Thermal camera:

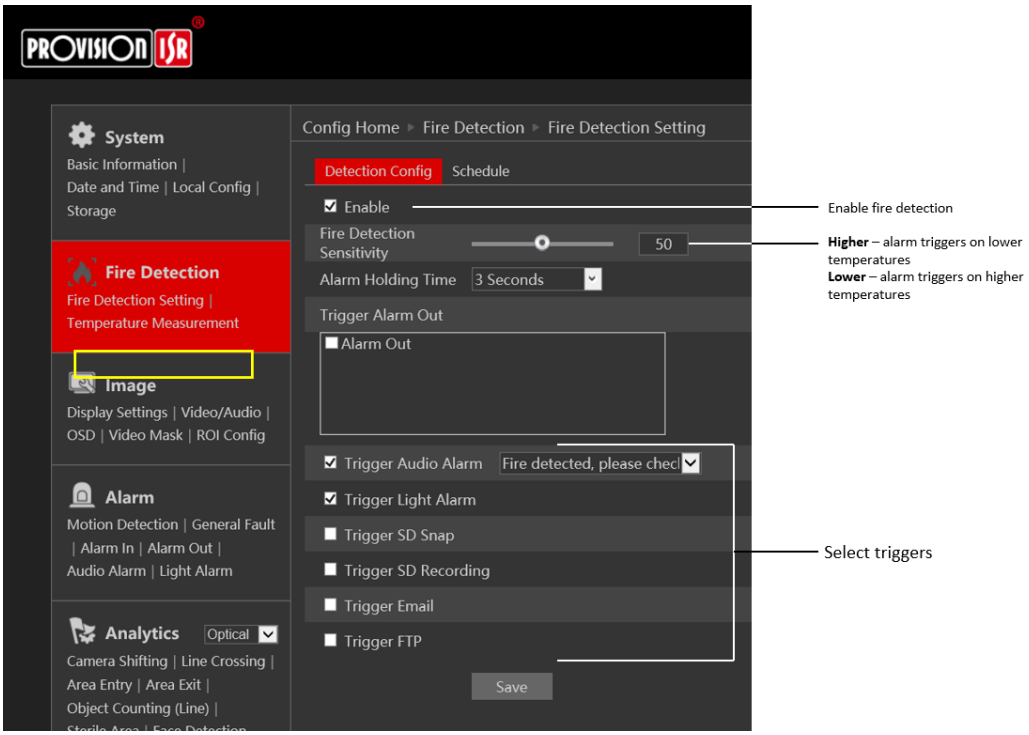
A camera designed to measure temperatures and to **alert** based on:

- Fire Detection – Trigger when a fire is detected
- Temperature Detection –Trigger when temperature anomalies occur.

Set up:

Fire Detection:

Fire is a “Yes” and “No” situation in most cases, so other then enabling the feature, and setting up the triggers you would like to get, there aren’t any more settings to be made. Of course the schedule can be adjusted as well. (Default is 24X7)



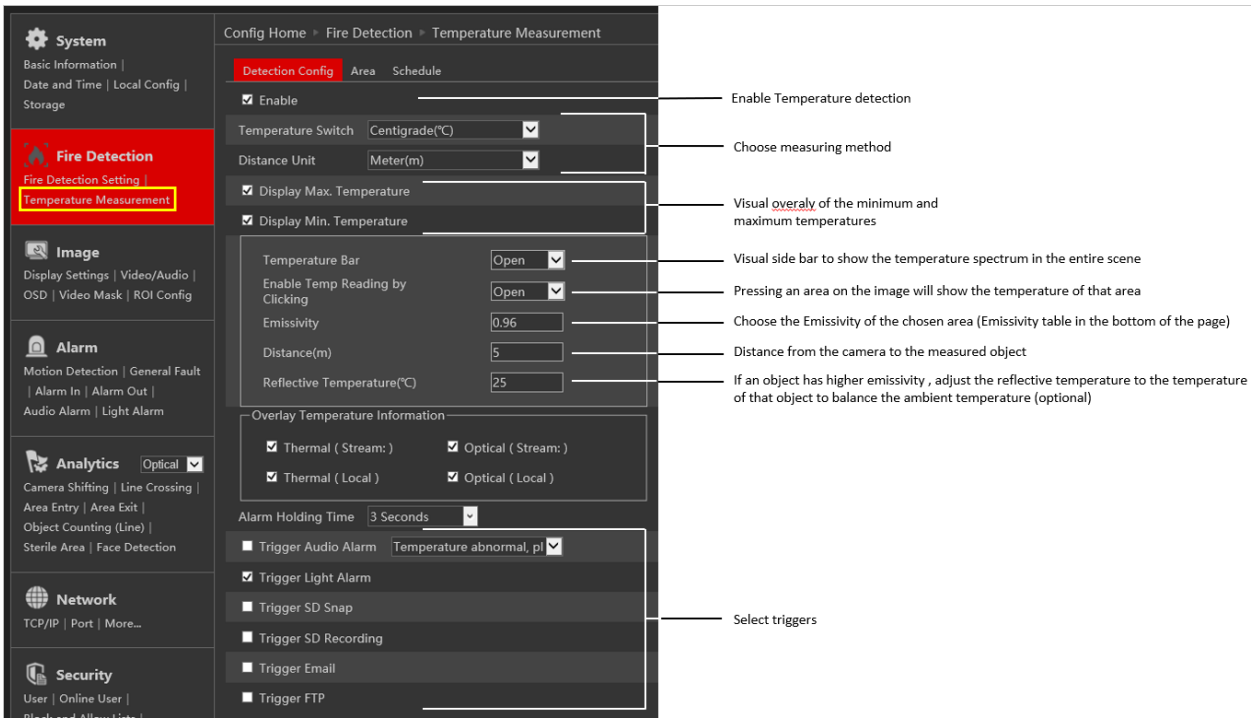
Temperature Detection:

Temperature detection allows to set an alarm based on temperature anomalies. You can set up to 10 different areas that will work simultaneously

For example: The camera is placed in front of an engine room, the engine room normal temperature is 60°.

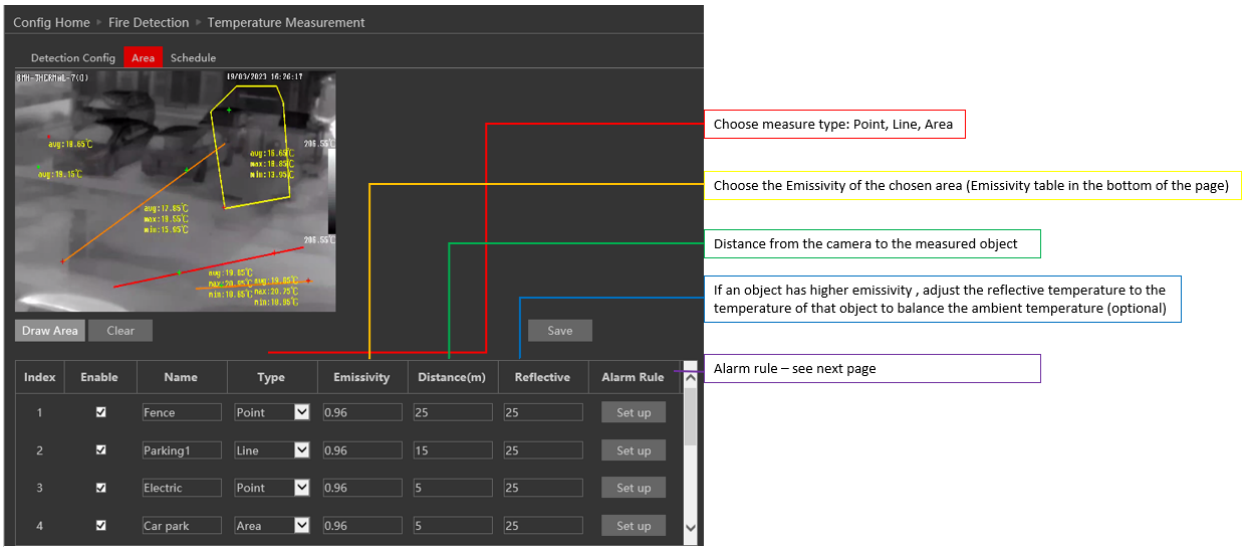
We can set to get an alarm when it raises above a dangerous temperature, for example 70°

1. Set the “Detection Config”:



2. Set the “Area”:

   Here You can set up to 10 different areas that will work simultaneously, and you can set a **specific rule** for each of the 10 areas (Check alarm rules in the next subjects).



Every area provides information:

Line: Min + Max + Avg:

The + shows where the maximum temperature is and the + shows the minimum temperature is

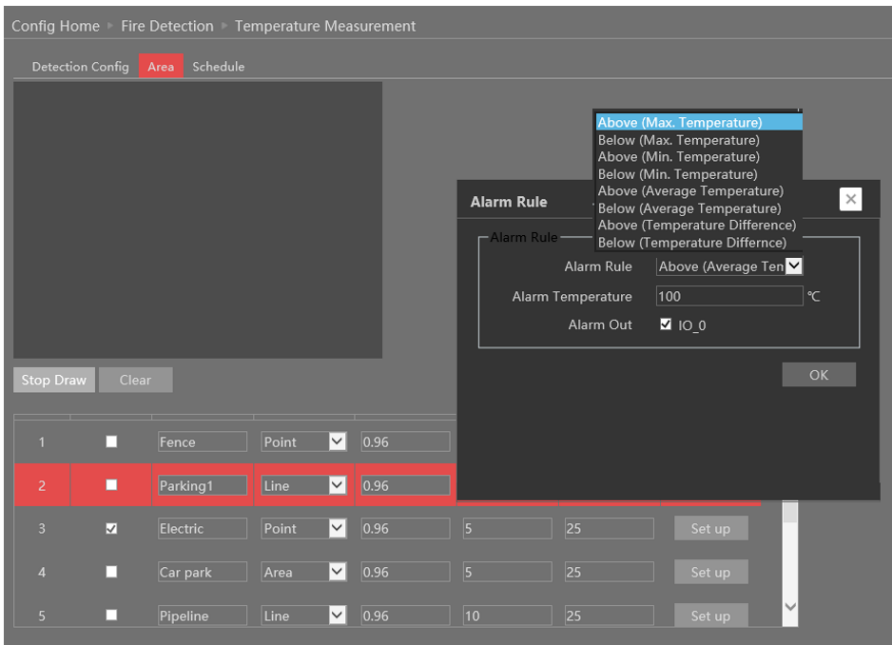
Area: Min + Max + Avg:

The + shows where the maximum temperature is and the + shows the minimum temperature is

Point: Avg:

Alarm Rules:

Each of the 10 Areas can be set with it's own rule:



Max Temperature – that is the maximum temperature we can see in Lines and Areas.

Min Temperature – That's the minimum temperature we can see in lines and areas

Average Temperature – That is the average temperature we can see in lines, areas, and **points**

Temperature difference – That is the difference between **maximum** temperature to **minimum** temperature.

Alarm temperature – Set the temperature threshold for the given rule

Alarm out – Trigger alarm out **(on camera)** when the rule is activated

Emissivity Table:

Material	Emissivity	Material	Emissivity
Human Skin	0.98	Brick	0.95
Printed Circuit Board	0.91	Sand	0.90
Concrete	0.95	Soil	0.92
Ceramic	0.92	Cloth	0.98
Rubber	0.95	Hard Paperboard	0.90
Paint	0.93	White Paper	0.90
Wood	0.85	Water	0.96
Pitch	0.96	Flame	0.2~0.3

The material emissivity is also affected by the surface of the material.

Material Surface	Emissivity
Rough	0.95
Slightly Rough	0.8
Slightly Smooth	0.6
Smooth	0.3

Fusion:

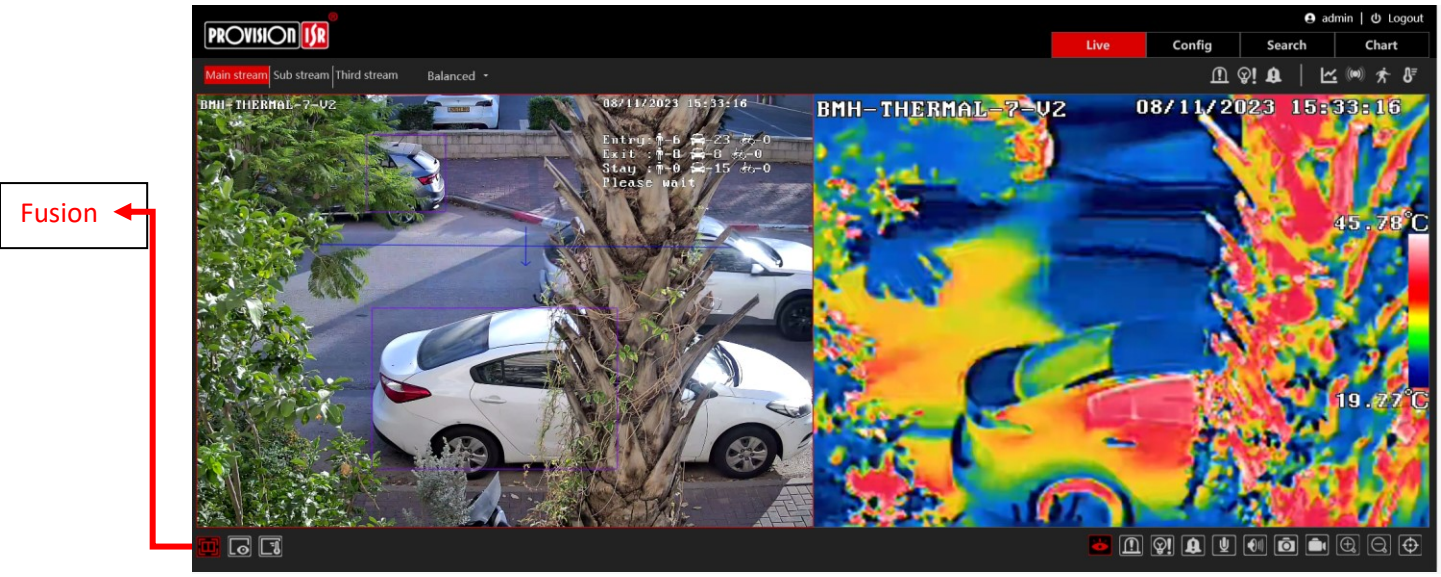
Fusion, is the process of combining multiple types of images or data into one composite image, enhancing the information and insights obtained from each source.

This thermal camera has the capability of providing an optical image with highlighted objects which has higher temperatures

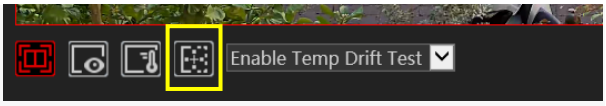
Set up:

*For set up process – please make sure that temperature alarm / fire detection alarm are de-activated.

1. Open edge in IE mode (See how) Go to the live, and use **the left mouse** button to **press** on the "Fusion" button on the bottom left for **6 seconds.**



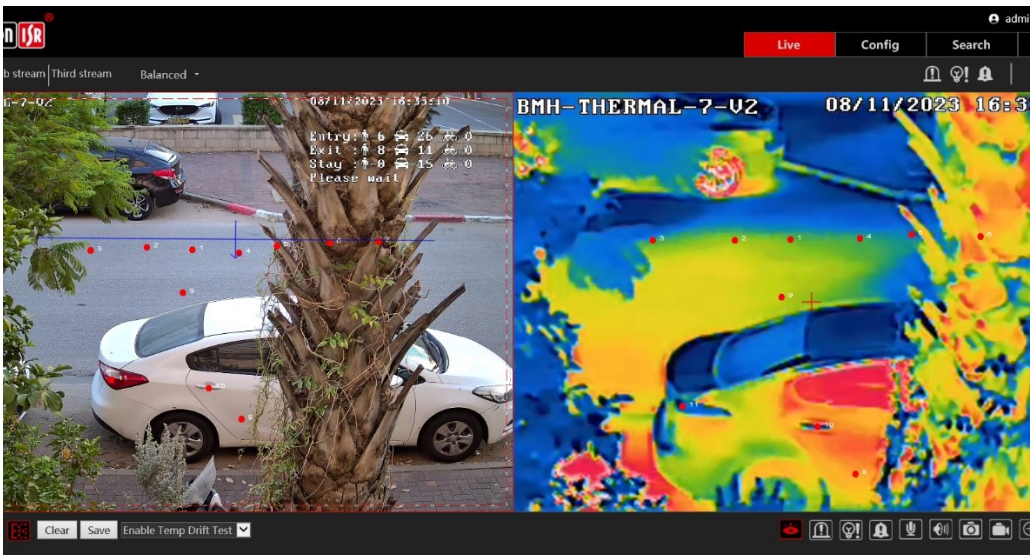
Now you can see!

After 6 seconds the menu will expand: 

Now we need to press the **calibrate** button the optical and the thermal images

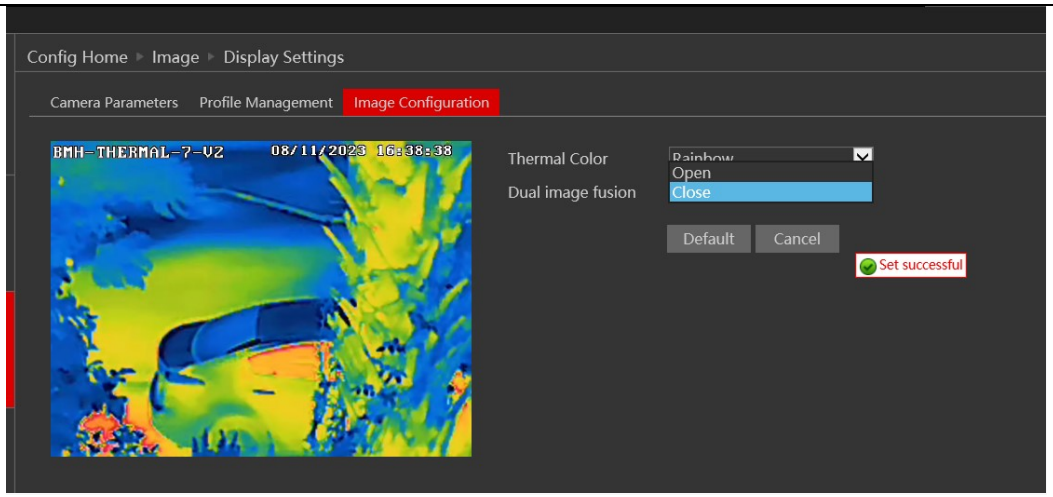
2.Next step is to choose the exact points from both images. It will make our final image sharper.

While calibrating;



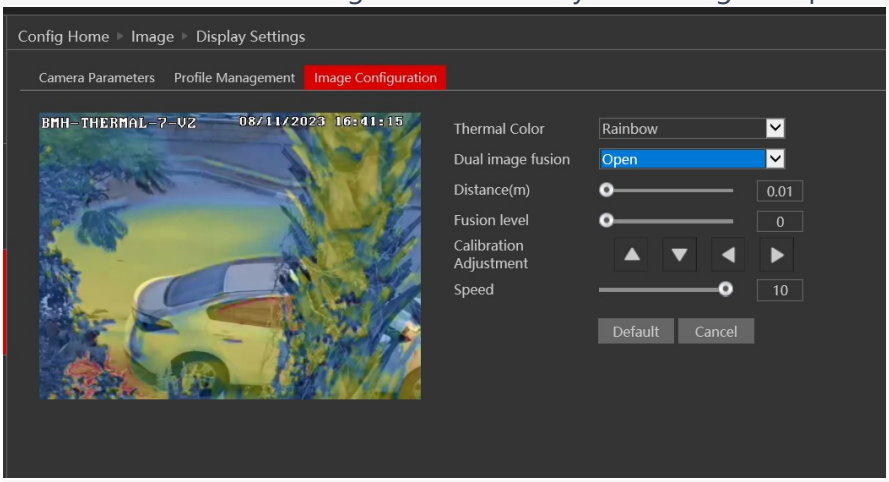
Then press “Save”.

3. NEXT go to Config > Image > Display settings > Image Configuration
   And in “Dual image fusion” set as “Open”



4. Restart the camera!

5. Go again to Config > Image > Display settings > Image Configuration
   You will see the fusion image that is made by combining the optical + thermal image



You can fine tune it using the buttons, and to determine the fusion level.

Pease make sure you run the latest possible FW for your camera.

PROVISION ISR®
Now you can see!

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