

Owner's Manual



μ-FEP

FIRE DETECTION & EXTINGUISHING CONTROL PANEL



FC CE

TABLE OF CONTENTS

1	INTRODUCTION	3
2	FEATURES	4
2.1	ACOUSTIC ALARM	4
2.2	EMERGENCY POWER	4
2.3	MONITORED INPUTS	4
2.4	DETECTION ZONES	4
2.5	EXTERNAL RELEASE INPUT	4
2.6	EXTINGUISHING DELAY	4
2.7	EXTERNAL HOLD INPUT	4
2.8	MONITORED OUTPUTS	4
3	μ-FEP CONTROL PANEL FASCIA	5
3.1	CONTROL BUTTONS	5
3.1.1	Mute	5
3.1.2	Reset	5
3.1.3	Lamp test	5
3.1.4	Hold extinguishing release	5
3.1.5	Test mode	5
3.1.6	Backup power off	5
3.1.7	Extinguishing release	5
3.2	LED INDICATORS	6
3.2.1	General fire alarm	6
3.2.2	Power	6
3.2.3	Backup power	6
3.2.4	Test mode	6
3.2.5	General fault	6
3.2.6	Fire zone alarm	6
3.2.7	Fire zone fault	6
3.2.8	Extinguishing released	7
3.2.9	Extinguishing delay	7
3.2.10	Extinguishing release hold	7
3.2.11	Extinguishing fault	7
4	STANDARD SETTING	7
5	WHAT TO DO RECOMMENDATIONS	8
5.1	WHAT TO DO IN THE EVENT OF A FIRE ALARM CONDITION	8
5.2	WHAT TO DO IN THE EVENT OF A FAULT CONDITION	8
5.3	ROUTINE TESTING RECOMMENDATIONS	8
5.3.1	Daily testing (Premises Management)	8
5.3.2	Weekly testing (Premises Management)	8
5.3.3	Quarterly testing (Competent Person)	8
5.3.4	Yearly testing (Competent Person)	8

1 INTRODUCTION

Important Notes – PLEASE READ CAREFULLY

This owner's manual should must be thoroughly read and understood before using and operating the μ -FEP system and is intended for end users. The μ -FEP system and the associated connections must be installed, commissioned, and maintained by a skilled, knowledgeable, and competent person or organization that is appropriately qualified to perform this work and is familiar with the objective of the equipment and the associated technical terminology.

The μ -FEP is designed to be a stand-alone fire detection-/extinguishing release panel used in systems for e.g. electrical cabinets, CNC machines, engine rooms, small area's or other equipment in which the user should be able to extinguish a fire rapidly and effective. This is done by pressing two buttons, external release button or using fire sensor inputs. The μ -FEP continuously senses its inputs and, in the event of a fire, gives the correct output to enable a product specific fire extinguishing. The μ -FEP is a combined fire alarm control and extinguishant release system and has two detection zones, any, or all of which can contribute to the extinguishant release decision.

The μ -FEP has successfully passed CE and FCC compliance testing for EMC according to the EN 50130, EN 61000, 47 CFR 15 and have a Kiwa BRL 23003/02-2019-part 5 admission.

K&G Groep BV represents the μ -FEP system and is free from material defects in materials and workmanship. Our warranty does not cover a μ -FEP system which is damaged, misused, and/or used contrary to the supplied operating manuals or which has been repaired or altered by others. The liability of K&G Groep BV is at all times limited to repair or, at K&G Groep BV's discretion, replacement of the μ -FEP system. K&G Groep BV shall not under any circumstances be liable for any indirect, special or consequential damages such as, but not limited to, damage or loss of property or equipment, cost of de-installation or reinstallation, cost of transport or storage, loss of profits or revenue, cost of capital, cost of purchased or replacement goods, or any claims by customers of the original purchaser or third parties or any other similar loss or damage, whether incurred directly or indirectly. Remedies set forth herein to the original purchaser and all others shall not exceed the price of the μ -FEP system supplied. This warranty is exclusive and expressly in lieu of all other warranties, whether expressed or implied, including, without limitation, any warranties of merchantability or fitness for a particular purpose.

It is the responsibility of the premises management to define the fire procedures and ensure that all relevant users are trained and that fire drills are performed with appropriate isolation measures in place to ensure that accidental discharge of the extinguishant agent is avoided. It is also the responsibility of the premises management to ensure that there is nothing that can impede the operation of the fire detection and extinguishant system and prevent any obstructions from blocking fire detection/activation devices.

**This owners manual only applies to the μ -FEP detection and activation system.
For information about the management, inspection and maintenance procedures of
the extinguishing system, please contact your extinguishing system supplier.**

Reservations

The policy of the K&G Groep BV is one of continuous improvement and as such we reserve the right to make changes to product specifications at any time and without prior notice.

Errors and omissions excepted.

2 FEATURES

2.1 ACOUSTIC ALARM

The μ -FEP has an internal attention signal. Malfunctions are standard signaled with a continuous tone signal, alarms with a pulsating tone signal.

2.2 EMERGENCY POWER

The μ -FEP is equipped with an emergency power supply of approximately 3 hours in the event of a main power failure. The power consumption during the emergency power status is as low as possible, but that all primary functions will remain active. The main objective of μ -FEPs emergency power supply is to be able to permanently detect and extinguish a fire using its own emergency power supply in the event of a complete power failure. Replacing the LIR2477 battery every 3 years will prevent shortening the standby time and prevent power down in case of increased power consumption during alarm state.

2.3 MONITORED INPUTS

The μ -FEP is equipped with two detection zones and two external button inputs (Extinguishing Release & Hold). These inputs are continuously scanned for alarm or fault detection.

2.4 DETECTION ZONES

The μ -FEP is equipped with two detection zone inputs. The loop inputs are continuously scanned for fire or fault detection.

2.5 EXTERNAL RELEASE INPUT

The external extinguishing input has the same function as the dual release extinguishing buttons (on the front of the panel). By pressing the external release extinguishing button, the fire extinguisher(s) will be released.

2.6 EXTINGUISHING DELAY

It is possible to delay the extinguishing release. The delayed can be set from 0 to 30 seconds in steps of 5 seconds.

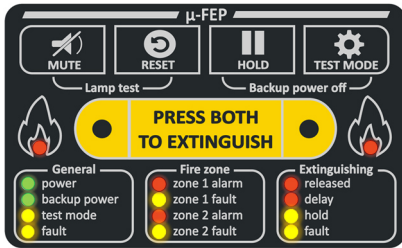
2.7 EXTERNAL HOLD INPUT

The μ -FEP has a separate input for an external hold-off button. The external hold-off button has the same function as the internal hold-off button. When an alarm is active and this button is pressed, the extinguisher release is delayed. When the button is released, the system will wait the configured time delay. Release of the Hold input shall re-start the countdown release timer from maximum.

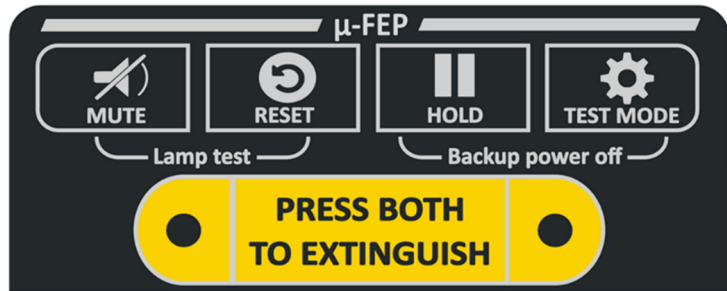
2.8 MONITORED OUTPUTS

The μ -FEP is equipped with six outputs, two monitored and four potential free. The monitored outputs are continuously scanned for open and short circuit fault conditions. The potential free outputs have a contact load of 30 VDC /1A.

3 μ -FEP CONTROL PANEL FASCIA



The μ -FEP has a clear and orderly front panel with which the system status of the μ -FEP can be determined rapidly. The figure shows the controls and LED indicators.



3.1 CONTROL BUTTONS

3.1.1 Mute

The buzzer can be silenced at any time by pressing the Mute button. To silence the external sounder, press the Mute button twice.

3.1.2 Reset

After the cause of the alarm has been determined the μ -FEP can be reset by pressing the Reset button. Manual Call Points, if triggered, must first be reset locally.

3.1.3 Lamp test

All indicators and buzzer can be test at any time by pressing the **Mute and Reset** simultaneously.

3.1.4 Hold extinguishing release

By pressing the hold button on the panel or external hold button will, as long this button is pressed, the extinguishing release sequence will be halted and cause the yellow hold activated indicator flash, and the buzzer to sound pulsating. When the control panel is in the 2nd stage alarm condition and the hold function is activated, the extinguishing release sequence will be halted, the 2nd stage sound shall change to 1st stage sound. Release the Hold button shall re-start the countdown release timer from maximum.

3.1.5 Test mode

Fire alarm systems must be tested regularly to ensure that they are functioning correctly. The system can be tested by using the test mode. In test mode you can test the alarm and fault circuits without activating the extinguishers. Activating the test mode is signaled, the general fault relay is enabled. Press the test mode button for 3 seconds to enable the test mode. It activates the general fault relay and the yellow test mode indicator flash. Press test mode button again for 3 seconds to bring the system back to normal status and the yellow test mode indicator turns off.

3.1.6 Backup power off

By pressing the **Hold and Test button** simultaneously the emergency power supply is turned off. In the case of service, wiring or maintenance work, it is important that not only the primary power, but also the emergency power is turned off.

3.1.7 Extinguishing release

When a fire emerges, press both front extinguishing release buttons, this will trigger an alarm, and the fire extinguishers will be released, depending on the dip switch (time) settings.

3.2 LED INDICATORS

The μ -FEP has 2 common fire, 3 internal fault, and 12 individual LED indicators divided in three sections to indicate general functions, fire detection and the extinguishing status.



3.2.1 General fire alarm

Upon receipt of a fire condition on any of the fire zones or by pressing of the internal or external extinguishing release buttons, the two red general fire indicators light continuously.



3.2.2 Power

The green power indicator confirms the power status of the μ -FEP, which can have different states. In normal condition this indicator lights continuously, in emergency power status this indicator turns off.



3.2.3 Backup power

This green LED indicates the emergency power status of the μ -FEP. In emergency power state, the system will go into a kind of survival mode. Only the primary functions remain in operation such as fire /fault detection, fault output, and a one-time activation of the extinguishers.



3.2.4 Test mode

The yellow test LED indicator lights continuously indicating the system is in test mode.



3.2.5 General fault

General fault indicator lights and specific fault indicators flash. This yellow fault indicator will light continuously at any fault condition, the test mode and emergency power status.



3.2.6 Fire zone alarm

Upon receipt a fire alarm condition caused by the activation of a fire detector, the red alarm indicator of the relevant fire alarm zone will flash. The general fire indicators will always accompany this.



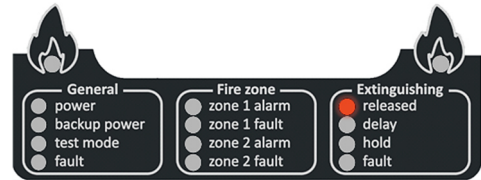
3.2.7 Fire zone fault

When the μ -FEP has detected an error in one of the critical fire detection paths of the system, the specific yellow zone fault indicator flash and the general fault indicator lights up.



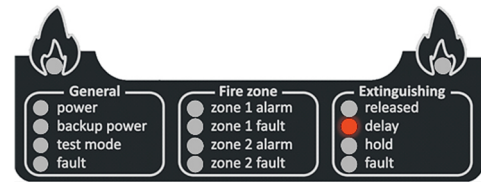
3.2.8 Extinguishing released

The red extinguishing release indicator lights continuously when the extinguishers are activated. This red extinguishing release indicator lights up after ending of the configured delay time, or when the two extinguishing release buttons on the front are pressed or the external release button is activated.



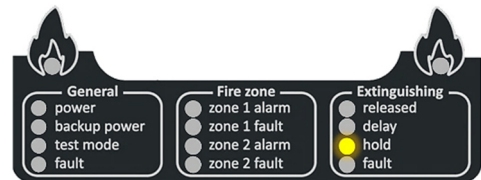
3.2.9 Extinguishing delay

Extinguishing delay is usually used in normally occupied areas. A delay can be set between 0 and 30 seconds. The countdown timer is used to wait a specified amount of time before the extinguisher is activated. The red extinguishing delay indicator indicates that the extinguishing release delay is active. This indicator flash when the delay time is running. This indicator will light continuously when pressing the hold button. When the hold button is released, the indicator shall flash again and re-start the countdown release timer from maximum. This indicator turns off when the delay time has elapsed, and the extinguishing release has taken place.



3.2.10 Extinguishing release hold

The yellow hold indicator flash and a different tone sounds as long the hold button on the panel front, or the external hold button is pressed. This yellow hold indicator is turns off when the hold button is released.



3.2.11 Extinguishing fault

This yellow indicator lights up continuously when a critical fault is detected (open or short circuit) in the extinguishing output line. This yellow indicator turns off when the cause of the fault has vanished.



4 STANDARD SETTING

The most common setting of a μ -FEP system is based on installers/suppliers experience. Under normal circumstances only the green power LED illuminated to indicate the system is operating correctly. **Ask your supplier for your system settings.**

Example setting for a normally unoccupied area:

- The extinguishing delay time is 0
- The fire detection zones operate in the latching mode
- Dual zone alarm for automatic extinguishing release
- The use of automatic fire detectors as the initiators of an extinguishing action is the standard

Example setting for a normally occupied area:

- The extinguishing delay time is set between 5 and 30 seconds
- The fire detection zones operate in the latching mode
- Dual zone alarm for automatic extinguishing release
- When release delay is programmed the manual release is also delayed
- The use of automatic fire detectors as the initiators of an extinguishing action is the standard

5 WHAT TO DO RECOMMENDATIONS

5.1 WHAT TO DO IN THE EVENT OF A FIRE ALARM CONDITION

- Carry out the premises defined procedures.
- When it is safe to do so silence the fire alarm devices and reset the system.
- Note the time the fire alarm occurred and log the fire event in the logbook.

5.2 WHAT TO DO IN THE EVENT OF A FAULT CONDITION

- Note the indications on the front of the panel.
- Note the time the fault was noticed and log the fault event in the logbook.
- Notify your service department or company of the fault condition.

5.3 ROUTINE TESTING RECOMMENDATIONS

The required management and maintenance tasks and their frequency may vary by country. It is the responsibility of the Premises Management to undertake periodic tests to ensure the fire detection-/extinguishing system is operational. Record the test results each time in your logbook.

Always ensuring that the system is set to Test Mode. (refer to section 3.6)

5.3.1 Daily testing (Premises Management)

To be conducted by the Premises Management. Check that the panel shows no fire or fault indications. If there are any fault conditions indicated, then follow instructions in section 5.2

5.3.2 Weekly testing (Premises Management)

To be conducted by the Premises Management.

- Perform a Lamp Test to check that all visual and audible indicators on the panel are functioning.
- Test at least one detector or button to confirm the operation of the control panel and the audible alarms.
- Carry out an inspection of the extinguishing system according the instructions of the supplier.

5.3.3 Quarterly testing (Competent Person)

To be conducted by the Competent Person. Included as reference for the Premises Management.

- Check all previous logbook entries and verify that any corrective actions had been taken.
- Carry out the weekly test.
- Check the emergency power supply. Disconnect mains power and verify that the μ -FEP fire detection and extinguishing system emergency power is functioning as intended by activating automatic fire detectors and using the manual release and hold buttons.

5.3.4 Yearly testing (Competent Person)

To be conducted by the Competent Person. Included as reference for the Premises Management.

- Carry out the quarterly test.
- Test ALL fire detection devices and the manual release and hold buttons.
- The control panel case should be cleaned periodically by wiping with a soft, damp cloth.

Outdated or replaced computers and electronics are valuable sources for secondary raw materials, if recycled. Dealers of the μ -FEP system must comply with local regulations for waste separation applicable in the country where the supplier is located. Questions concerning the information presented in this manual may be addressed to your dealer.

For technical questions or support contact your dealer for further assistance.

