



AVIOTEC IP starlight 8000

FCS-8000-VFD-B



BOSCH

en Commissioning tests

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1 Safety

Video Fire indication systems are video content analysis systems. They give indications for fires and are designed to supplement fire detection systems and human guards in monitoring centers.

Video Fire indication systems are confronted with a higher amount of challenges considering scenery and background compared to conventional fire detection systems. It cannot be granted that fire is detected in all scenery settings. Thus the video fire detection system shall be seen as a system that enhances the probability of early fire detection, with the restriction that it might detect false alarms. It shall not be seen as a system that ensures fire detection in all possible image scenarios.

1.1 Safety message explanation



Danger!

Indicates a hazardous situation which, if not avoided, will result in death or serious injury.



Warning!

Indicates a hazardous situation which, if not avoided, could result in death or serious injury.



Caution!

Indicates a hazardous situation which, if not avoided, could result in minor or moderate injury.



Notice!

Indicates a situation which, if not avoided, could result in damage to the equipment or environment, or data loss.

1.2 Safety precautions



Danger!

Toxic gas

Protect yourself against toxic gas. Wear personal protective equipment.



Danger!

Toxic gas

Avoid the inhalation of toxic products or smoke. Stay away from the test area unless otherwise instructed.



Warning!

Fire hazard

Only use the specified test equipment.



Warning!

Personal injury and property damage

Follow all safety information and user documentation including test equipment documents and safety instructions to avoid personal injuries and property damage.

2 Introduction

This document is aimed at readers with know-how and experience in planning and installing EN 54-compliant fire alarm systems who have additional fire and smoke testing knowledge. It contains information about commissioning the video-based fire detection by smoke and flame tests.

Smoke and flame tests can either be performed with real smoke and real fire or smoke and flame videos displayed on a monitor. We strongly recommend to test the smoke detection with real smoke and the flame detection only with a test video. Flame tests with real fire are dangerous and require a significant security effort.

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3 Required test equipment

The following material is needed during the tests and is defined for one camera. The quantity of test equipment items depends on the amount of test objects. Adjust the quantity accordingly.

3.1 Real smoke test equipment

	Characteristics
Smoke cartridge	Approx. 9 m ³ , 1 minute, white (e.g. Björnax Pure-AX 9, white)
Ignition	Electrical ignition suitable for Björnax Pure-AX 9 or stick lighter
Smoke cartridge container	Fireproof metal bucket, 10 l, height 30 cm

3.2 Smoke and flame video test equipment

The test monitor or tablet must fulfill the following minimum requirements:

	Characteristics
Resolution	1600 x 900 pixels
Brightness	300 cd/m ²
Contrast ratio	1000:1

It is recommended to use a monitor hood in very bright surroundings to avoid reflections on the monitor screen and to improve the visibility of the test video.

4 Test procedure

Preparation of the test scene

Ensure that the camera is properly installed. For functional testing, existing fire alarm systems and detectors must be switched to revision mode. This also applies to fire alarm systems in which the customer might have integrated the camera directly to the fire panel.

- Identify an appropriate and clearly visible place in the detection area of the camera.
- Remove combustible material from the test area.
- Make sure that only authorized persons have access to the test area.
- The playback device and the camera must be mounted stable and may not vary during the test.
- In bright environmental conditions use a monitor hood.
- Make sure no scattering light falls to the screen.
- Adjust the field of view of the camera to the screen of the monitor. Only the monitor screen must be clearly visible. Change zoom and lens settings accordingly.

Settings in the camera menu

See operation manual for detailed description.

- Remove all masks in the detection settings.
- Activate flame and smoke detector settings and select size and verification times that are required for the scene.
- Start the lens wizard and focus on the screen.
- If there is flickering in the camera video image, activate **ALC mode** 50 Hz or 60 Hz. Choose an option that reduces the flickering best.
- Patterns in the camera image can lead to image interferences caused by the Moiré effect. A Moiré pattern is the result of two superimposed patterns visible on the screen. In this case, adjust the lens settings accordingly, until the Moiré effects disappear.



Figure 4.1: Moiré effect caused by two superimposed patterns (example)

After the tests

- Restart the camera (reset automask storage)
- Remove the screen and adjust the camera to the surveillance scene again
- Start the lens wizard and focus on the scene.
- Select the appropriate **ALC mode**.

4.1 Smoke detection (real smoke)

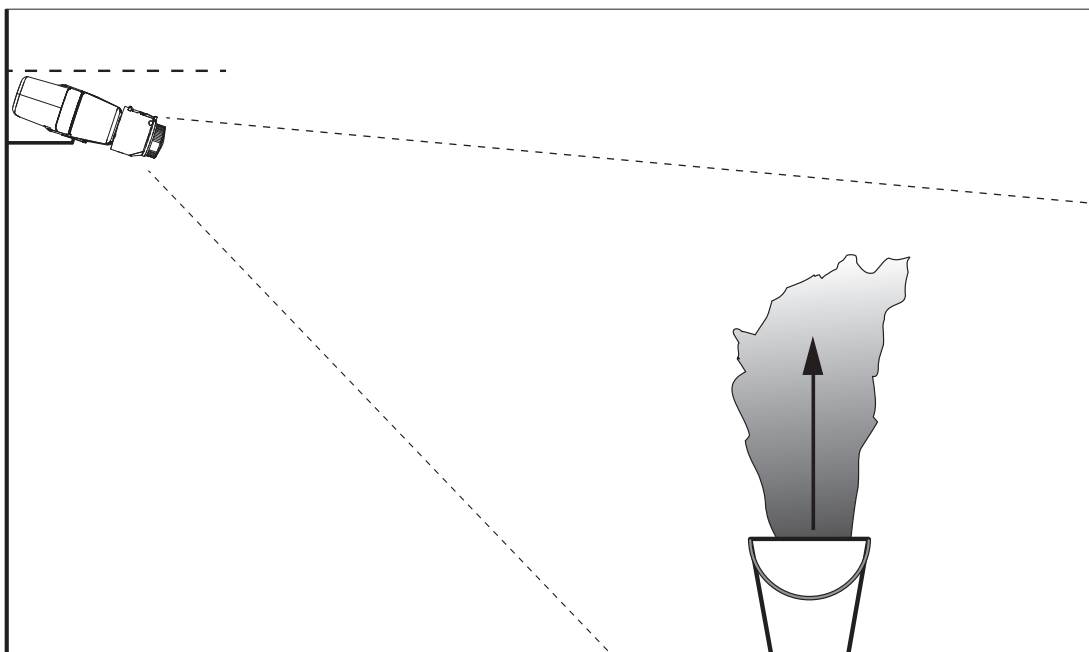


Figure 4.2: Test setup (smoke detection, real smoke generated by smoke cartridges)

1. Put the fireproof metal bucket on solid and fireproof ground.
 2. Position two smoke cartridges **upright** into the metal bucket.
 3. Ignite the smoke cartridges with a stick lighter or via electric smoke cartridge ignition.
- ✓ The smoke detector should trigger the alarm within 60 s.

Enter the results in the commissioning report.

4.2 Smoke detection (test video)

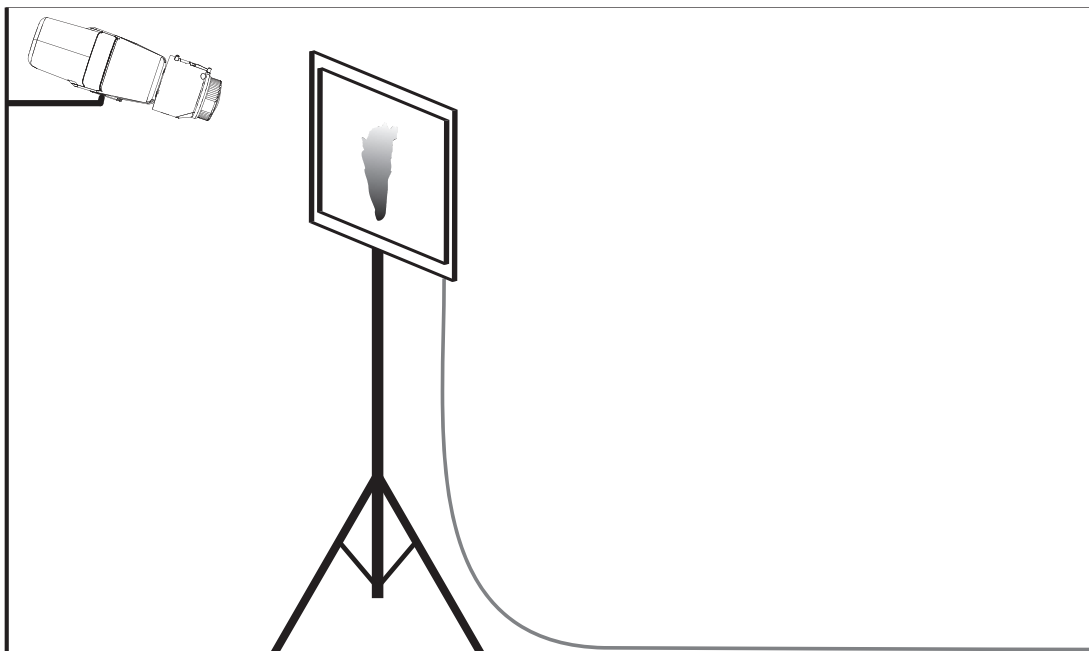


Figure 4.3: Test setup (smoke detection, test video)

1. Place a playback device (computer monitor or a tablet computer) in the detection area in front of the camera.
 2. Align the monitor to the test camera.
 3. Play the video for smoke detection.
- ✓ A smoke alarm shall be triggered within the set smoke verification time plus 15 s. A connected video client shall show a rectangular box around the smoke region.

Enter the results in the commissioning report.

4.3 Flame detection (test video)

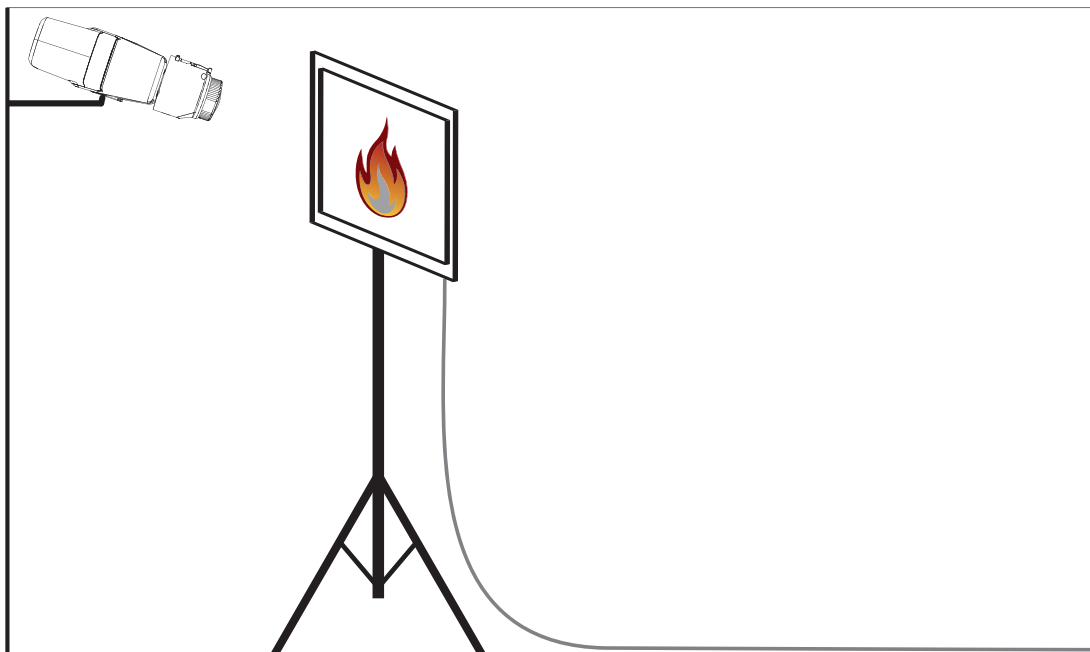


Figure 4.4: Test setup (flame detection, test video)

1. Place a playback device (computer monitor or a tablet computer) in the detection area in front of the camera.
 2. Align the monitor to the test camera.
 3. Play the video for flame detection.
- ✓ A flame alarm shall be triggered within the set flame verification time plus 15 s. A connected video client shall show a rectangular box around the flame region.

Enter the results in the commissioning report.

4.4 Smoke and flame detection (test video)

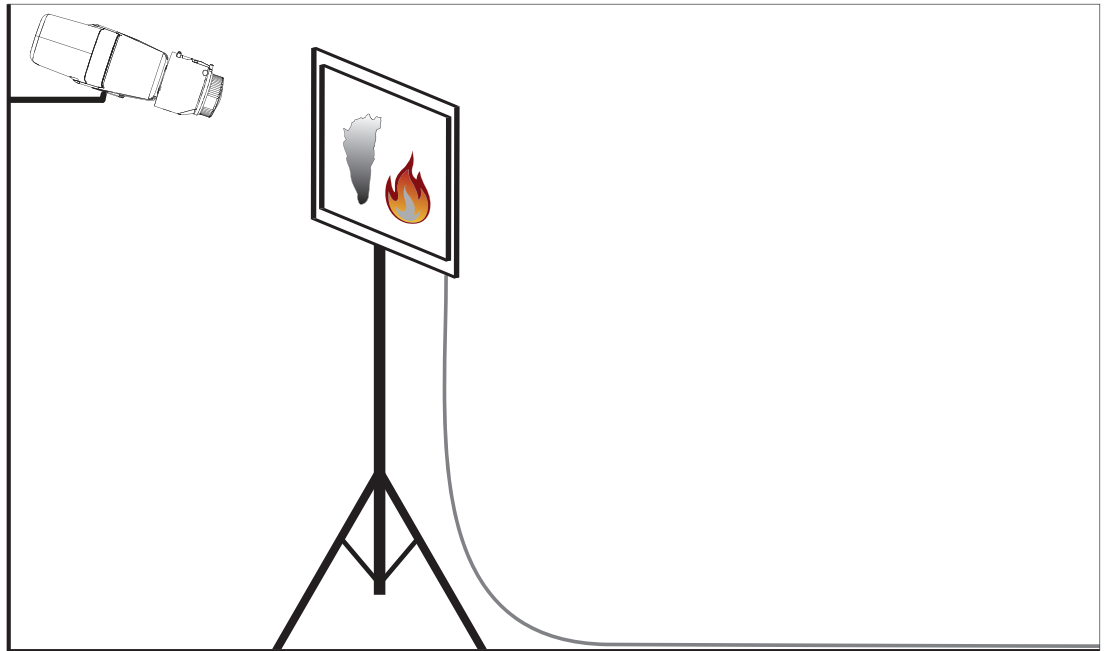


Figure 4.5: Test setup (smoke and flame detection, test video)

1. Place a playback device (computer monitor or a tablet) in the detection area in front of the camera.
 2. Align the monitor to the test camera.
 3. Play the video for smoke and flame detection.
- ✓ A smoke alarm shall be triggered within the set smoke verification time plus 15 s. A flame alarm shall be triggered within the set flame verification time plus 15 s. A connected video client shall show a rectangular box around the smoke region and one around the flame region.

Enter the results in the commissioning report.

5 Commissioning report

Camera installation and configuration protocol

General	
Camera name (Configuration -> General -> Identification)	
Firmware version (Configuration -> Service -> System Overview)	
Date/Time setting (Configuration -> General -> Date/Time)	<input checked="" type="radio"/> Synchronized
Mounting height	
Field of view (Please add a screenshot)	
Screenshot location (e.g. network folder)	

Lens settings	
Lens opening angle	
ALC mode (Configuration -> Camera -> Installer Menu -> ALC mode)	
Focus Position (Configuration -> Camera -> Installer Menu -> Lens Wizard... -> Focus position)	
Focus Indicator (Configuration -> Camera -> Installer Menu -> Lens Wizard... -> Focus indicator)	
IR-corrected lens (Configuration -> Camera -> Installer Menu -> Lens Wizard... -> IR-corrected lens)	<input type="radio"/> On <input type="radio"/> Off

Network settings	
IP address (Configuration -> Network -> Network Access)	

Connection	
IP connection tested	<input type="radio"/> Yes <input type="radio"/> No
Relay connected to	
Relay tested	<input type="radio"/> Yes <input type="radio"/> No
Relay Idle state	<input type="radio"/> CLOSED <input type="radio"/> OPEN

VFD Settings	
Flame detection (Configuration -> Alarm -> Fire detection)	<input type="radio"/> On <input type="radio"/> Off
Min size	
Verification time [s]	
Smoke detection (Configuration -> Alarm -> Fire detection)	<input type="radio"/> On <input type="radio"/> Off
Min size	
Verification time [s]	

<p>Masks (smoke, flame, smoke time region) (Please add a screenshot)</p>	<p><input type="radio"/> Yes <input type="radio"/> No</p>
<p>Privacy Masks (Please add a screenshot)</p>	<p><input type="radio"/> Yes <input type="radio"/> No</p>

Smoke test results (smoke cartridges)

Distance to smoke cartridge	
Illumination	
Smoke cartridge(s)	
Smoke detected	<input type="radio"/> Yes <input type="radio"/> No
Field of view (Please add a screenshot)	

Smoke test results (test video)

Distance to monitor	
Illumination	
Smoke detected	<input type="radio"/> Yes <input type="radio"/> No
Field of view (Please add a screenshot)	

Flame test results (test video)

Distance to monitor	
Illumination	
Flame detected	<input type="radio"/> Yes <input type="radio"/> No
Field of view (Please add a screenshot)	

Smoke/flame test results (test video)

Distance to monitor	
Illumination	
Smoke detected	<input type="radio"/> Yes <input type="radio"/> No
Flame detected	<input type="radio"/> Yes <input type="radio"/> No
Field of view (Please add a screenshot)	

Place:	Issuer:
Date:	Signature:

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