



JK e-solutions ApS

FS 10

Control and Monitoring system for
Fixed Aerosol Fire Extinguishing Systems

User Manual

R1



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1. Preface

This document is the user manual for the FS10 – Control and Monitoring System for Fixed Aerosol Fire Extinguishing Systems.

1.1 Purpose

The purpose of this document is to describe in short terms the use of the FS10 system. Commissioning and service is described in the FS10 Service Manual.

2. System description

The purpose of the FS10 system is to control and monitor a number of aerosol generators mounted on a boat as part of a fire extinguishing system.

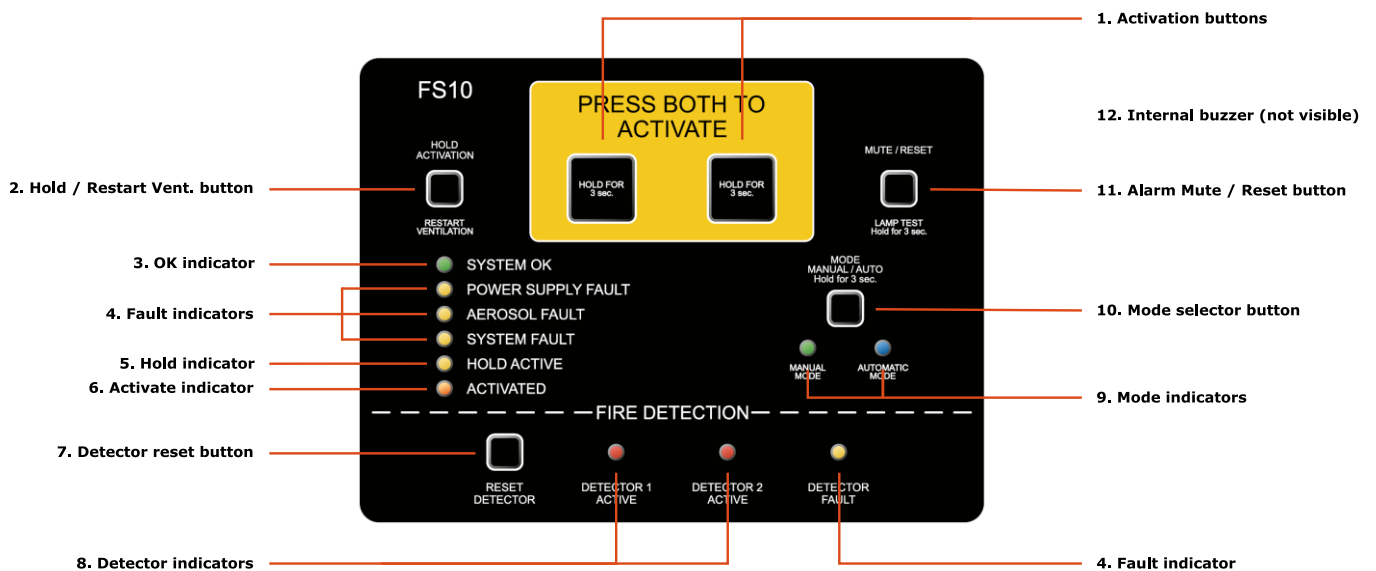
The primary purpose of the FS10 system is to activate the aerosol generators in event of fire.

The secondary purpose of the FS10 system is to monitor the system itself (e.g. power supplies, aerosol connections, cables and individual system components) and give an alarm if a fault within the system is detected.

Furthermore, two inputs are provided for smoke detectors. The system can be configured (during commissioning) to automatically activate the aerosol generators if one or both detector inputs are active.

3. Buttons and indicators

The front of the FS10 panel is shown below:



3.1 Indicators and buttons

1. Activation buttons

For manual activation in case of fire hold both buttons for at least 3 seconds to activate the aerosol generators. The aerosol generators will be activated after an activation delay set during commissioning (typically 20 seconds).

2. Hold / Restart Ventilation button

Press and hold the Hold button to hold/delay the activation of the aerosol generators after being manually or automatically activated. Pressing the button for at least 20 seconds will cancel the activation.

During activation, any ventilation systems or similar connected to the FS10 ventilation output will be shut down. After extinction of the fire, the ventilation may be turned on again by pressing the button.

3. OK indicator

The OK indicator (green) is lit under normal operation. Note that under all circumstances at least one indicator on the FS10 front panel must be lit. Please consult the FS10 Service Manual for further details.

4. Fault indicators

If a fault condition is detected by the FS10 system, the corresponding fault indicator (yellow) will be lit.

5. Hold indicator

The hold indicator is lit when hold off function is active (i.e., when the Hold button (2) is pressed)

6. Activate indicator

The Activate indicator (orange) will be blinking during the activation delay period and will be permanently lit when aerosols have been activated.

7. Detector reset button

Button for resetting automatic detectors in alarm state.

8. Detector indicators

The relevant detector indicator(s) will be permanently lit if a connected Manual Call Point is in alarm state or blinking if a connected automatic detector is in alarm state.

9. Mode indicators

Indicators showing whether the FS10 panel is in automatic or manual mode. In manual mode activation can only happen by pressing the Activation buttons (1) or by using an external activation switch. In automatic mode activation can be started by 1 or 2 active detector inputs or manually as in manual mode.

10. Mode selector button

To switch between automatic and manual mode hold the button for at least 3 seconds.

11. Alarm mute / reset button

This button works for fault warning and fire alarm.

If a fault is detected, the corresponding indicator is lit, and the internal buzzer and the fault condition is signalled to any external device connected. By pressing the button, the internal buzzer may be turned off. When the

fault condition has been remedied, the fault indicator and the external fault output may also be turned off by pressing the button a bit longer (> 0.5 sec.).

In the same manner if a fire alarm is active the relevant detector indicator(s) (8) is/are lit and the internal buzzer and external fire alarm device is turned on. By pressing the button, the internal buzzer and the fire alarm device may be turned off. When the detector inputs are in non-alarm state, the fire alarm can be cancelled by pressing the button a bit longer (> 0.5 sec.).

12. Internal buzzer

The internal buzzer is turned on when a fault condition is detected or when a detector input goes to alarm state. It will also be bleeping when activation of aerosol generators has been started.

4. Activating the aerosol generators

1. Press both Activation buttons (1) for at least 3 seconds.
2. The ventilation in the protected area is turned off.
3. The activation delay time elapses. (20s-120s, set during commissioning depending on size of the protected area etc.). During this time the external release warning device is turned on, the internal buzzer (9) is bleeping and the Activate indicator (6) is blinking. It is possible to hold off the activation by pressing or holding the Hold button (2). Activation will be hold off while the button is pressed down. Activation delay "countdown" continues when releasing the button. (There will be at least 5 seconds from releasing the button until activation.) Activation will be cancelled if the Hold Button is pressed for more than 20 seconds.
4. The aerosol generators are activated.
5. After activation the internal buzzer (12) and the Activate indicator (6) are turned on permanently. The internal buzzer may be turned off by pressing the Mute / Reset button (11).
6. After complete extinction of fire, the ventilation in the protected area may be restarted by pressing the Restart Ventilation button(2).

5. Fire alarm handling – Manual mode

1. If the required detector inputs are in alarm state (set during commissioning), the internal buzzer and external fire alarm device is turned on.
2. The internal buzzer (12) and external fire alarm device may be turned off by pressing the Mute / Reset button (11).
3. If deemed necessary, the aerosol generators may be activated to extinguish the fire. Do this by pressing the Activation buttons (1) for 3 seconds as described above.
4. When the fire or smoke is no longer present, the fire alarm may be reset by pressing the pressing the Mute / Reset button (11) for a moment (> 0.5 sec.). If automatic detectors are in alarm state, they can be reset by pressing the detector reset button (7) first.

6. Fire alarm handling – Automatic mode

1. If the required detector inputs are in alarm state (set during commissioning), the internal buzzer and external fire alarm device is turned on and **activation of the aerosol generators is started**. See section 4 for instructions on activation. See section 5 for instructions on fire alarm handling.

7. Fault handling

1. If a fault condition is detected, the corresponding fault indicator (2) and the internal buzzer (12) is turned on. The fault condition is also signalled to any external device connected.
2. The internal buzzer (12) may be turned off by pressing the Mute / Reset button (11).
3. For further details regarding faults and troubleshooting, please refer to the FS10 Service manual.
4. When the fault condition has been remedied, the fault indicator and the external fault output may be turned off by pressing the Mute / Reset button (11) for a moment (> 0.5 sec.).