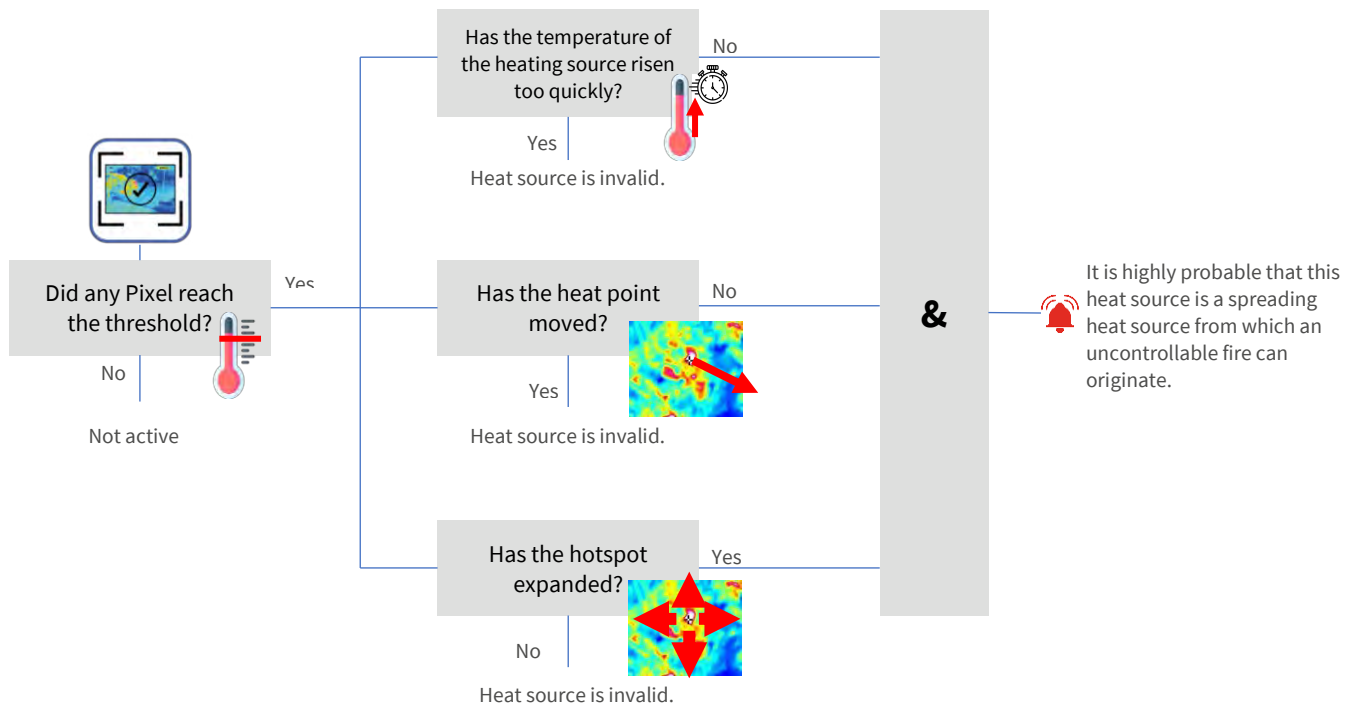
IMPORTANT NOTE: Due to going through the algorithms in order to decide whether a heat source is valid or not, the analytics will take about 20 seconds before deciding whether an object is valid or not.

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4   Possible sources of false alerts

This section should describe some general examples on possible false alerts.

Parking vehicles with running motor:

A parking vehicle with a running motor might cause a false alert of the app, if the temperature of e.g. the motor is above the threshold. The temperature on the vehicles surface will increase steadily, the parked vehicle is not moving and the heat source might expand (due to the motor temperature radiating to the surface of the vehicle). In combination, this can lead to an alarm.

Generators, mobile heaters or similar objects in field of view:

In case it is necessary (maintenance or other specific work) to place a generator, a mobile heater or something similar into the field of view of the camera, this can cause a false alert of the app, if the temperature is above the threshold. The object will be stationary, the temperature will increase and the heat source will expand after starting the generator/heater. In combination, this can lead to an alarm.

Shaking camera due to weather conditions:

When installed on a pole in very windy conditions (especially in combination with using a narrow lens angle), movement of the pole can lead to classifying an object as moving to strongly and therefor setting it to invalid.

Certain type of reflections:

It is possible that a reflection can be classified as a valid heat source, if the measured temperature is not rising very suddenly and the reflection expanding.

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