

# FAQ's Video-Based Fire Detection (VFD)

## See it before it spreads



### Does AVIOTEC detect flames and smoke?

Yes, it detects flames and moving smoke. The user can also decide only to use flame or smoke.

### Where does AVIOTEC detect flames and smoke?

Flames and smoke can be detected within the full field of view.

### Which test fires are tested?

AVIOTEC can detect all test fires according to ISO/EN standards:

- Open cellulosic (wood) fire (TF1)
- Smoldering (pyrolysis) wood fire (TF2)
- Glowing smoldering cotton fire (TF3)
- Flaming plastics (polyurethane) fire (TF4)
- Flaming liquid (n-heptane) fire (TF5)
- Liquid (methylated spirit) fire (TF6)
- Low temperature black smoke (decalin) liquid fire (TF8)



### Which fire sizes can be detected?

AVIOTEC can detect flames and smoke which are at least 2% of the picture width.

### Which flame sizes can be detected?

AVIOTEC detects flames with a size larger than 1.6% of the picture width. Therefore the detectable flame size in a distance of 23 m is 0.5 m. Please use the operation guide of AVIOTEC.

### Can AVIOTEC detect white, grey and black smoke?

Yes, the colour of the smoke is not important for the smoke detection.

### Does AVIOTEC detect each kind of smoke?

The algorithm can detect uprising smoke. Ambient smoke with no movement cannot be detected.

### Can AVIOTEC detect fires during fog, snowstorm, sandstorm or clouded lens?

No. The detection is an optical principle: If your eyes cannot see anything, AVIOTEC is not able to detect either.

### Is it possible to detect burning moving objects?

No. AVIOTEC detects static fires in the picture.

### How many square meters can be covered?

You can cover 250 m<sup>2</sup> for a TF5 with 90° lens opening angle.

### What is the minimum distance to detect a fire?

The minimum distance is e.g. 3,46 m, if the camera is mounted at 2 m height. Please use the operation guide of AVIOTEC.

### What is the maximum distance a fire can be detected?

The maximum distance is, e.g. 23 m for a TF5 with 90° lens opening angle. Please use the operation guide of AVIOTEC to evaluate the maximum distance for each individual application.

### Is it possible to detect fires everywhere in the picture?

Yes fires can be detected in all regions within the minimum and maximum distances.

### What is the minimum illumination level needed for AVIOTEC?

AVIOTEC needs a minimum illumination level of 7 Lux.

### How can I measure the illumination of a scene?

You can use Lux meters to measure illumination.



### Which product supports fire detection?

AVIOTEC IP starlight 8000

### Can I use a housing with AVIOTEC?

Yes.

### Will AVIOTEC also be available on a computer?

No.

### Which systems can process AVIOTEC alarms?

Alarms can be transmitted via relay, metadata or ONVIF. Each system which can work with these data can be used.

### Which effort is needed to configure it in the applications?

There is no need to configure AVIOTEC in the camera itself. Some parameters can be set, if needed.

### Can I use AVIOTEC instead of fire detectors?

No.

VFD is not certified according to EN54. Therefore it is an additional solution or can be used in areas which are not part of building laws or building regulations. Please check your local standards and regulations.

### Is AVIOTEC certified?

No, but it is planned for future.

### How to I install / position the camera, what angle?

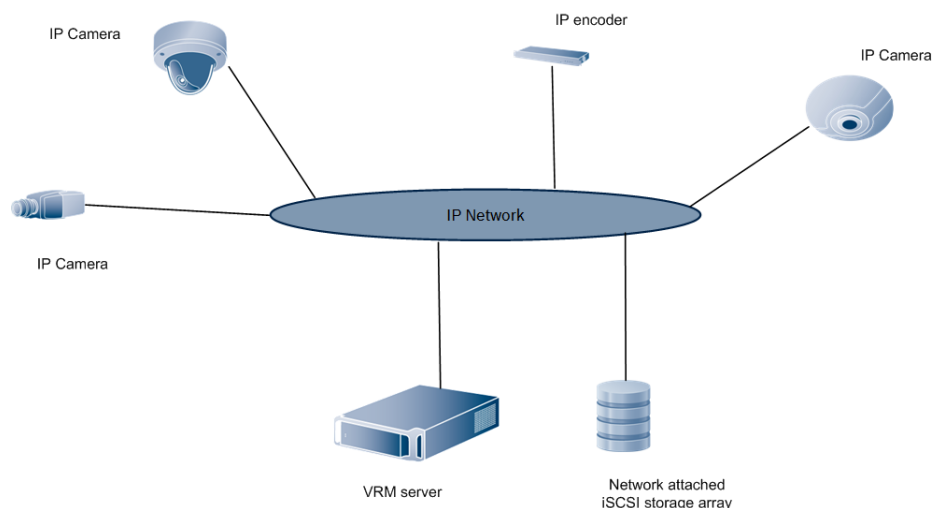
Please check the operation guide of AVIOTEC for installation requirements.

### Can I use standard positions for existing video surveillance cameras for video-based fire detection?

Use the operation guide of AVIOTEC to check, if the position meets the requirements of AVIOTEC.

## How do I connect to storage and monitoring?

Storage devices can be connected via network.



## How do I connect AVIOTEC to my fire alarm panel?

We do not recommend the direct connection to a fire panel. Due to missing standards for VFD the direct connection to a fire alarm panel is only allowed as local alarm; authorities will not be notified. You can use the relay output of the camera for direct connection to the fire alarm panel.

## What is POE and how does it work?

POE is an abbreviation for Power Over Ethernet. The Ethernet cable will be used for data transmission and empowering the devices. POE is standardized according to IEEE 802.3af-2003 or IEEE 802.3at-200 works with 48 V.

## Does the camera use image databases to detect fires?

No, there are no pre-learned fire sequences used to detect fires. AVIOTEC uses physical behavior algorithms to detect fires in the scene.

## Can we individually change the algorithm?

The algorithm can be adopted by sensitivity settings, detection sizes and verification time by using the web-interface. Please use the operation guide of AVIOTEC.

### **Does the fire algorithm replace intelligent video analysis (IVA)?**

No. IVA and VFD can be used in parallel, but AVIOTEC has to be planned and installed according to the AVIOTEC operation guide. This is necessary to ensure the detection reliability for fire.

### **Is the picture quality the same known from Bosch surveillance cameras?**

No. Several adaptations at the picture were made to improve the fire detection functionality.

### **How can I view the video?**

You can use a standard browser or video management systems. You can also use the free-of-charge Bosch video client.

### **How do I see the alarm?**

This depends on the used management system. You can also use the web-interface of AVIOTEC.

Please use the operation guide of AVIOTEC.

### **Will AVIOTEC be integrated into 3<sup>rd</sup> party Video Management Systems (VMS)?**

Yes, also 3rd party VMS can be used if they have implemented AVIOTEC.

### **Can I get alarms via ONVIF?**

Yes, also ONVIF alarms will be transmitted.

### **Is it possible to set the sensitivity? In different applications, different false alarm rates may be acceptable.**

Yes.

You can choose between three different sensitivities (Low, Medium, High)

### **Is it one alarm that is triggered (OR connection)?**

Two alarms can be triggered: One for flame and one for smoke.

### **Can I use alarm-based recording for root-cause analysis?**

Yes you can use this feature.

### **Is the prealarm recording long enough for a root-cause analysis?**

You can program the pre-alarm time e.g. to 20 minutes.

### **Does AVIOTEC compete against standard fire detectors?**

No.  
AVIOTEC is a supplementary system to existing fire detection technologies.

### **Is there a regulation?**

Not at EN and ISO level. UL has an outline of the smoke detector standard and FM a test standard for video fire detection.

### **If I need all the other fire detectors what benefit do I have?**

The fast detection speeds up the rescue chain and saves lives and assets.

### **Why do standard fire detectors don't work well in large halls?**

Standard detectors were mounted at the ceiling. Smoke from the fire source has to reach the detector.  
The higher the ceiling, the longer this process will take.

### **Why not use a thermal camera?**

Thermal cameras can detect heat. Smoke plumes from hidden smouldering fires cannot be detected.