

FireCatcher Camera

ACAP software version: V4.00.03

Camera Firmware FW 9.80.3.8

Hardware part number: 8000004

USER MANUAL

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Safety and regulatory information

Definition of symbols


Hazard statements

 Danger:	Indicates a hazardous situation which, if not avoided, <i>will</i> result in serious injury or death.
 Warning:	Indicates a hazardous situation which, if not avoided, <i>could</i> result in serious injury or death.
 Caution:	Indicates a hazardous situation which, if not avoided, <i>might</i> result in moderate or minor injury.
 Notice:	Indicates a situation which, if not avoided, might result in property damage or in an undesirable result or state.

Others

 Information:	Indicates a shortcut or any other useful indication.
 Attention:	Indicates an element which requires extra attention, not necessarily a hazard


Safety information

 **Attention:**

Please read this document carefully before using or configuring the FireCatcher Camera. Installation is described in the FireCatcher Camera Installation Manual.

This document must be kept for future reference.

Before installation, check for eventual exterior damages. If the device presents exterior damages, do not install it and contact your supplier.

 **Notice:**

Do not remove any label from the device.

Avoid exposing the FireCatcher Camera to shocks or heavy pressure.


Do not install the product on unstable poles, brackets, surfaces or walls.

Use only applicable tools when installing the FireCatcher Camera. Using excessive force with power tools could cause damage to the product.

Equipment modifications

This equipment must be installed and used in strict accordance with the instructions given in the user documentation. This equipment contains no user-serviceable components. Unauthorized equipment changes or modifications will invalidate all applicable regulatory certifications and approvals.

Do not attempt to repair the product yourself. Contact your supplier for service matters.

 **Attention:** This equipment is shipped with the correct software version and settings pre-installed according to the desired product certifications. Unauthorized changes to the software version or the software settings will invalidate all applicable certifications and regulatory approvals.

Disposal and recycling

When this product has reached the end of its useful life, dispose of it according to local laws and regulations. For information about your nearest designated collection point, contact your local authority responsible for waste disposal. In accordance with local legislation, penalties may be applicable for incorrect disposal of this waste.



This symbol means that the product shall not be disposed of together with household or commercial waste. Directive 2012/19/EU on waste electrical and electronic equipment (WEEE) is applicable in the European Union member states. To prevent potential harm to human health and the environment, the product must be disposed of in an approved and environmentally safe recycling process. For information about your nearest designated collection point, contact your local authority responsible for waste disposal. Businesses should contact the product supplier for information about how to dispose of this product correctly.

This product complies with the requirements of Directive 2011/65/EU and 2015/863 on the restriction of the use of certain hazardous substances in electrical and electronic equipment (RoHS).

This product uses a 3.0 V BR2032 lithium battery as the power supply for its internal real-time clock (RTC). Under normal conditions this battery will last for a minimum of five years. Lithium coin cell 3.0 V batteries contain 1,2-dimethoxyethane; ethylene glycol dimethyl ether (EGDME), CAS no. 110-71-4.

Liability

Every care has been taken in the preparation of this document. Please inform Araani NV of any inaccuracies or omissions. Araani NV cannot be held responsible for damage caused by technical or typographical errors and reserves the right to make changes to the product and manuals without prior notice. Araani NV makes no warranty of any kind regarding the material contained within this document, including, but not limited to, the implied warranties of merchantability and fitness for a particular purpose. Araani NV shall not be liable nor responsible for incidental or consequential damages in connection with the furnishing, performance or use of this material. This product is only to be used for its intended purpose.

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This product complies with the applicable CE marking directives and harmonized standards:

- Electromagnetic Compatibility (EMC) Directive 2014/30/EU.
- Low Voltage Directive (LVD) 2014/35/EU.
- Restriction of Hazardous Substances (RoHS) Directive 2011/65/EU and 2015/863, including any amendments, updates or replacements.

Contact and support

Should you require any technical assistance, please contact your Araani reseller. If your questions cannot be answered immediately, your reseller will forward your queries through the appropriate channels to ensure a rapid response.

If you are a reseller, please contact your direct contact person, or contact our support staff via support@araani.com.

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About this manual

This manual describes the configuration, usage, testing and maintenance of the Araani FireCatcher Camera.

Please read this document carefully before using the FireCatcher Camera.

Please refer to the FireCatcher Camera installation manual for any information that is related to the installation of the FireCatcher Camera.

Product description



FireCatcher Camera is a Video Fire Detector. It will trigger an alarm if it recognizes smoke or flames.

The FireCatcher Camera can be connected to the fire alarm control panel to generate audible and/or visual alarms if smoke or flames are detected in the field of view. At the same time, the FireCatcher Camera can be connected via the LAN to a Video Management System for visual monitoring and verification.

Built-in tamper detection, image quality control and activity monitoring contribute to a fail-safe and reliable detection.

Product certifications

FireCatcher Camera has been certified according to the following international standards.

Standard	Details
<p>CNPP – SPECIFICATION TECHNIQUE – ST LPMES – DEC.18.005B – 20/07/2022</p> 	<p>INCENDIE – Système de détection de fumées et/ou de flammes par analyse d'image.</p> <p>Type : Détecteur de fumée et détecteur de flammes.</p> <p>More information can be found in Addendum E: CNPP certification information.</p> <p> Notice: Please read and follow the guidelines in Addendum E: CNPP certification information before installing FireCatcher Camera according to this product certification.</p>

BOSEC



Certificate number: **B - 9348 - FD - K 1078**

Based on the conformity with:

- BOSEC Mark Rules
- NTN 177-C:2018
- NTN 177-L:2019 - Video Smoke Detectors – Part L: Additional requirements to ISO/TS 7240-29 – Prescriptions and laboratory tests.
- ISO/TS 7240-29:2017 – Fire detection and alarm systems – Part 29: Video fire detectors
 - **Type A** – Smoke Detector
 - **Type B** – Flame Detector

More information can be found in [Addendum D: BOSEC certification information](#).

⚠ Notice: Read and follow the guidelines in [Addendum D: BOSEC certification information](#) before installing FireCatcher Camera according to this certification.

Functionality and basic requirements

Functional capabilities

Type	<ul style="list-style-type: none">• Type A - Smoke Detector• Type B - Flame Detector <p>FireCatcher Camera can be configured as both a smoke detector and/or a flame detector.</p> <p>Both functionalities can be activated independently, and the device is certified independently as a certified smoke detector, and a certified flame detector.</p>
Smoke Detection	<ul style="list-style-type: none">• Detects smoke clouds.• Detects dispersed smoke.• Source of smoke does not need to be in the field of view.• Performance independent on smoke colour.
Flame Detection	Detects red / orange flames.

Reliability check	<p>FireCatcher Camera has a self-monitoring functionality and will generate a Fault Signal in all cases where it is unable to detect:</p> <ul style="list-style-type: none"> • Camera motion: fast movement of the camera out of its current position. • Camera blocking: tampering of the camera window. • Image quality: detects when the camera viewing window is becoming too dirty. • Light drop or too dark. • Insufficient contrast (Smoke algorithm only). • Loss of video stream. • Software malfunction. • Power failure.
State types	<p>FireCatcher Camera is always in one of following mutual exclusive states:</p> <ul style="list-style-type: none"> • OPERATIONAL SIGNAL: no incident is detected; detection conditions and all reliability checks are ok. • FAULT SIGNAL: see reliability check. • ALARM: an incident condition is raised. Either smoke and/or flame is detected. • RECALIBRATING: learning background after starting up, reset or reconfiguring. • SUPERVISORY SIGNAL: smoke detection temporarily disabled due to motion detection.
Event types	<p>FireCatcher Camera can also release more specific information on which type of fire alarm is active. These are treated as an event, and not a state.</p> <ul style="list-style-type: none"> • Smoke Alarm • Flame Alarm
Distance - Smoke	BOSEC: max. 30m, see Addendum D: BOSEC certification information .
Distance - Flame	BOSEC: max. 45m, see Addendum D: BOSEC certification information .
Field Of View	<p>Lens: CS 2.8–8 mm F1.2 P-Iris 5 MP After initial installation, the focus should remain fixed.</p> <p>Horizontal field of view: 107°–42°</p> <p>Vertical field of view: 57°–24°</p>
Field Of Detection	<p>By default, the field of detection is the full field of view.</p> <p>Possibility to customize the field of detection through detection zones.</p>

Basic requirements

Minimum contrast (Only Smoke Detection)	<p>FireCatcher Camera has a contrast-based smoke detection algorithm and requires sufficient basic contrast in the background scene.</p> <p>In real-life situations, this constraint is usually fulfilled.</p> <p>In case there is a lack of contrast, FireCatcher Camera will generate a Fault Signal after reaching the quiescent condition.</p>
Minimum ambient light level	Minimum 1 lux , subject to compliant maximum illumination ratio.
Maximum illumination ratio	<p>Maximum Illumination Ratio = 1000.</p> <p>FireCatcher Camera has passed following tests: ISO/TS 7240-29:2017 – 5.10 non-uniform illumination</p>
Maximum ambient light level	Unspecified, subject to compliant maximum illumination ratio.

Information:

Illumination = total amount of light on an object in the field of view.

Illumination ratio = ratio between brightest and darkest spot in the full field of view of a camera in lux. This means that if spots of direct sunlight of about 80 000 lux are expected, the minimum lux level in the shadow should be increased to at least 80 lux.

Information: typical outdoor light levels

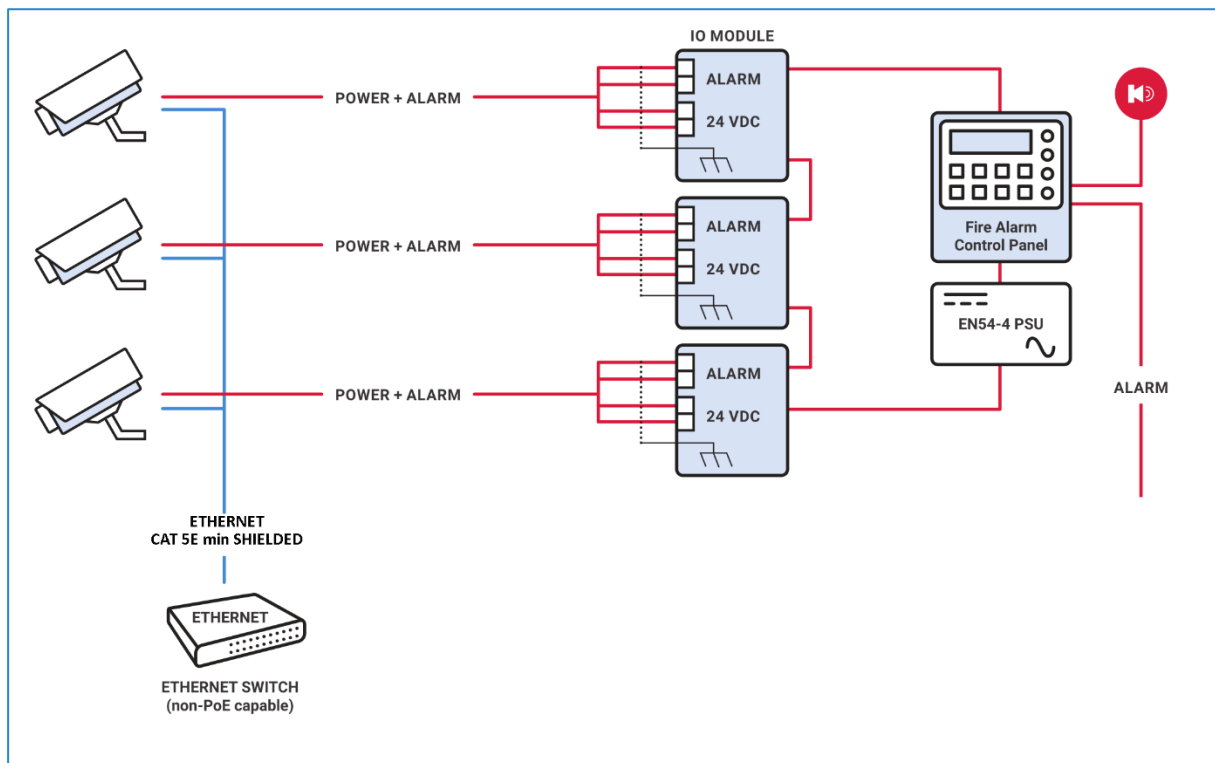
Condition	Illuminance (lux)
Brightest direct sunlight	100 000 – 120 000
Direct sunlight	32 000 – 100 000
Shadow part in Brightest direct sunlight	20 000
Overcast day - midday	1000 – 2000
Very dark overcast day	100
Moonlight, clear night sky	< 1 lux
Full moon, clear night sky	0.25 lux
Moonless night sky	< 0.002

Cabling and powering the FireCatcher Camera

The FireCatcher Camera supports 2 entry cables:

- **Combined power + alarm in one cable:** FireCatcher Camera requires the use of conventional multi-core fire alarm cable e.g. DIN VDE 0815 telecommunications cable. It is important that this shielded cable is open on the camera side and grounded at the cabinet side. The FireCatcher Camera should be powered by an EN54-4 compliant source.
- **Ethernet cable:** Shielded STP, min. CAT5e.

! Attention: The ethernet cable from the cameras SHOULD NEVER BE CONNECTED TO A PoE-switch.



For detailed mounting instructions on how to connect the power and alarm cable inside the camera, please refer to the FireCatcher Camera installation manual.


FireCatcher Camera access

Finding the FireCatcher Camera

To access the FireCatcher Camera, one needs to know the IP address of the device. The IP address of a FireCatcher Camera on the network can be found by using Axis IP utility or Axis Device Manager. Both applications are free and can be downloaded from <https://www.axis.com/support>. The FireCatcher Camera will show up as a "P1375" type of camera.

To find the camera, using the Axis IP utility, follow these steps:

1. Start the IP utility IPUtility.exe.
2. Axis devices on the network are automatically discovered and displayed with their type, serial number and IP address in the application window. FireCatcher Cameras will appear as an Axis P1375 in the list.

 **Notice:** The Axis device and the client computer must be on the same subnet/network segment for discovery by Axis IP utility.


To find the FireCatcher Camera with Axis Device Manager or if you need to change the IP address, please refer to the FireCatcher Camera installation manual.

User roles

FireCatcher Camera comes with pre-configured user profiles installed. Operator and administrator profile have a specific password, which is included with the shipment on a removable label, attached to the camera, and linked to the serial number. It's important to keep this information. It is recommended to change the received passwords at first login.

The following user profiles are pre-configured:

Role	Access rights	Username	Default password
Viewer	Live View page and video stream only.	viewer	viewer
Operator	All viewer rights + <ul style="list-style-type: none">• Image settings ¹• Stream settings• Overlay• Audio• Privacy mask ²	operator	<i>as included with the shipment</i>
Administrator	Unrestricted access to all settings, including FireCatcher Camera software settings. ³	administrator	<i>as included with the shipment</i>
Root	This administrator account is reserved for Araani. It is a back-up administrator account in case one of the Araani Support Engineers need access. If the corresponding password is changed from within the other administrator account, Araani cannot access the cameras anymore, and it is the sole responsibility of the party who made the change.		

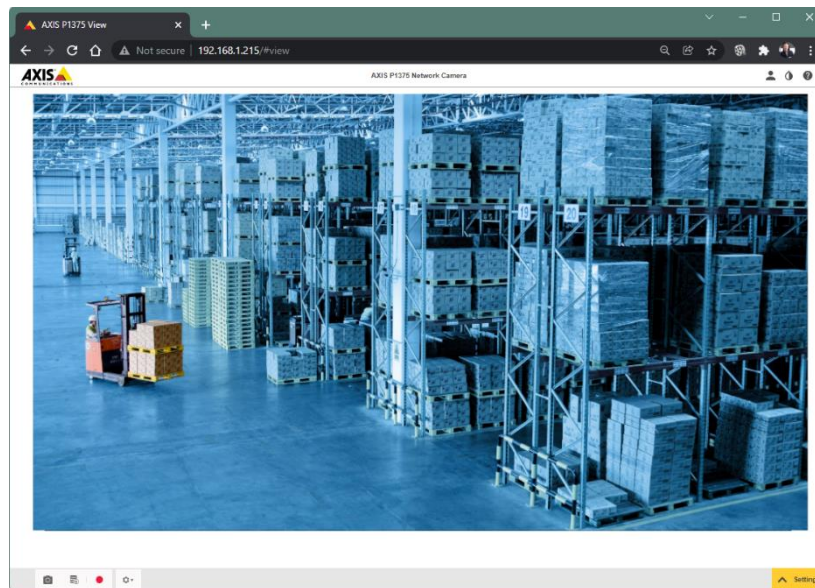
¹  **Attention:** FireCatcher Camera is delivered with optimized image settings for fire detection. Changing the image settings can have a negative impact on detection performance and should only be done by Araani Certified Engineers.

- 2 **! Attention:** Privacy masks also block out the area for fire detection! Adding or removing privacy masks should only be done by Araani Certified Engineers.
- 3 **! Attention:** Only Araani Certified Engineers should have access to FireCatcher Camera settings.
- ! Attention:** It is not allowed to create View areas in the "View area" configuration tab.

Accessing the FireCatcher Camera

To access the FireCatcher Camera interface, follow steps below.

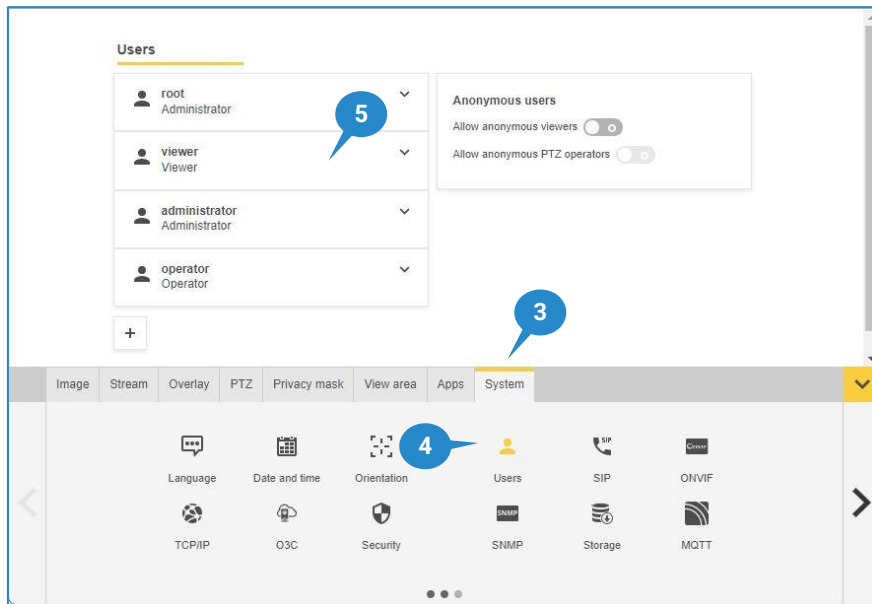
1. Open a browser and enter the IP address or host name of the FireCatcher Camera.
2. Enter an authorized username and password.
3. The live view page opens in your browser.



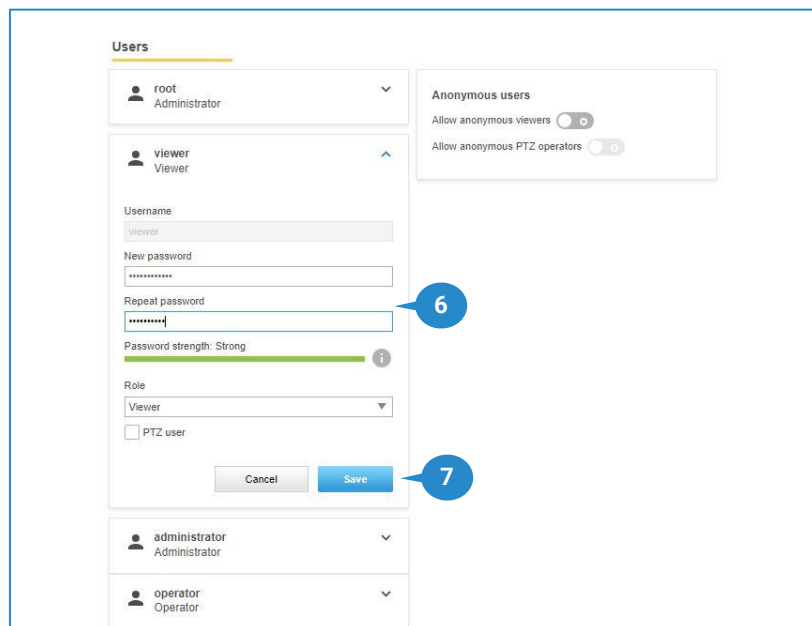
Changing passwords

To change the user passwords from default value, follow these steps:

1. Open a browser and access the FireCatcher Camera web interface as described above.
2. Login as administrator or the user for which you want to change the password.
3. Click the "Settings" button in the right bottom corner.
4. Click the "System" tab.
5. Click "Users".
6. Click the user entry for which you want to change the password.



7. Fill in the new password in the 'New password' and 'Repeat password' fields.
8. Click "Save".



! Attention: Do not change the password for username root. This account is reserved for Araani and permanent and cannot be deleted.

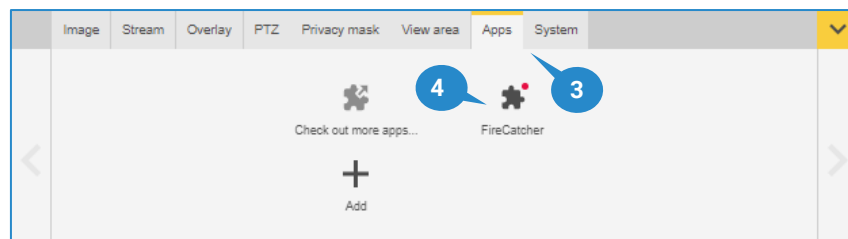
Activating the FireCatcher Camera license

With the purchase of FireCatcher Camera, a **license activation code** is provided. This code is valid for a number of FireCatcher Camera installations, as purchased. To activate and start FireCatcher, administrator access is required.

Case 1: the camera is connected to the internet

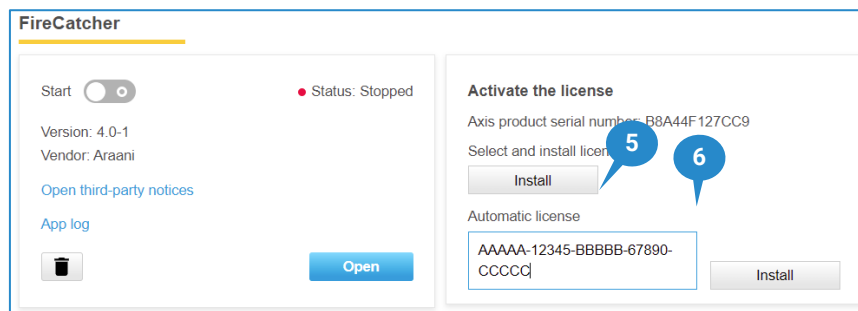
Perform the steps below to activate the FireCatcher Camera app directly on the camera.

1. Connect to your camera, using your internet browser software and login as administrator to the camera webpage.
2. Open the settings window by clicking the "settings" button in the bottom right of the camera webpage.
3. Click the "Apps" tab in the control panel.
4. Click the FireCatcher Camera app.



5. The license activation code can be directly entered in "Automatic license" field.
6. Click "Install"

The camera will connect to the Axis® licensing system. A license key for this camera will be created and automatically installed on the device. The camera will be registered in the Axis® licensing system as being licensed, and the license key will be linked to your license activation code and your camera.



Case 2: the camera has no internet connectivity

When the camera on which the FireCatcher Camera application is installed has no direct internet connection, a license key must be generated upfront on a computer with internet connection.

To create the license key, perform the steps below.

1. Using your internet browser, connect to <https://www.axis.com/products/camera-applications/license-key-registration#/registration>.
2. Fill in the serial number of your camera. The serial number can be found in the "Activate the license" box as shown above or on a sticker on your camera housing, indicated by "S/N".
3. Click "I have a license code".
4. Fill in the license activation code, received with your purchase.
5. Click "Generate".

License key registration

Generate License Key ?

Complete this form to activate your application/license.

If you want to generate multiple License Keys, please use our [batch registration page](#).

Step 1. Type in the ID of your device: ?

Serial Number: ACCC8ED9D53B 2

AXIS P1375-E 3

Step 2. ☒ I have a license code ☐ I'd like to create a trial or a free license ?

Step 3. Enter your license code and press generate: ?

License Code 4

Generate 5

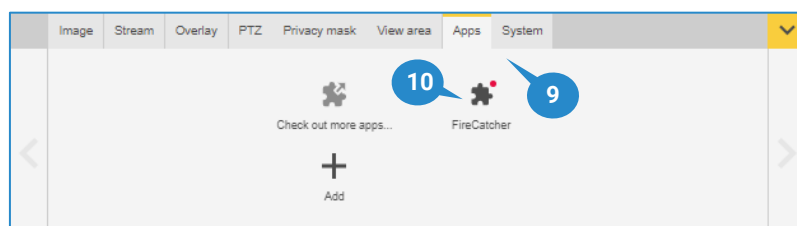
6. A message will appear from which you can download the license key to your local storage.

Step 4. You can download your license key through the following link: 6

[Download license key \(Show the content of the license key\)](#)

The license key, created in previous steps can now be uploaded and installed on the camera to activate the FireCatcher Camera app. Follow steps below to activate the app:

7. Connect to your camera, using your internet browser software and login as administrator to the camera webpage.
- Refer to the camera user manual on how to do this.
8. Open the settings window by clicking the "settings" button in the bottom right of the camera webpage.
9. Click the "Apps" tab in the control panel.
10. Click the FireCatcher Camera app.



11. Click "Install" in the "Activate the license" box

FireCatcher

Start ☐ Status: Stopped

Version: 4.0-1

Vendor: Araani

[Open third-party notices](#)

[App log](#)

[Open](#)

Activate the license

Axis product serial number: B8A44F127CC9

Select and install license key

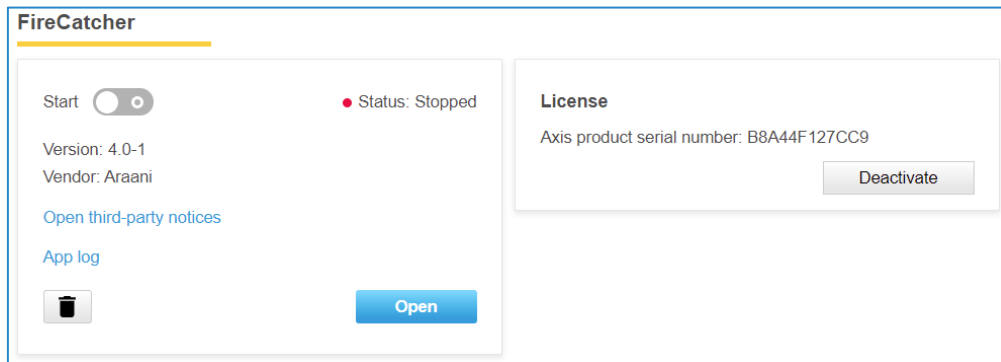
Install 11

Automatic license

License code (optional)

Install

12. Browse your storage for the file, downloaded in step 6.
13. When installed correctly with a valid license key, following screen should appear:



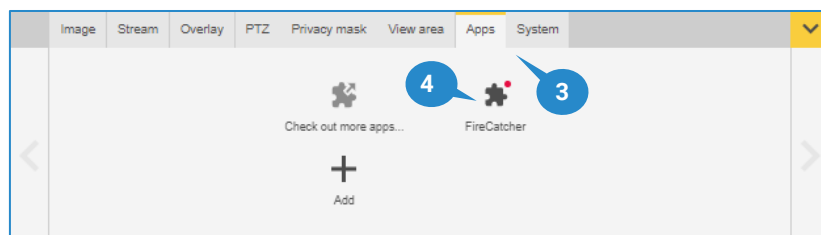
After finishing, close the browser to prevent unauthorized access to the detector.

How to use FireCatcher Camera

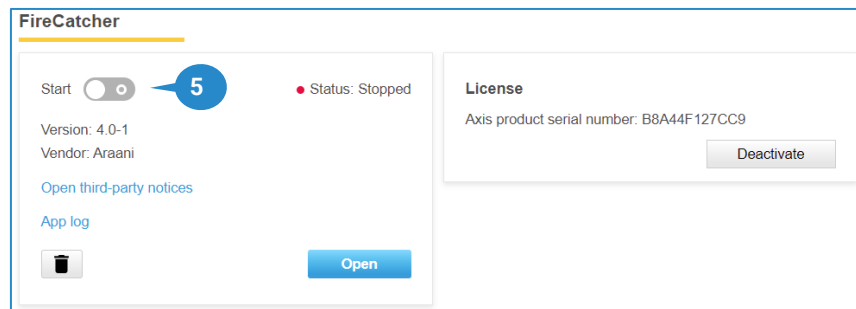
STARTING FIRECATCHER CAMERA ACAP

After installation, FireCatcher Camera is started automatically. If for some reason, the application was stopped, follow the steps below to restart detection.

1. Connect to your camera, using your internet browser software and login as administrator to the camera webpage.
2. Open the settings window by clicking the "settings" button in the bottom right of the camera webpage.
3. Click the "Apps" tab in the control panel.
4. Click the FireCatcher Camera app.



5. Click the start switch to start the application.



START-UP BEHAVIOUR

At start-up, FireCatcher Camera needs to learn the background of the scene. This takes maximum 5 minutes. During this period, FireCatcher Camera is not fully operational yet and the display overlay will indicate "Recalibrating". The default start-up state however is "Operational"-mode. The reason for this default behaviour is to prevent FireCatcher Camera to trigger a "Fault Signal" immediately after an upgrade.

Within typically **5 minutes**, FireCatcher Camera will either stop recalibrating and remain operational, or go to "Fault Signal" condition.

If the FireCatcher Camera application goes to fault condition after starting up, this can be due to:

- Not enough background contrast.
- Scene too dark: the light level is less than the minimum light level.

In both cases, review the installation of your camera, taking into account the requirements and recommendations for environment and camera position in the installation manual.

STOPPING THE FIRECATCHER CAMERA APP

To stop the FireCatcher Camera app, perform the same steps as [Starting FireCatcher](#). When clicking the switch in step 5, the application will be stopped.

Configuring FireCatcher Camera detection settings

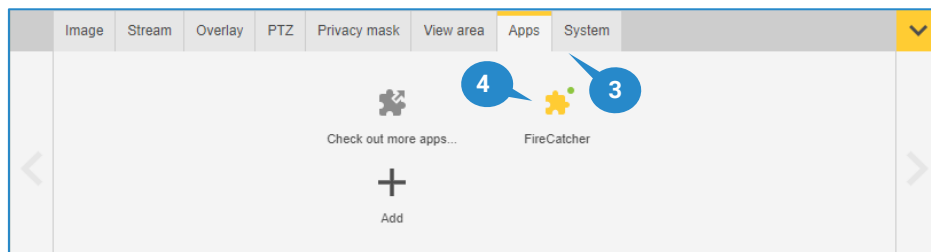
! Attention: Changing FireCatcher settings is only authorized for Araani Certified Engineers. Administrator rights are required to enter the configuration settings.

In most cases, default settings of FireCatcher Camera will work fine. To optimise detection per site and per field of view, it is possible to adjust some detection settings.

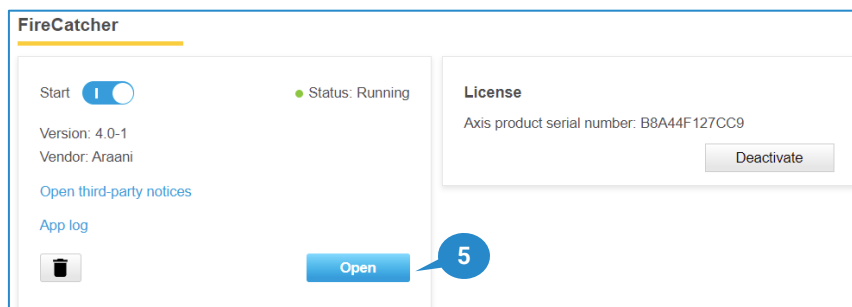
Accessing FireCatcher Camera configuration

To access the settings of your detection app on the camera, proceed with steps below.

1. Connect to your camera, using your internet browser software and login as administrator to the camera webpage.
2. Open the settings window by clicking the "settings" button in the bottom right of the camera webpage.
3. Click the "Apps" tab in the control panel.
4. Click the FireCatcher Camera app.



5. Make sure the application is running, otherwise start FireCatcher Camera. Click "Open".



6. A new browser window will appear that contains the basic settings to configure FireCatcher Camera software.

FireCatcher®

Settings (*)
DetectionZone
Logging

Visibility: Basic 10

PTZ preset position

Home

General

Overlay ☒

Smoke alarm

Enabled ☒

Smoke alarm delay	5	s
Smoke alarm min coverage	3	%
Smoke alarm sensor sensitivity	60	%
Minimum scene detail	40	%
Disrupted background	<input checked="" type="checkbox"/>	
Min sensor contrast	90	

Flame alarm

Enabled ☒

Flame alarm delay	5	s
Flame detection sensitivity	60	%
Minimum flame size	4	‰
Rotating beacon detection sensitivity	60	%

Cancel
Save
Default

9

8
7

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VISION ON SAFETY

EULA

When settings are changed, an asterisk will appear in the tab header of the configuration page. This indicates that the modifications are not saved yet. When trying to leave the page without saving, a pop-up warning will appear.

7. Click "Save" to register the new settings in the app.
8. "Cancel" can be used when changes to the settings have been done (but not saved) and one wants to return to the setting as is in the camera.
9. "Default" can be used to reset all settings to default value.
10. The visibility selector allows to select between Basic and Advanced settings. The advanced setting allows to finetune the detection when basic settings are not satisfactory.

Configuration of smoke detection

The smoke detection algorithm detects the presence of smoke in the image. The following settings are available to control the algorithm behaviour:

Smoke alarm

Enabled

☒

Smoke alarm delay

5

s

Smoke alarm min coverage

3

%

Smoke alarm sensor sensitivity

60

%

Minimum scene detail

40

%

Disrupted background

☒

Min sensor contrast

90

Name	Range	Unit	Default value	Meaning
Enabled	on - off		on	Enable or disable smoke detection.
Smoke alarm delay	2 - 60	Seconds	5	If the alarm condition is continuously present during this time, an alarm is generated.
Smoke alarm min coverage	2 - 30	%	3	Percentage of the field of view that needs to meet the requirements for alarm before an alarm is reported. The higher the value, the less sensitive detection. E.g.: 2% of a 1920 x 1080 image is an area of 203 x 203 pixels.
Smoke alarm sensor sensitivity	40 - 90	%	60	Sensitivity of the sensor to alarm. The higher the value, the more sensitive detection, but more risk on unwanted alarms.
Minimum scene detail	40 - 70	%	40	Minimum percentage of the background that needs enough contrast to allow proper functioning of the analytics. If this condition is not met, a fault will be generated.
Disrupted background	on - off		on	Switch ON in case of unwanted alarms, caused by frequent large disturbances in the background: motion of large objects, displacement of large objects, furniture, etc... e.g. a truck moving in front of the camera occasionally. Switch off in case of risk of explosion or potential fast smoke development that needs to be detected, e.g. EX environments.
Min sensor contrast	0 - 1000		90	Minimum contrast on a sensor before it is valid. Increase this value from 100 to 110 in case of unwanted alarms due to large low-contrast parts with slow light changes in the field of view.

Configuration of flame detection

The flame detection algorithm detects presence of flames in the image. The following settings are available to control the algorithm behaviour:

Flame alarm	
Enabled	<input checked="" type="checkbox"/>
Flame alarm delay	<input type="text" value="5"/> s
Flame detection sensitivity	<input type="text" value="60"/> %
Minimum flame size	<input type="text" value="4"/> ‰
Rotating beacon detection sensitivity	<input type="text" value="60"/> %

Name	Range	Unit	Default value	Meaning
Enabled	on - off		on	Enable or disable flame detection.
Flame alarm delay	3 - 60	Seconds	5	The minimum duration that a flame must be detected before raising flame alarm.
Flame detection sensitivity	40 - 90	%	60	Sensitivity of the flame detector. The higher the value, the more sensitive the detection, but the higher the risk of unwanted alarms.
Minimum flame size	1 - 100	‰	4	Minimum size of a flame to be detected (expressed in per myriad of the field of view). E.g.: 4‰ of a 1920 x 1080 image is an area of 28 x 28 pixels.
Rotating beacon detection sensitivity	0 - 90	%	60	Sensitivity of the rotating beacon detector. The rotating beacon detector suppresses unwanted flame alarms caused by rotating beacons. The higher the more sensitive, set to zero to disable. ! Attention: When rotating beacons need to be suppressed on site, increase the Flame alarm delay to 10s.

Advanced configuration: image monitoring

The image monitoring algorithm is protecting detection from tampering. When enabled, it can detect when the camera is moving, vibrating or if the image is blurred or completely blocked for any reason. The algorithm also allows to compensate for abrupt changes in external light conditions. This algorithm processes the full image - not only the detection zones - as opposed to the smoke and flame algorithm.

The following settings are available to control the algorithm behaviour:

Image monitoring

Enable camera motion

☒

Camera motion sensitivity

70

%

Enable camera blocking

☒

Blocking sensitivity

50

%

Enable camera vibration

☒

Camera vibration area coverage

70

%

Camera vibration minimum duration

5

s

Light change compensation

☒

Light change percentage

50

%

Fault signal delay

30

s

Name	Range	Unit	Default value	Meaning
Enable camera motion	on - off		on	Generate a fault signal on a fast rotation of the camera.
Camera motion sensitivity	10 - 90		70	The higher this value, the faster a camera motion event will be triggered.
Camera blocking	on - off		on	Generate a fault signal on a blurred or blocked image.
Blocking sensitivity	20 - 90		50	The higher this value, the faster a camera blocking event will be triggered.
Enable camera vibration	on - off		on	Enable/disable camera vibration detection. This will cause the detection algorithms to adapt sensitivity but will not generate any fault.
Camera vibration area coverage	10 - 100	%	70	Percentage of the detection zone that needs to meet the requirements for camera vibration before the event is triggered.
Camera vibration minimum duration	5 - 60	Seconds	5	Minimum duration of the camera vibration conditions before this condition is set.
Light change compensation	on - off		on	Activate robustness to light changes.
Light change percentage	20 - 50	%	50	The minimum part of the field of view that needs to be affected by abrupt light change before light change compensation is triggered.
Fault alarm delay	5 - 180	Seconds	30	Minimum duration of a fault alarm before it is reported.

Advanced configuration: activity monitoring

The activity monitoring algorithm allows to detect activity (motion) in the image and suspend smoke detection until activity has stopped for a predetermined period. This generates "SUPERVISORY" state. This can be used e.g. to automatically suspend detection during e.g. bulldozer activity. This will avoid false detection in areas where a lot of dust is generated during work time. Note that flame detection remains active during this period (if enabled).

ActivityMonitoring

Enable smoke blocking

☐

Smoke time out

Min

Name	Range	Unit	Default value	Meaning
Enable smoke blocking	on - off		Off	Block Smoke Detection when activity is detected.
Smoke time out	1 - 90	Minutes	15	Block Smoke detection for this value of minutes after activity detection. i Information: Smoke Detection is not stopped during this time out, only the Smoke Alarms are inhibited.

Advanced configuration: I/O

The I/O configuration allows to assign alarms and statuses to specific outputs.

Io

Output1

Output2

Output3

Output4

Output latch timeout

s

Name	Options	Default value	Meaning
Output1	Fire Smoke Flame	Fire	Each of these settings allows to assign a function to the associated output signal on the I/O module. Following options can be assigned, depending on the output number: <ul style="list-style-type: none">Smoke: will activate the output when a smoke alarm is occurring.Flame: will activate the output when a flame alarm is occurring.
Output2	Fire Smoke Flame Supervisory NA	NA	

Output3	Fault	Fault	<ul style="list-style-type: none"> • Fire: will activate the output when either a smoke alarm or a flame alarm or both are occurring. • Fault: will activate the output when a fault is occurring. • Supervisory: smoke detection temporarily disabled due to motion detection. • NA: not assigned.
Output4	Fire Smoke Flame Fault Supervisory NA	NA	

Note that "activation" in the table above is considered as closing or opening the related output contact:

- Output 1, 2 and 4 are normally open (NO)
- Output 3 is always assigned to fault alarm and this output is normally closed (NC). A fault will actually open the contact.
- Outputs that are not assigned (NA) are always open.

Name	Range	Unit	Default value	Meaning
Output latch timeout	0 - 120	Seconds	20	<p>The setting controls the behaviour of the I/O contacts when activated: 0: I/O contacts are activated when the assigned status or alarm occurs and remain open until an external reset is manually initiated This is called "latched mode".</p> <p>1-120: when activated, the I/O contacts remain active for the set time after the alarm stopped and then deactivate automatically. This is called "non-latch mode". This behaviour is consistent with most Fire Alarm Control Panels.</p>

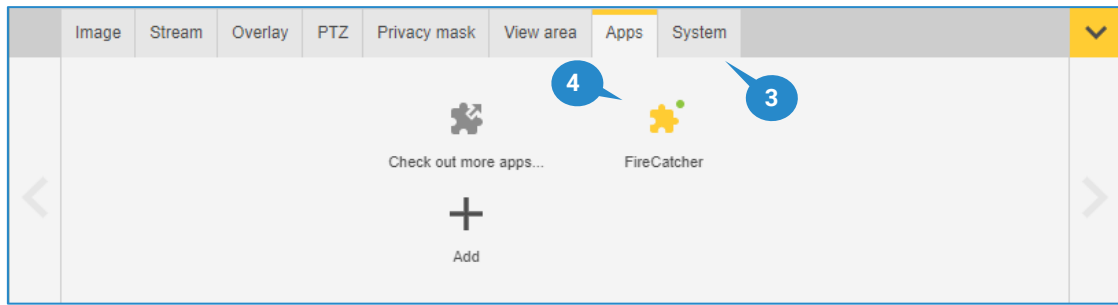
Configuring detection zones

To further optimize the detection or to avoid false triggering of alarms, e.g., due to very dynamic or badly illuminated zones in the field of view, the detection can be restricted to certain zones in the field of view. These zones can be drawn in the app configuration screen in the browser itself.

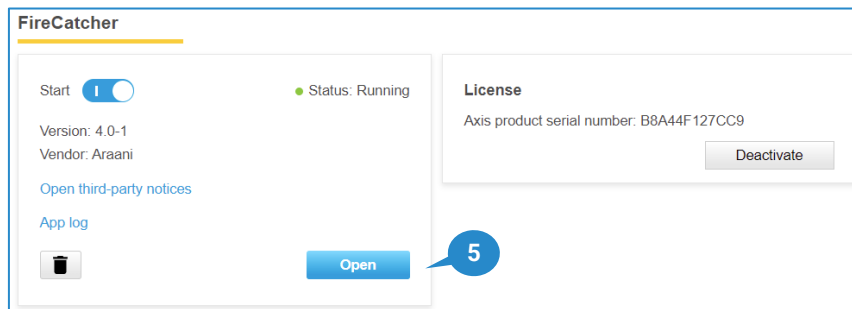
By default, the detection area is the whole field of view. If detection zones are defined, this will override the default and detection will only occur only in the defined zones.

To define detection zones, perform following steps:

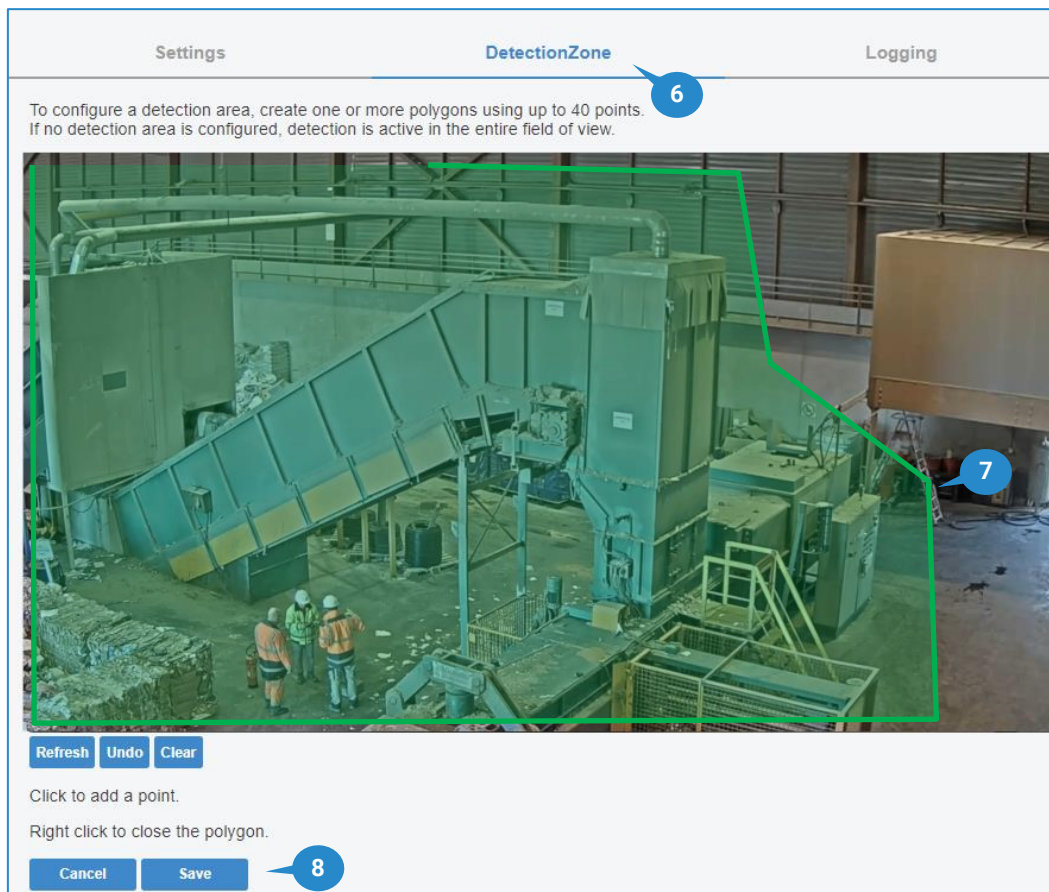
1. Connect to your camera, using your internet browser software and login as administrator to the camera webpage.
2. Open the settings window by clicking the "settings" button in the bottom right of the camera webpage.
3. Click the "Apps" tab in the control panel.
4. Click the FireCatcher Camera app.



5. Make sure the application is running, otherwise start FireCatcher Camera.
Click "Open"



6. A new browser window will appear that contains all available settings to configure FireCatcher Camera.
Click the "DetectionZone" tab.
7. To draw a polygon detection zone on the visual image:
 - a. Left click in the image to add a point.
 - b. Right click to close the polygon (you need at least 3 points).
 - c. Click "Undo" to undo the last action. Multiple actions can be undone.
 - d. Click "Clear" to clear all drawn zones.
 - e. Click "Refresh" to refresh the picture with the current live camera image.



8. Click "Save" to save the configuration of detection zones.

Up to 40 points can be used to draw the detection zones. The area of an individual zone must be at least 2% of the full image. The sum of the detection zones must be at least cover 25% of the full image. If smaller zones are drawn, a warning pop-up box will appear. Zones may overlap. For detection, the aggregated area is considered.

Configuring display options

To visualize FireCatcher Camera alarms inside the video stream, two options are available. Both options are by default activated when receiving the device.

- Adding text overlay to the video that displays the FireCatcher Camera status.
- Enabling overlay in the application to dynamically draw bounding boxes around the incident zone. A flame incident will be marked with a red bounding box while a recognized smoke cloud will be marked with an orange bounding box.

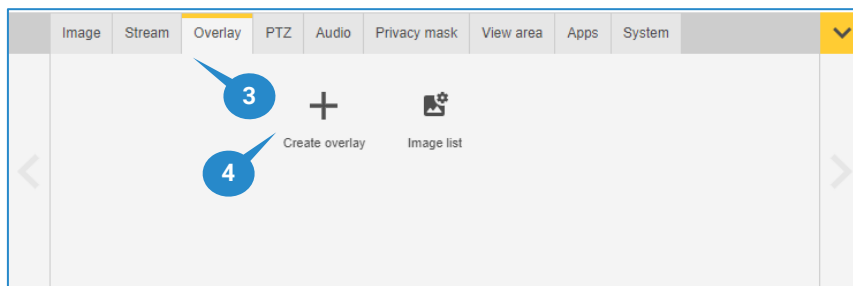
VIEW FIRECATCHER CAMERA STATE

See [Functional capabilities](#) for an overview of all possible states of the FireCatcher Camera.

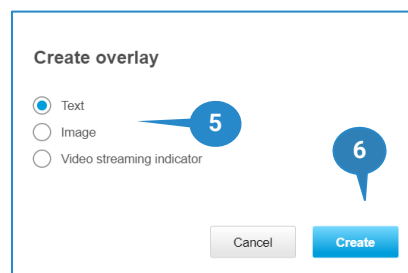
The FireCatcher Camera status can be visualized in the video stream by using the camera overlay capabilities and is enabled by default. In case this setting needs to be restored, follow these steps:

1. Connect to your camera, using your internet browser software and login as operator to the camera webpage.
2. Open the settings window by clicking the "settings" button in the bottom right of the camera webpage.
3. Click the "Overlay" tab in the control panel.

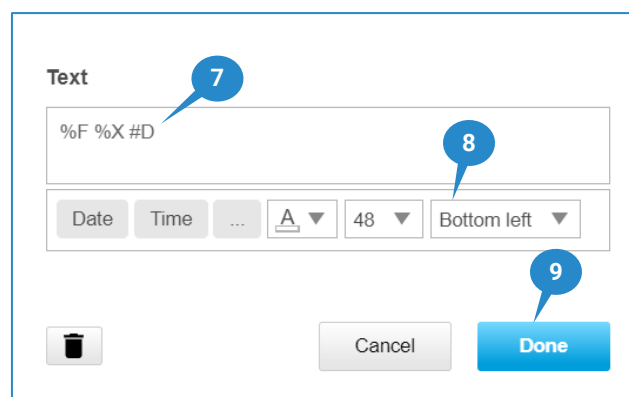
- Click "Create overlay".



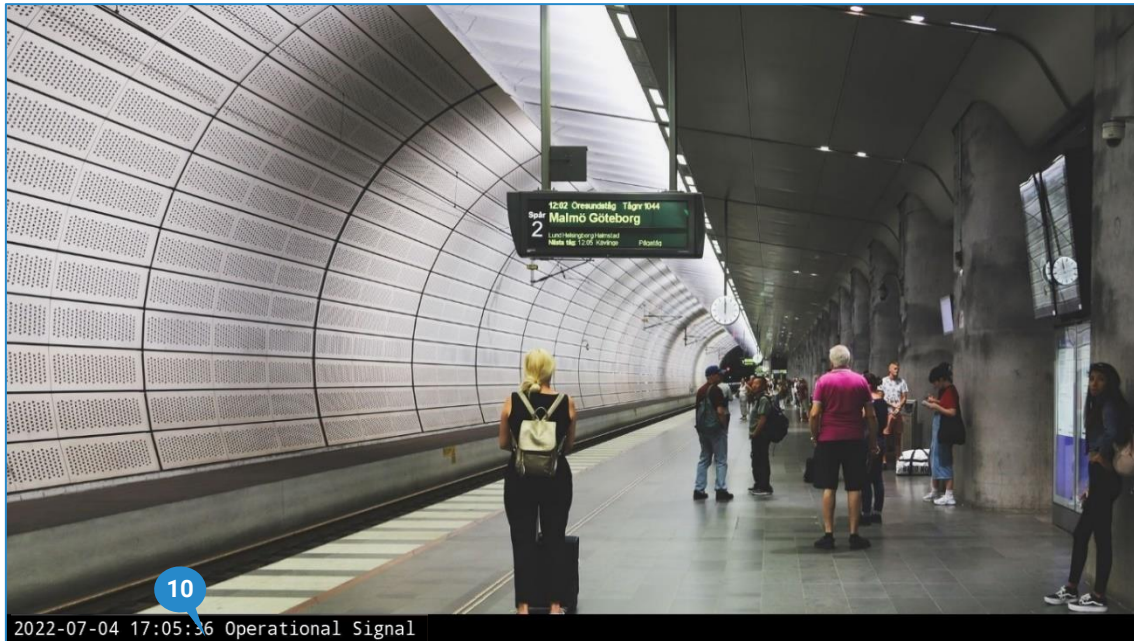
- Click "Text".
- Click "Create".



- In the pop-up window that appears, one can create a custom overlay text by using codes. Add #D to the overlay definition to add the FireCatcher Camera status. This can be combined with other custom fields such as date (%F) and time (%X) in the example below. Refer to your camera manual for all available options.
- In the dropdown box, select the location where you want the overlay to appear in the image. This should always be bottom left or bottom right, to not influence the detection. Font, colour and size are customizable.
- Click "Done".



- An overlay text bar will now appear in the video with the selected options, including the FireCatcher Camera status.

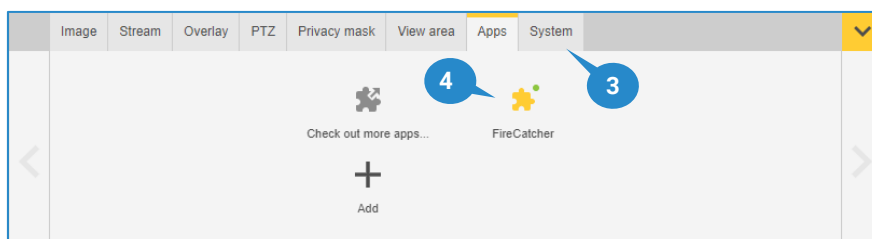


! Notice: It is mandatory to keep the overlay in the bottom left of the image. This zone will be ignored by the algorithms.

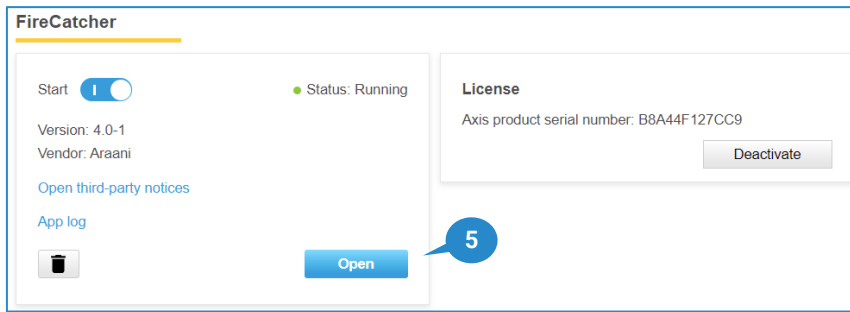
VIEW BOUNDING BOX

When smoke or flame is detected, the app can draw a bounding box around the incident in the video stream. This box dynamically changes as the incident zone grows or shrinks. This is activated by default. In case this setting needs restoring, follow steps below to do this:

1. Connect to your camera, using your internet browser software and login as administrator to the camera webpage.
2. Open the settings window by clicking the "settings" button in the bottom right of the camera webpage.
3. Click the "Apps" tab in the control panel.
4. Click the FireCatcher Camera app.



5. Make sure the application is running, otherwise start FireCatcher Camera. Click "Open".



6. A new browser window will appear that contains all available settings to configure FireCatcher Camera.
7. Click "Overlay" to enable the bounding box in the streaming image.



8. Click "Save" to register the new settings in the app.
9. A bounding box will now appear on the image when an incident is detected.



How to test FireCatcher Camera

Testing connectivity: FireSimulator

To test connectivity, alarm propagation and optional I/O, Araani provides a separate ACAP application, called FireSimulator. FireSimulator allows to:

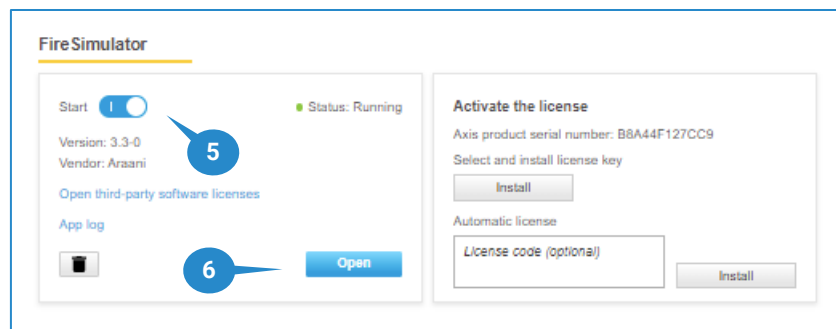
- Force the status of detection: operational, fault, smoke alarm or flame alarm.
- Assign a function to any of the four output signals of the optional I/O module.

⚠ Attention: FireCatcher and FireSimulator cannot run simultaneously! Stop the FireCatcher app before activating FireSimulator. After testing, close FireSimulator and reactivate FireCatcher.

STARTING FIRESIMULATOR

To start the FireSimulator app:

1. Connect to your camera, using your internet browser software and login as administrator to the camera webpage.
2. Open the settings window by clicking the “settings” button in the bottom right of the camera webpage.
3. Click the “Apps” tab in the control panel.
4. Click the FireSimulator app.
5. Click the start switch to start the application.
6. Click the “Open” button to access the FireSimulator controls. A new browser tab should appear with the application configuration controls.



USING FIRESIMULATOR TO VERIFY STATUS PROPAGATION

The FireSimulator configuration page allows to force the status of the detection algorithms as follows:

1. Select the desired state to be tested from either the smoke and/or flame algorithm and/or activate supervisory state.
2. Click “Save” to apply the status.

Settings

Logging

Smoke

State smoke

1

Operational Signal

Flame

State flame

1

Operational Signal

Activity monitoring

State supervisory

1

☐

Io

Output1

Fire

Output2

NA

Output3

Fault

Output4

NA

Output latch timeout

2

20

s

Cancel

Save

Default

Perform following actions to test all connections:


Wanted state	Action	Result
Operational Signal	Leave all states to Operational Signal and disable State supervisory.	No alarm output is active.
Fault Signal	Start from Operational Signal state. Set State smoke = Fault Signal.	Fault output is active.
Smoke alarm	Start from Operational Signal state. Set State smoke = Smoke Alarm.	Smoke alarm outputs are active. Fire alarm outputs are active.
Flame alarm	Start from Operational Signal state. Set State flame = Flame Alarm.	Flame alarm outputs are active. Fire alarm outputs are active.
Fire alarm	Use either Smoke alarm or Flame alarm scenario or both.	Fire alarm outputs are active + the outputs of the triggering alarms.
Supervisory	Start from Operational Signal state. Activate State supervisory.	Supervisory outputs are active.


! Attention:

- Before closing FireSimulator, make sure it is set in Operational state!
- Stop FireSimulator after the connectivity test.


Testing detection with test fire and smoke

SAFETY PRECAUTIONS

 **Danger:** Make sure to respect all safety precautions imposed in the location where the test will be performed.

 **Danger:** Before and while conducting tests, consider all safety precautions below.

- Wear personal protective equipment:
 - Fireproof gloves.
 - Eye protection.
- Use demarcation material to secure the test zone:
 - Cones.
 - Safety ribbon.
- Fire safety:
 - Assure the proximity of a fire extinguisher.

 **Attention:** Besides the functionality test described below, always refer to your region-specific test norms to comply with local regulations; e.g. EN54, NFPA.

REQUIRED MATERIALS

SMOKE SIMULATION

To perform a smoke test, try to simulate smoke in a safe way. You can choose from different options to simulate smoke:

- **Smoke pellets.** Make sure the volume of smoke is at least 24m³ in total, use multiple pellets if necessary (to find a local supplier, google "smoke tablets 24m³").
Accessories:
 - a metal, fireproof cup, or bucket to put the tablets in.
 - a long nose lighter.
- **Smoke machine.** Make sure to use a powerful smoke machine that has capacity of 60 seconds or more of continuous smoke.
Required:
 - power connection.
 - smoke machine liquid.
- **Other:** be aware of fire hazards before using other ways to test FireCatcher Camera smoke recognition.

FLAME SIMULATION

To perform a flame test, try to simulate flames in a safe way with. You can choose from different options to simulate flames:

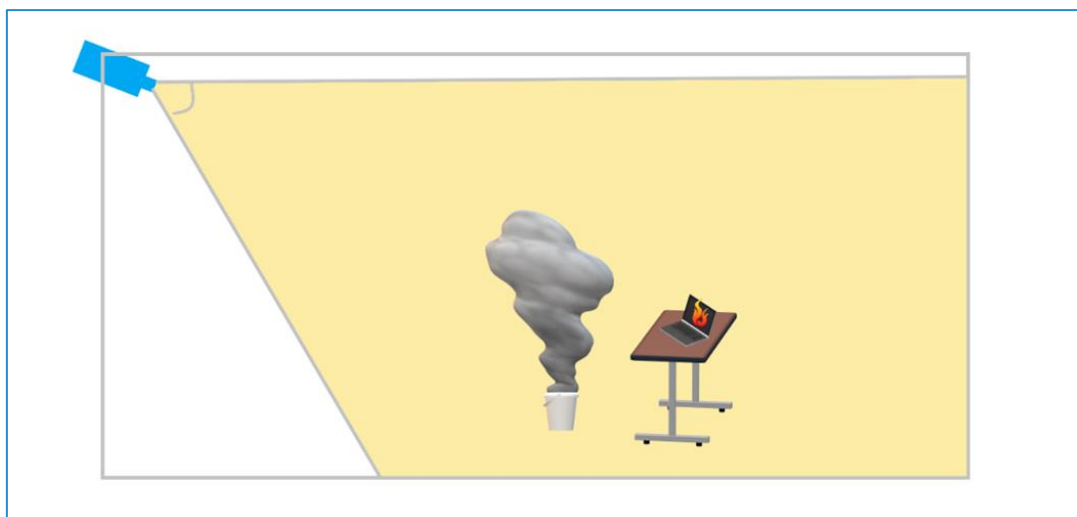
- **Flame video.** Use a fireplace video to simulate flames on a screen/laptop/tablet, this type of video can be easily found on YouTube or other video-sharing platforms. Select a video where the flames are present in most of the screen, e.g.:



- **Chemical solvents** or other types of combustibles can be used to create flames, but this is not recommended. This method requires expertise. Do not do this if you are not a fire safety specialist.
- **Other:** be aware of fire hazards before using other ways to test FireCatcher Camera flame recognition.

TEST ZONE SETUP

Select a safe indoor area to perform the fire tests. For best result, position the test fire in the middle of the field of view.



Pay attention to following issues:

- **Smoke:**
 - Anticipate on where the smoke will travel (due to airflow, wind, air-conditioning, open doors...) and make sure to position the test fire in such a way that the smoke remains in the camera field of view for a maximum amount of time.
- **Flame:**
 - When using a fireplace video:
 - Make sure the size of the simulated flame is larger than 0.1% of the field of view, and less than 33% of the image.
 - Make sure that the screen is perpendicularly oriented towards the camera, to have a proper/clear view off the video.
 - Avoid reflections on the screen.
 - Set the screen to maximum brightness. FireCatcher Camera is looking for light intensity. Screen brightness can never compete with sunlight or bright lamps. Try to avoid these interferences in the field of view during the test or create a detection zone excluding these disturbing factors.

- Described testing methods may not be suitable for outdoor testing. Weather conditions may negatively affect dispersion of generated smoke and outdoor light will interfere with video screens.
- Make sure the site responsible is informed about the tests and you have the authorization to perform the tests.
- Make sure existing smoke alarms are disabled or generated alarms are properly managed and/or inform site safety responsible before conducting tests

SENSITIVITY VERSUS SIZE

Refer to the installation manual for a proper understanding of required smoke and flame sizes before conducting tests.

TEST PROTOCOL

Step	Action	Check
1.	Install and configure the camera according the FireCatcher Camera manual. Do not forget to check if the camera is compatible and the firmware is supported.	
2.	Activate overlay text and bounding boxes to display the FireCatcher Camera status (see FireCatcher Camera manual to enable this).	
3.	Make sure the site responsible is informed on the tests and you have the authorization to perform the tests. .	
4.	Make sure the alarms the test will generate are managed and will not be escalated.	
5.	Put the test fire in the test fire position as described in 'Test fire position' and place the demarcation.	
6.	Make sure that the test fire has enough fuel to generate smoke during at least x seconds with a coverage of at least x% (see table Sensitivity vs size) at the same location in the field of view. Avoid entering the field of view for refuelling during the test.	
7.	Make sure FireCatcher Camera is running (Operational) and had at least 5 minute of learning time on the field of view if you restarted the camera or the application.	
8.	Keep the field of view stable and avoid disturbance from vehicles, door/windows opening/closing, sudden light changes, people walking in the field of view...	
9.	After 5 minutes of a stable field of view, start the test fire, ideally without entering the field of view. If this is impossible, try to have only 1 person entering the field of view.	
10.	FireCatcher Camera should detect the smoke/flame and will display this via overlay text and bounding boxes.	

Maintenance and troubleshooting

Camera maintenance

For consistent performance of FireCatcher Camera, periodic maintenance of the camera is necessary.

The time intervals of this maintenance strongly depend on environmental elements such as dust, pollution ...

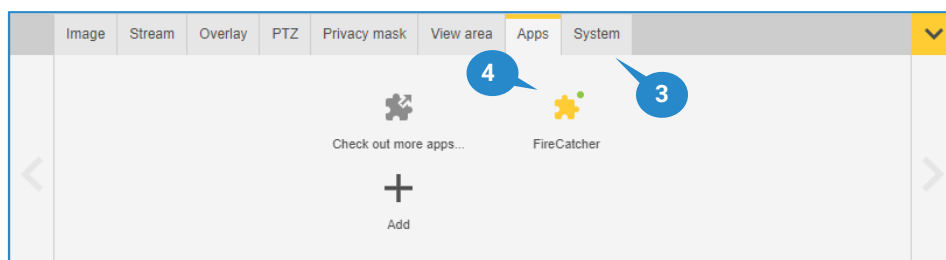
FireCatcher Camera maintenance is only authorized to Araani Certified Engineers.

For more information on maintenance procedures, refer to the FireCatcher Camera Maintenance manual.

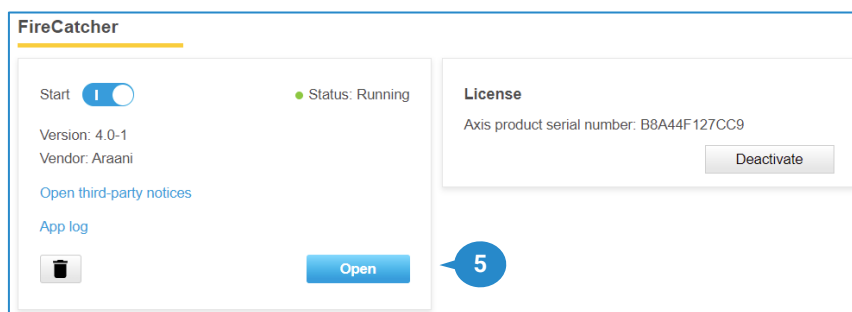
RETRIEVING DIAGNOSTICS INFORMATION

In case of problems with the FireCatcher Camera detection, your support contact may request you to retrieve the logging information from the app. When contacting support services, it is advised to include this information by default in the problem report. Follow steps below to retrieve this diagnostics information.

1. Connect to your camera, using your internet browser software and login as administrator to the camera webpage.
2. Open the settings window by clicking the “settings” button in the bottom right of the camera webpage.
3. Click the “Apps” tab in the control panel.
4. Click the FireCatcher Camera app.



5. Click “Open”



6. A new browser window will appear that contains all available settings to configure FireCatcher Camera. Click the “Logging” tab to access the diagnostics page.
 7. To view the logging information of the application, click “View”.
 8. To download the logging information of the application, click “Download”.
- A text file will be created with extension '.log' that contains all available logging information. This file can be sent to your support contact for diagnosis and troubleshooting.



Documenting the installation

It is required to thoroughly document every new FireCatcher Camera installation. This 'as-built' information file or report is used for later reference during maintenance operations to verify correct alignment and configuration.

The documentation should contain at least:

- Site information (address, location, contact information, floorplan with camera layout)
- Camera identification information (serial number, IP address, name, location, image, etc.)
- Camera setup information (all image settings).
- Fire detection configuration (as part of log file).
- Test results if applicable.

A sample system documentation template is shown in [Addendum A: Araani FireCatcher Camera as-built report](#).

Addendum A: Araani FireCatcher Camera as-built report




Site information

Date:	Date of installation.
Integrator name:	Name of the integrator / supplier / dealer.
Technician name:	Name of the installer.
Technician phone:	Phone of the installer.
Technician email:	Email of the installer.
Client name:	Name of the customer.
Client address:	Address of the customer: street, number, postal code, city, country.
Client contact name:	Name of customer contact person.
Client contact phone:	Phone of customer contact person.
Client contact email:	Email of customer contact person.
Location / site:	Name / address of installation site.
Number of FireCatcher:	Number of installed FireCatcher cameras.
Site plan:	Add a floorplan of the site with camera locations and field of view.
Service contract:	Service contract number or reference.
Notes:	Additional site-level comments & notes.

For each detection camera, add a section as follows:

Camera information

IDENTIFICATION	
Camera name:	Friendly name that identifies the camera. This could be the DNS name, the friendly name as used in a VMS system or simply a sequential code.
Camera serial number:	The serial number of the camera is the MAC address of the camera.
Camera IP address:	IP address of the camera.
Camera location:	Identification of camera location. A handy way of describing camera location is https://what3words.com/ which describes every square 3 x 3 m geolocation as a unique combination of 3 words.
Indoor / outdoor:	<input type="checkbox"/> Indoor <input type="checkbox"/> Outdoor
Image:	 <p>Add a live picture of the camera from the analytics detection zone setup page. This will show both the field of view as well as potential detection zones.</p>

ANALYTICS	
Camera type:	<input type="checkbox"/> FireCatcher Certified <input type="checkbox"/> FireCatcher Camera <input type="checkbox"/> SmokeCatcher Certified <input type="checkbox"/> SmokeCatcher <input type="checkbox"/> FlameCatcher Certified <input type="checkbox"/> Araani Fire Guard Other:
Analytics version	Version number of the Araani analytics.

CAMERA SETUP	
Camera firmware version:	Camera firmware version can be found under System -> Maintenance E.g. 9.80.3
Resolution:	Camera resolution e.g. 1920 x 1080 @ 25Hz.
Saturation:	Appearance, saturation setting.
Contrast:	Appearance, contrast setting.
Brightness:	Appearance, brightness setting.
Sharpness:	Appearance, sharpness setting.
WDR:	<input type="checkbox"/> On <input type="checkbox"/> Off
Local contrast:	Local contrast setting.
Tone mapping:	Tone mapping setting.
Light environment:	White balance, light environment setting.
IR cut filter:	<input type="checkbox"/> Auto <input type="checkbox"/> On <input type="checkbox"/> Off
Exposure mode:	Exposure mode setting.
Expose zone:	Exposure zone setting.
Exposure zone image:	<div data-bbox="874 1137 1034 1261" data-label="Image"> </div> <p>If exposure zone is not set to automatic, add a live picture of the camera with the exposure zone indicated. This picture is available from the settings interface by clicking the eye icon next to the exposure zone setting.</p>
Maximum shutter:	Maximum shutter setting.
Maximum gain:	Maximum gain setting.
Blur-noise trade-off:	Blur-noise trade-off setting.
Lock aperture:	<input type="checkbox"/> On <input type="checkbox"/> Off
Aperture:	Aperture setting.
Exposure level:	Exposure level setting.
Defog:	<input type="checkbox"/> On <input type="checkbox"/> Off
Audio:	Audio settings.

FIRE DETECTION CONFIGURATION	
Fire detection setup:	To record the fire detection setup, download the logging file from the fire detection setup page. This text file contains all parameters of the setup.

INTEGRATION	
FACP link	Connection to fire alarm control panel. E.g. Fault, Smoke
VMS system	If integrated with VMS, indicate the VMS brand and version + the integration method (direct or Araani Bridge)

OTHER
Add any other information that are important for this camera.

TEST RESULTS		
Simulator test	<input type="checkbox"/> Passed <input type="checkbox"/> Not passed <input type="checkbox"/> Not done <input type="checkbox"/> Not applicable	
Smoke detection test	<input type="checkbox"/> Passed <input type="checkbox"/> Not passed <input type="checkbox"/> Not done <input type="checkbox"/> Not applicable	
Flame detection test	<input type="checkbox"/> Passed <input type="checkbox"/> Not passed <input type="checkbox"/> Not done <input type="checkbox"/> Not applicable	

Addendum B: Product specifications

Functional	
Detection	SMOKE: detect smoke clouds and dispersed smoke. FLAME: detect flames.
Event types	SMOKE ALARM = smoke detected FLAME ALARM = flame detected FIRE ALARM = smoke and/or flame detected FAULT SIGNAL = problem with contrast, tampering, image quality or streaming issue. Detection not guaranteed. OPERATIONAL SIGNAL = normal condition SUPERVISORY SIGNAL = smoke detection temporarily suspended, based on activity monitoring or external trigger RECALIBRATING = learning background
Tampering & image quality control	Blocked / blurred image Lens dirty Camera out of focus Camera moved (field of view changed)
Stream monitoring	Malfunction or loss of input stream will result in fault signal.
Activity monitoring	Option to suspend smoke detection as long as there is movement in the scene. Will activate SUPERVISORY SIGNAL.
Configuration	Advanced configuration and fine-tuning through web-based interface
I/O	
Outputs	4 x differential relay contacts 30VDC / 2A - 60W max, resistive load only
Output 1	Normal open; configurable Fire - Smoke - Flame; default = Fire
Output 2	Normal open; configurable Fire - Smoke - Flame - Supervisory; default = not configured
Output 3	Normal closed; Fault
Output 4	Normal open; configurable Fire - Smoke - Flame - Fault - Supervisory; default = not configured
Latching	Configurable OFF / ON (1 - 120 sec)
Connector	Screw terminals 0,25 - 1,5 mm ² solid or flex
Optical	
Image sensor	1/2,8" progressive scan RGB CMOS
Resolution	1920 x 1080 (HDTV)
Lens	varifocal 2,8 - 8 mm Horizontal field of view 107° - 42°
Min. illumination	1 lux
Max. illumination	120.000 lux
Light ratio	Brightest/darkest = max. 1000:1
Video	
Compression	H.265 (MPEG-H Part 2/HEVC) () H.264, (MPEG-4 Part 10/AVC) Baseline, Main and High Profiles Motion JPEG
Resolution	1920 x 1080 (HDTV)
Environmental	
Operating temperature	BOSEC: -40 °C to 70 °C CNPP: -25 °C to 70 °C (EN 60068-2-1, EN 60068-2-2)
Storage temperature	-40 °C to 65 °C (-40 °F to 149 °F)
Operating humidity	10–100% RH (condensing) (EN 60068-2-78)
Storage humidity	5-95% RH (non-condensing)

System	
CPU/GPU	ARTPEC-7
Memory	1 GB RAM, 512 MB Flash
Ethernet	10/100/1000 Base-T, auto-sensing, half/full duplex Do not connect to PoE capable switch!
Electrical	
Power supply	12–29 V DC
Consumption	Typical 6,2 W at 20°C; max. 17,6 W
Power connector	2-wire push-in connector 0,25 - 1,5 mm ² solid or flex
Conduit entry	Through wall mount feed 2 entries with M20 cable gasket, 5-9,5 mm [0,2 - 0,4 in]: - 1 x power + I/O (4 a 8 wire + shield) - 1 x Ethernet (8 wire + shield)
Mechanical	
Dimensions	400 x 155 x 251 mm (15.04 x 6.08 x 9.88 in)
Weight	2,725 kg (6 lb)
Material	Impact-resistant polymer enclosure
Colour	White NCS S 1002-B
Ingress protection	IP66 (EN 60529)
Impact protection	IK06
Included accessories	Wall mount bracket RJ45 protector sleeve Spare cable gasket Tools: Torx® T20 screwdriver All mating connectors
Certifications & approvals	
EMC	IEC 62599-2, EN 50130-4/A1:2014, EN 61000-4-2, EN 61000-4-3, EN 61000-4-4, EN 61000-4-5, EN61000-4-6
Fire Safety	CNPP – SPECIFICATION TECHNIQUE – ST LPMES – DEC.18.005B – 20/07/2022 INCENDIE –Type: Détecteur de fumée, Détecteur de flammes.IEC/EN/UL 62368-1, IEC/EN/UL 60950-22, IS13252 BOSEC: BOSEC Mark Rules, NTN 177-C:2018, NTN 177-L:2019 - Video Smoke Detectors – Part L: Additional requirements to ISO/TS 7240-29, ISO/TS 7240-29:2017 – Type A – Smoke Detector, Type B – Flame Detector
Environment	IEC/EN 60529 IP66, NEMA 250 Type 4X, NEMA TS 2 (2.2.7-2.2.9), IEC 60068-2-1, IEC 60068-2-2, IEC 60068-2-6, IEC 60068-2-14, IEC 60068-2-27, IEC 60068-2-78, IEC/EN 62262
ONVIF	ONVIF® Profile G, ONVIF® Profile M, ONVIF® Profile S and ONVIF® Profile T, specification at onvif.org
Sustainability	BFR/BCR and PVC free RoHS REACH WEEE
Other	
Warranty	FireCatcher Camera comes with a 5-year service contract, including: - Camera warranty. - Software maintenance releases. - Software updates.

Addendum C: Araani Application EULA

This End User License Agreement (“EULA”) between you, the End User (as defined below), and Araani NV, a registered company with company number 0505.774.826 and registered office at Luipaardstraat 12; 8500 Kortrijk in Belgium (“Araani”), sets forth the terms and conditions under which Araani shall provide the End User with a license to the Application (as defined below), as well as the manner in which the End User should (not) use the Application.

Please note that this EULA may be updated from time to time. The latest version shall always be available on Araani's website and on the Application. Araani shall send the End User a notification in the Application when an update of the EULA is available. The new version enters into effect when the End-User receives the notification.

1. DEFINITIONS

Application	FireCatcher Camera application, including any updates, upgrades, enhancements, modifications or new versions made available by Araani to (the) End User(s).
Application Documentation	All written materials, binders, user manuals and other documentation/materials supplied by Araani and related to use of the Application.
FireCatcher Camera	Araani's non-certified FireCatcher Camera, which is an intelligent camera, that will trigger an alarm if fire (smoke or flame) is detected
EULA	This End User License Agreement which includes (i) the conditions under which the End User shall obtain a license to the Application; and (ii) the manner in which said license/Application should or should not be used by the End User.
End User	The person or legal entity that installs and uses the Application, including its employees or any authorized person acting on its behalf.
External Services	Third party software or hardware to which the Application may have access or with which it may communicate.
Intellectual Property Rights	Any and all of Araani's rights to patents, design, utility models, trademarks, trade names, know-how, trade secrets, copyrights, photography rights and other industrial and intellectual property rights relating to the Application, whether registered or not.
License Fee	Amounts due by the End User for obtaining and using a license to the Application.
Privacy Legislation	(i) the General Data Protection Regulation of 27 April 2016 (“the Regulation of the European Parliament and of the Council on the protection of individuals with regard to the processing of personal data and on the free movement of such data and repealing Directive 95/46/EC”), including all future changes and amendments thereof; and/or (ii) all similar national data protection laws that are applicable to the processing of personal data within the scope of this EULA.
Supplier(s)	Araani authorized vendor(s) of the Application or of a hardware device equipped with the Application.
Trial license	The temporary installation and use of the Application in order to evaluate the performance, quality and suitability of the Application.
Website	Araani's official website: https://www.araani.com .

2. SCOPE OF LICENSE

2.1 Standard license to Application

2.1.1 Subject to approval to and compliance with this EULA, Araani grants, for the duration of this EULA (*cfr.* **Article 3**), the End User a limited, personal, non-commercial and non-transferable license to (i) use the Application and/or (ii), install this Application on a hardware device that it owns or controls (where applicable).

2.1.2 The number of allowed installations and uses depends on the type of license:

- ✓ A **single instance license** allows the End User to use and/or install the Application on one (1) hardware device.
- ✓ A **bulk license** allows the End User to use/and or install the Application on the number of hardware devices as described in the order.

2.1.3 The terms of this EULA shall govern the Application as well as any standard upgrades, updates, enhancements or other modifications to the Application provided by Araani, unless such upgrade, update, enhancement or other modification is accompanied by a new or customized End User License Agreement.

2.2 Trial license

2.2.1 Trial licenses are available to the End User for the Application with a limited activation period. Continued use of the Application beyond said activation period requires the purchase of a standard license to the Application.

2.2.2 The terms described in this EULA apply both to standard and to Trial licenses.

2.2.3 By installing the Application with Trial license, the End User automatically acknowledges the Intellectual Property Rights of Araani (*cfr. Article 6*).

2.3 Non-transferable

2.3.1 The End User acknowledges that both the standard license (*cfr. Article 2.1*) and the Trial license (*cfr. Article 2.2*) are non-transferrable. This means that the End User may not / cannot:

- ✓ transfer such licenses to any third parties, including its affiliates. Accordingly, any third party / parties requiring the Application must request their own copy of the license;
- ✓ move licenses to other hardware devices. An activated license is linked to the unique serial number of a specific hardware device and therefore cannot be installed again on other pieces of (a) hardware device(s). Such action requires the purchase of a new license or is subject to a service contract, e.g. in case of hardware failure (provided that this hardware is (still) covered by the warranty);
- ✓ distribute or make the Application available over a network where it could be accessed or downloaded by third parties.

3. DURATION

3.1 This EULA applies for the duration of the use of the Application by the End User, unless terminated in accordance with **Article 9**, and takes effect from the moment that the Application is used on the intended hardware device.

4. CONDITIONS OF USE

4.1 Acceptable use of the Application

4.1.1 The End User hereby agrees to use the Application in accordance with certain restrictions and conditions. In particular, the End User shall not use the Application in a manner that Araani believes:

- ✓ copies (part of) the Application in any way shape or form (except as permitted by this EULA);
- ✓ reverse-engineers, disassembles or otherwise attempts to derive the source code of the Application;

- ✓ modifies, alters, tempers with, or otherwise creates derivative works of the Application;
- ✓ transfers the license to the Application to a third party in violation with **Article 2.3** of this EULA;
- ✓ violates Privacy Legislation;
- ✓ violates or otherwise encroaches on the rights of Araani or others, including, but not limited to, infringing or misappropriating any privacy, human, intellectual property, proprietary right;
- ✓ advocates or induces illegal activity;
- ✓ interferes with or adversely affects the Application or use of the Application by other End Users;
- ✓ is in general to be considered abnormal use of the Application.

4.1.2 The End User commits itself to:

- ✓ apply all reasonable techniques, practices and/or technology (e.g. use of strong passwords that are regularly changed) to prevent unauthorized use of the Application by a third party;
- ✓ always use the latest, updated version of the Application as (and if) made available by Araani (cfr. **Article 7.1**);
- ✓ notify any malfunction or disruption (due to, for example, bugs or malicious code) of the Application to the Supplier of which the End User bought the license).

4.2 Legal disclaimer

4.2.1 The End User recognizes that it is aware that fire safety is subject to strict standards and regulations. Accordingly, the End User acknowledges that the Application may never replace a mandatory fire detector. For such function, Araani refers to its certified solutions. Fire indications by the Application should only be raised after human verification.

4.2.2 The Application should in all cases be used by the End User only for the purpose for which it is intended, taking into account the specifications indicated above.

4.2.3 In no event can Araani or its affiliates be held accountable for any – direct or indirect – damages for loss or damage of property, death or personal injury to any person caused by (the non-detection of) fires, or related occurrence.

5. DATA PROTECTION

5.1 In principle, access to / the use of the Application by the End User does not automatically result in the processing by Araani of personal data. However, Araani may receive and process the personal data of an End User in the event it is requested by a Supplier to provide second line support;

5.2 In such case, Araani shall process such personal data of the End User in accordance with Privacy Legislation and with the Araani privacy policy as published on the Website:
<https://www.araani.com/en/standalone-pages/privacy-policy/>.

6. INTELLECTUAL PROPERTY RIGHTS

6.1 The End User acknowledges that Araani is and remains the sole owner of all Intellectual Property Rights related to the Application, developed by Araani itself (or by a third party for the benefit

of Araani). Nothing in this EULA shall be construed as to limit Araani's right, title and interest in the Application.

- 6.2** Araani warrants that the Application does not infringe upon the intellectual property rights of any third parties. If a third party (successfully) claims that the Application infringes upon its intellectual property rights, Araani shall obtain the right to use the third-party software or will amend or replace it so as to allow the End User to lawfully use it.

7. WARRANTY

7.1 Compatibility

- 7.1.1 Araani warrants for one (1) year that the Application shall run on compatible hardware devices and that the Application shall perform substantially as described in the Application Documentation.

7.2 Software maintenance and updates

- 7.2.1 During the first year of the license, Araani shall (proactively) take all commercially and technically reasonable measures to ensure that the Application is error/defect-free and free of malicious code. To that effect, Araani shall to its best abilities make sure that the Application is regularly updated and shall perform software maintenances if required. Beyond said first year, Araani shall only be required to proactively update the Application to fix severe bugs or other malicious code that make it impossible or seriously prevent the use of the Application (in general or by a specific End User).
- 7.2.2 The End User acknowledges that the aforementioned is subject to its own efforts to:
- ✓ notify any bugs of or other errors in the Application to the Supplier; and
 - ✓ use, at all times, the latest (updated) version(s) of the Applications, if made available to the End User.

7.3 Exemptions

- 7.3.1 Araani shall not warrant:
- ✓ that the Application shall work on every hardware device and on future versions and upgrades of such hardware device, given the ever evolving and changing nature of technology;
 - ✓ that all defects in the Application shall be corrected;
 - ✓ the compensation for damage caused by an alteration or a modification made by the End User or another non-authorized person, or the correction or reparation of any malfunction caused by such alteration/modification;
 - ✓ the correction or reparation of a malfunction caused by (non-limited) (i) the improper use or installation of the Application in violation with **Article 4.1.1**; (ii) negligence of the End User or any other breach of its commitments under **Article 4.1.2**; or (iii) a power surge or failure at the End User's location.
- 7.3.2 Araani is not responsible for examining or maintaining the compliance of external hardware devices, in which the Application is installed and shall not warrant the compensation of any damage or the correction of any malfunction of the Application caused by such external hardware device.

- 7.3.3 If national law applicable to the use of the Application provide that certain warranties cannot be excluded or can only be excluded to a limited extent, this EULA shall be interpreted in accordance with such national law provisions.

8. LIMITATION OF LIABILITY

8.1 Araani's liability

- 8.1.1 Araani's total liability to the End User for all claims relating to this EULA or the use of the Application shall not exceed the License Fee.

8.2 Exemption for indirect damages

- 8.2.1 Araani shall not be liable for any incidental, special, indirect, or consequential damages whatsoever, such as, but not limited to damages for loss of property, loss of profits, loss of revenue, loss of data, business interruption, reputational damage, (legal) advisory fees, etc.

8.3 Misuse of the Application

- 8.3.1 The End User recognizes that the Application cannot be considered as a (substitute for a) smoke detector. Accordingly, Araani cannot be held liable by any person for any damages for loss or damage of property, death or personal injury to any person caused by (the non-detection of) fire or related occurrence.

8.4 Wilful misconduct, gross negligence, personal injury or death

- 8.4.1 The limitations of liability set forth in this **Article 8** shall not apply to damages caused by wilful misconduct or gross negligence, personal injury or death attributable to Araani or the Application.

9. TERMINATION

- 9.1. Breach of any of the terms of this EULA by the End User shall result in the immediate revocation of the standard or Trial license. In such case, the End User shall not be entitled to a refund of the License Fee.
- 9.2. Upon termination (for whatsoever reason), the End User is obliged to destroy all copies of the Application and associated license files, including backup or archival copies on external storage, and uninstall the Application from all hardware devices it owns or controls.

10. EXTERNAL SERVICES

- 10.1. The End User agrees to use External Services at its sole risk. Araani is not responsible for examining or evaluating the content or accuracy of any External Services, and shall not be liable for any such External Services.
- 10.2. The End User shall not use the External Services in any manner that is inconsistent with the terms of this EULA or that infringes the Intellectual Property Rights of Araani or any third party.
- 10.3. External Services may not be available in the End User's languages and may not be appropriate or available for use in any particular location. To the extent the End User chooses to use such External Services, it is solely responsible for compliance with any applicable laws.
- 10.4. Araani reserves the right to change, suspend, remove, disable or impose access restrictions or limits on any External Services at any time, in which case it shall reasonably notify the End User thereof.

11. MISCELLANEOUS

- 11.1. End User acknowledges that it has fully read and understood all terms within this EULA.
- 11.2. This EULA supersedes any other agreement (oral or written) between Araani and the End User with the same scope. The aforementioned does not apply to customized End User License Agreement between the End User and Araani.
- 11.3. No deviation from this EULA shall be accepted, without prior consent of Araani.

12. GOVERNING LAW AND DISPUTE RESOLUTION

- 12.1. This EULA and all relations, disputes, claims and other matters arising hereunder (including non-contractual disputes or claims) shall be governed exclusively by, and construed exclusively in accordance with, the laws of Belgium, without regard to conflicts of law provisions.
- 12.2. The competent courts located in Kortrijk, Belgium shall have exclusive jurisdiction to adjudicate any dispute or claim arising out of or relating to this EULA (including non-contractual disputes or claims).

Addendum D: BOSEC certification information

FireCatcher Camera P/N 8000004 has been BOSEC Certified

BOSEC: Certificate nr: **B - 9348 - FD - K 1078**

Based on the conformity with:

- BOSEC Mark Rules
- NTN 177-C:2018
- NTN 177-L:2019 - Video Smoke Detectors – Part L: Additional requirements to ISO/TS 7240-29 – Prescriptions and laboratory tests.
- ISO/TS 7240-29:2017 – Fire detection and alarm systems – Part 29: Video fire detectors, Type A – Smoke Detector, Type B – Flame Detector

BOM and configuration	
Camera	Axis P1375
Camera housing	Axis T93F10 outdoor housing
Lens	Lens CS 2.8 - 8 mm F1.2 P-Iris 5 MP
Desiccant	DIN CBB004 Bentonite desiccant 80 x 65 x 8 mm
Camera firmware	FW 9.80.3.8
Camera settings	Araani required camera settings: See section Addendum G: – Default camera image settings
FireCatcher SW-version	V4.00.03
FireCatcher settings	All tests have been performed with default settings described in section Addendum G: – Default camera image settings , except for test 5.11.7 <i>Rotating Beacon – Optional</i> , the “Flame alarm delay” was increased to 10s.

Manufacturer option (Paragraph refers to corresponding paragraph in ISO/TS 7240-29:2017)	
4.2 Detector type	Type A – Smoke Type B - Flame
4.4 Detector range	Smoke: 30m Flame: 45m
4.13.1 IP-rating	Outdoor – IP66
4.14 Ambient light operating level	1 – 10 000 lx
4.15.1 Operating temperature	Outdoor 1: -25°C to 70°C Outdoor 2: -40°C to 55°C
5.1.7.2 Small scale test fire	Smoke: 10 beechwood sticks on hot plate at 400°C Flame: TF4

Optional tests	
5.11.7 Rotating Beacon - Optional	Light source immunity test with a red and amber coloured rotating beacon. <ul style="list-style-type: none"> • Smoke: default settings • Flame: increased the setting “Flame alarm delay” to 10 s.
5.12 Arc Welding - Optional	Immunity of the detector to a certain degree of arc welding. Smoke and Flame.

5.15 Dry heat (Operational) - Optional	To demonstrate the ability of the detector with a declared maximum operating temperature of 70 °C to function correctly at high ambient temperatures which can occur for short periods in outdoor service environments.
5.17 Cold (Operational) - Optional	To demonstrate the ability of the detector with a declared minimum operating temperature of -40 °C to function correctly at low ambient temperatures which can occur for short periods in outdoor service environments.

Other requirements for a BOSEC-conform installation:

- The FireCatcher Camera settings need to be set as described in section [Addendum G: – Default camera image settings](#).
- FireCatcher Camera settings need to be within the range described in section [Addendum G: – Default camera image settings](#).
- The cameras need to be powered by an EN54-4 compliant alimentation.
- All other user and installation requirements described in this manual need to be respected.

In case one of these requirements is not respected, Araani NV cannot guarantee conformity to this standard.

Addendum E: CNPP certification information

CNPP - Certificate nr: N° 64.22.221

FireCatcher Camera P/N 8000004 a été testé par CNPP France selon la certification du produit suivante :

CNPP - SPÉCIFICATION TECHNIQUE - ST LPMES - DÉC.18.005A

INCENDIE - Système de détection de fumées et/ou de flammes par analyse d'image

Type : Détecteur de **Fumée**, détecteur de **Flammes**

BOM et sous-configuration	
Camera	Axis P1375
Camera housing	Axis T93F10 outdoor housing
Araani interface	Interface rev1.2
Araani cable assembly	CABLE ASSEMBLY REV1.0
Objectif	Lens CS 2.8 - 8 mm F1.2 P-Iris 5 MP (Délivrée par défaut sur la camera P1375)
Dessiccant	DIN CBB004 Bentonite dessiccant 80 x 65 x 8 mm
Micrologiciel de la caméra	FW 9.80.3.8
Paramètres de la caméra	Voir section Addendum G: – Default camera image settings
FireCatcher logiciel	V4.00.03
Paramètres de FireCatcher	Tous les tests ont été effectués avec les paramètres par défaut (voir section Addendum G: – Default camera image settings), sauf le test 5.1.2.c avec les paramètres déviants suivants : "Smoke alarm delay" = 2s, "Smoke alarm sensor sensitivity" = 90%

Other requirements for a CNPP compliant installation:

- The FireCatcher Camera settings must be defined as described in the section [Addendum G: – Default camera image settings](#).
- The FireCatcher Camera settings must be within the range described in the section [Addendum G: – Default camera image settings](#).
- The cameras must be powered by an **EN54-4 compliant power supply**.
- All other conditions of use and installation described in this manual must be respected.


If any of these requirements are not met, Araani NV cannot guarantee compliance with this standard.


Addendum F: – Bill Of Material

BOM et sous-configuration	
Camera	Axis P1375
Camera housing	Axis T93F10 outdoor housing
Araani interface	Interface rev1.2
Araani cable assembly	CABLE ASSEMBLY REV1.0
Lens	Lens CS 2.8 - 8 mm F1.2 P-Iris 5 MP (Default lens on P1375 camera)
Desiccant	DIN CBB004 Bentonite desiccant 80 x 65 x 8 mm
Camera firmware	FW 9.80.3.8
Configuration Camera	8000004_configuration_FireCatcher_v3.cfg
Araani FireCatcher ACAP	8000004_FireCatcher_V4.00.03.eap

Addendum G: – Default camera image settings

For optimized smoke and flame detection performance, the FireCatcher Camera has been pre-configured with settings as listed below.

 **Notice:** Do not change the camera image settings. Only Araani certified engineers can adjust these settings.

- **Image**
 - **Wide dynamic range**
 - **WDR:** recommended OFF to avoid image artefacts.
Only use when required (e.g. environment with non-uniform lighting) and no artefacts are generated by WDR.
 - **Local contrast:** 50
 - **Tone mapping:** max 30 (mandatory)
 - **White balance:**
 - **Light environment:** Automatic
 - **Day and night:**
 - **IR-cut filter:** ON (mandatory)
 **Notice:** When the IR-cut filter is on AUTO, the camera will switch to infrared mode when the light level is too low. This will disable the flame detection as for flame detection a colour image is required.
 - **Threshold:** Free to choose.
 - **Exposure:**
 - **Exposure mode:** Automatic (mandatory)
 - **Exposure zone:** Automatic
 - **Maximum shutter:** 1/15s (mandatory)
 - **Maximum gain:** max 24 dB
 - **P-Iris lens:** make sure to select the correct lens.
 - **Blur-noise trade-off:** Middle between 'low noise' and 'low motion blur'. In low light circumstances, set to 'low noise'.
 - **Lock aperture:** ON (mandatory)
 - **Target aperture:** Middle between 'open' and 'closed'.
 - **Exposure level:** 50
 - **Defog:** OFF (mandatory)
 - **Image correction:**
 - **Barrel distortion correction (BDC):** only if necessary
 - **Electronic image stabilization (EIS):** only if necessary
 - **Capture mode:** Make sure the aspect ratio is supported.
- **Stream**
 - **General:**
 - **Resolution:** always select a supported aspect ratio (mandatory).
 - **Frame rate:** > Recommended = 0 or 12 but higher is allowed.
 - **Compression:** 50
 - **H.264 and H.265 encoding:**
 - Free to choose
 - **Audio:**
 - Free to choose