USER MANUAL

µ-FTM

TEST MODULE FOR THE µ-FEP FIRE DETECTION AND EXTINGUISHING SYSTEM

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2 DOCUMENT REVISION DETAILS

Issue	Modification Detail	Author	Date
1	1st publication appendix document	CvT	17 / 07 / 2020
2	Text and chapter improvements	CvT	01 / 01 / 2021

3 IMPORTANT NOTES

This user manual is an integral part of the µ-FEP user manual version 1.9 of january 1, 2020. This manual should be read thoroughly and understood before testing is undertaken. It is assumed that the person testing and commissioning the system, is familiar with the terminology and the objective of the equipment. The µ-FEP and the corresponding connections must be properly connected to the µ-FTM by an appropriately qualified and competent person.

Always take precautions against electrostatic discharge (ESD) when opening the µ-FEP.
Wear a properly grounded anti-static wrist strap. Avoid direct contact with any of the electronic components on the printed circuit board of the µ-FEP panel. Do not allow the electronics to come in to contact with clothing. The µ-FEP itself cannot discharge a static charge. Failure to follow the ESD handling advice may cause damage to the µ-FEP. The warranty may be deemed invalid if the equipment is damaged by ESD.

Reservations

4 WARRANTY

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.

5 INTRODUCTION

The µ-FEP is designed as a stand-alone fire detection and extinguishing control system. The µ-FTM has been developed as a test module especially for testing the µ-FEP system. Just as the µ-FEP, the µ-FTM is easy to operate and is designed to test the system and/or the programming in a simple manner. By periodically maintaining, checking, and testing the µ-FEP system, the possibility of hidden errors, defects and/or incorrect programming is prevented. This is done by systematically checking the functionality of the µ-FEP and µ-ETB system. Partly to check whether the entered programming and the functions, alarms, controls, and alerts function properly, but also to check the systems in a simple and reliable manner for any system malfunctions that may be present.

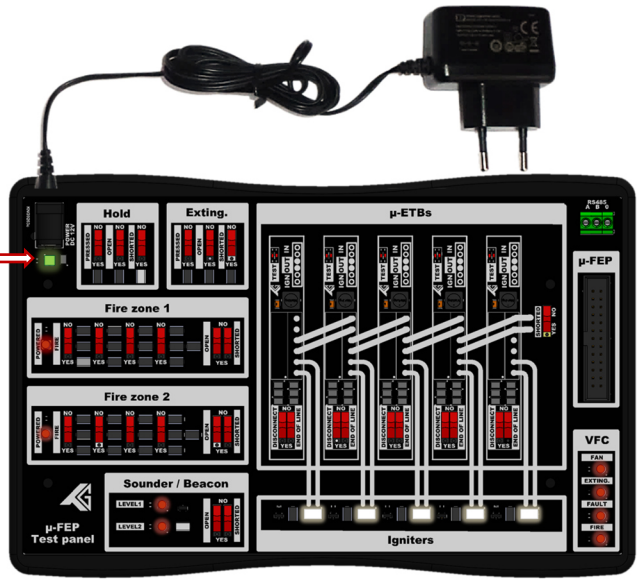
6 IMPORTANT PROPERTIES OF THE µ-FTM:

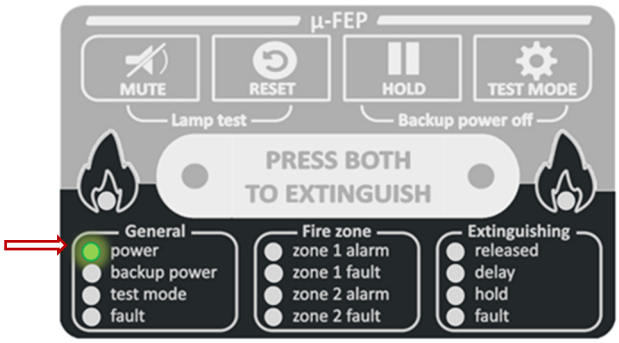
- Alarm simulation of:
  - the four automatic fire detectors fire alarm zone 1
  - the four automatic fire detectors fire alarm zone 2
  - the external extinguishing release button zone
  - the external extinguishing release delay button zone
- Simulation of short circuit or cable malfunction monitoring in the:
  - fire alarm zone 1
  - fire alarm zone 2
  - external extinguishing release button zone
  - cabling of the external extinguishing release delay button zone
  - external sounder/beacon combination
  - wiring to the igniters of the aerosol extinguishing generators
- Signaling of an activated potential output contact intended for:
  - switching off the ventilation/air conditioning
  - fire alarm
  - faults
  - extinguishing release
- Signaling of the 1st and 2nd stage alarm for the sounder/beacon combination
- Simulation of an igniter malfunction or disconnection in one of the aerosol extinguisher units

7 CONNECTING µ-FTM

7.1 POWER SUPPLY

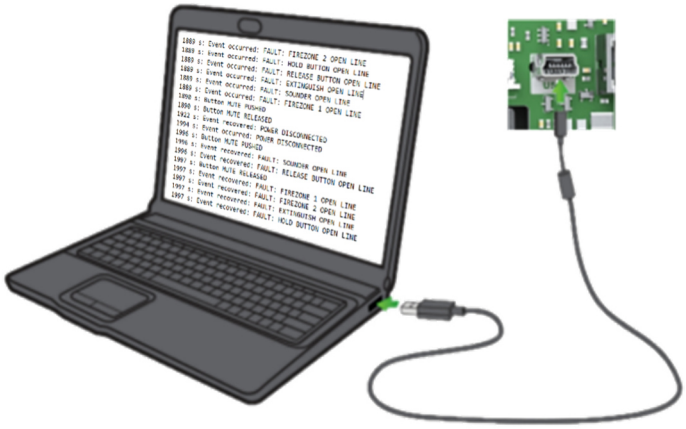
The µ-FTM is supplied with a switch mode power supply of 100-240V~/12V- with a type C electrical plug. The µ-FTM can also be powered via the USB connection or emergency power supply of the µ-FEP itself. Once connected, the green **POWER** LEDs on both the µ-FTM and the µ-FEP will be lit.





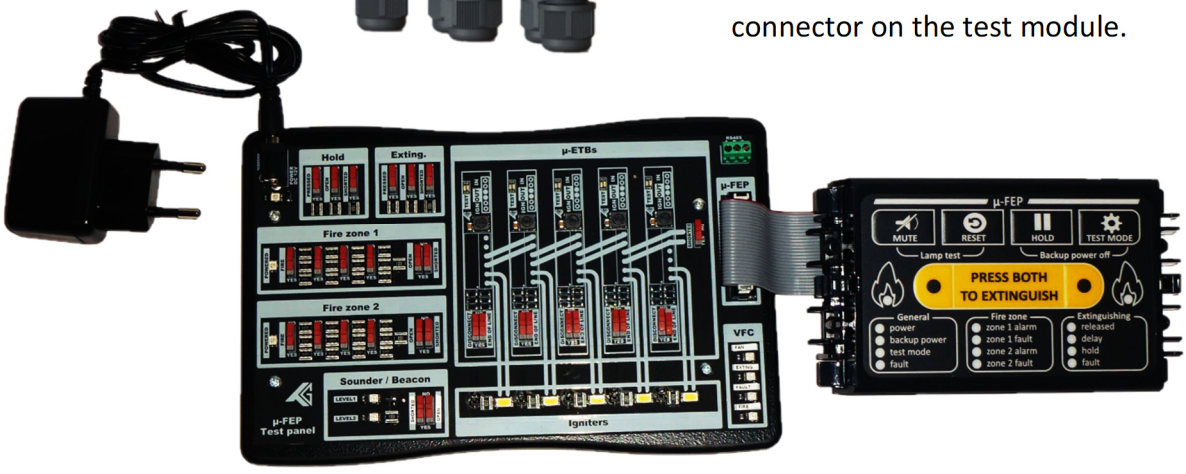
7.2 READING TEST RESULTS

The µ-FEP has a historic event memory log of 10,000 events. Connect the µ-FEP via the USB Mini-B cable to a laptop and the device will serve in the same way as a USB stick does on a laptop.



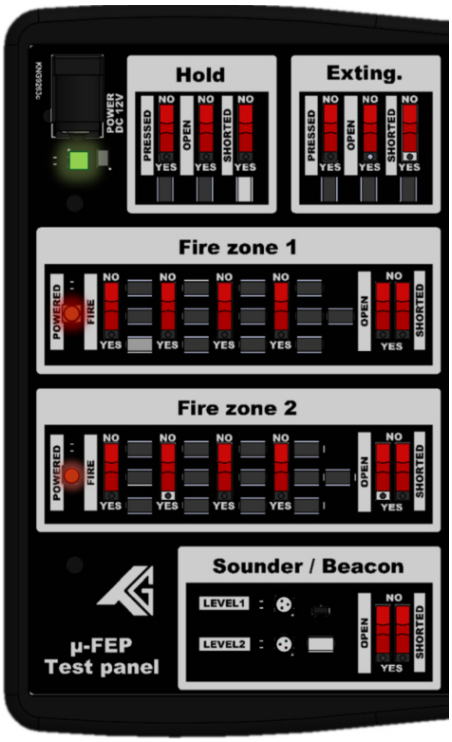
8 CONNECTING THE µ-FEP TO THE µ-FTM

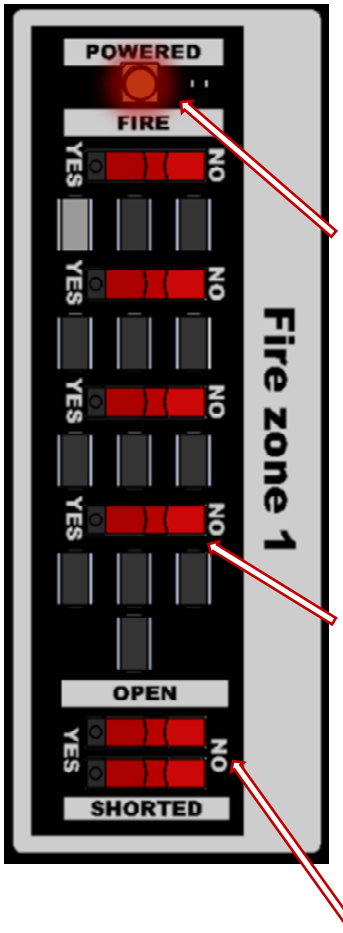
The µ-FEP housing consists of two parts. The left (front) part contains the central electronics, and the right (rear) part contains the connection terminal block. The two parts are connected via a flat cable. Disconnect the flat cable from the connector and connect it to the flat cable connector on the test module.



9 TESTING MONITORED INPUTS

The µ-FEP is equipped with two detection zones for automatic fire detectors, an external manual extinguishing release button zone and an external extinguishing release delay button zone. These inputs are continuously monitored for short circuit and/or cable malfunction. In addition, alarm values are constantly monitored. All inputs have an end of line resistor of 10KΩ. A resistor in series between 470 and 1KΩ must be placed in series with the alarm contact of the extinguishing release and delay buttons

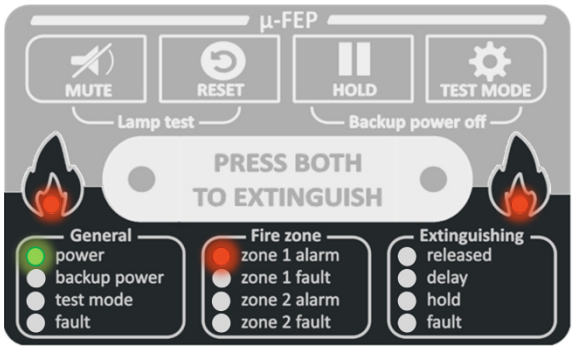




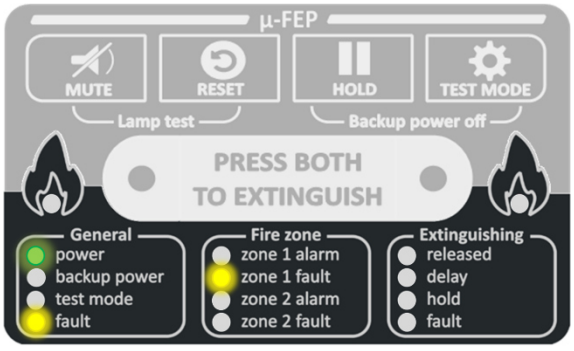
These resistors are also present on the µ-FTM test module. All possible alarms and faults can be simulated by using the switches.

If the µ-FTM is connected properly, the red **'POWERED'** LED (next to the green **POWER** LED) is lit in each fire alarm zone.

A fire alarm for each fire detector in each fire alarm zone can be simulated by setting the red switch into the **YES** position. A fire indication in 'fire alarm zone 1' on the µ-FEP is the result. The two red general FIRE LEDs are lit and in the 'Fire zone' group, the red 'zone 1 alarm' LED is lit.



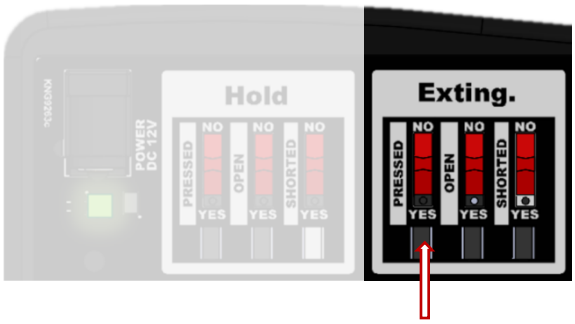
A cable malfunction can be simulated by setting the red **'SHORTED'** switch to the **YES** position. A fault indication in 'fire zone 1' is the result. There are two yellow LEDs lit, one (fault) in the 'General' group and the other (zone 1 fault) in the 'Fire zone' group.

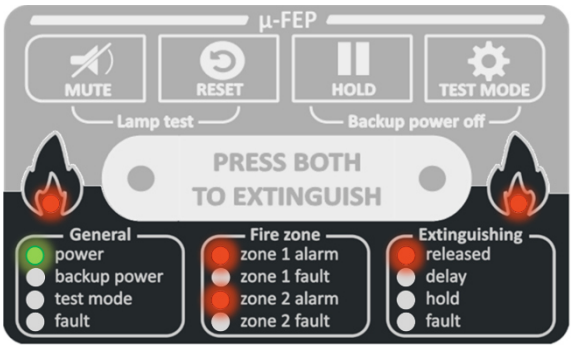


A short circuit can be simulated by setting the red **'SHORTED'** switch into the **YES** position. A fault indication in 'fire zone 1' is the result. There are two yellow LEDs lit, one (fault) in the 'General' group and the other (zone 1 fault) in the 'Fire zone' group. The same procedure applies to fire alarm zone 2, the extinguishing delay **'HOLD'** function and the manual extinguishing release **'EXTING'** function.

10 TESTING THE EXTINGUISHING RELEASE

The µ-FEP has a separate input for external extinguishing delay and extinguishing release. The external function push button(s) have the same function as the double extinguisher buttons **'EXTINGUISH'** and the extinguishing delay (HOLD) button on the front of the µ-FEP. By pressing the external extinguishing release button, the fire extinguisher(s) will be released. These functions are also present on the µ-FTM. Depending on the DIP switch settings, the release may be delayed.



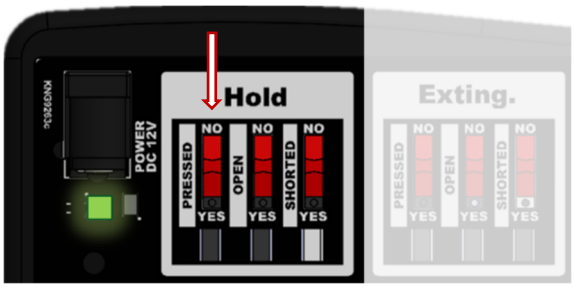


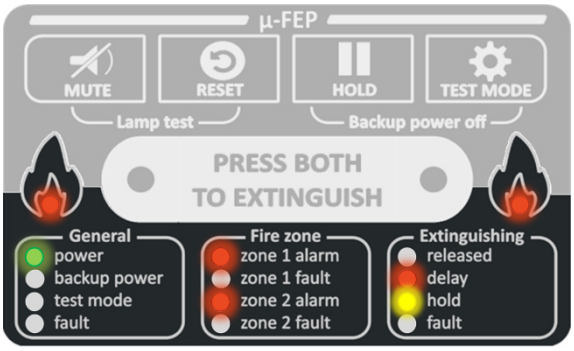
10.1 ACTIVATING EXTINGUISHING

Activating the extinguishing release can be simulated in two ways.

1) by simulating a fire alarm in fire alarm zone 1 + 2
2) by setting the **'EXTING'** switch in the **YES** position.

In the event of a fire alarm in both fire alarm groups or when operating the **'PRESSED' 'EXTING'** and FIRE switches on **YES**, the red 'released' LED (extinguishing activated) will light up immediately when no extinguishing delay is programmed.

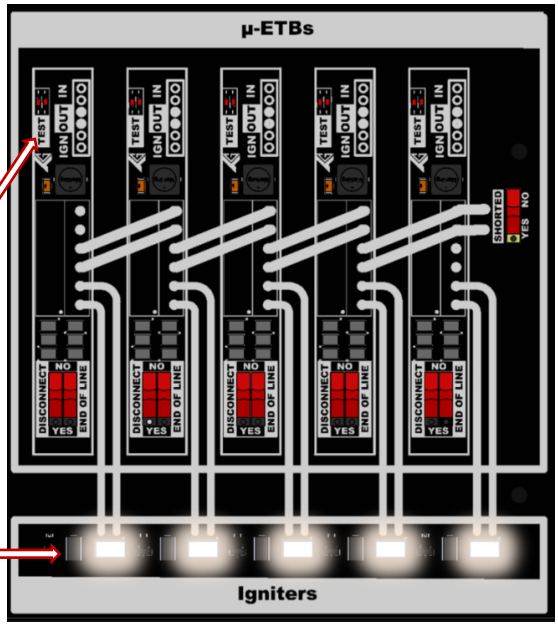




In the event of a fire alarm in both fire alarm zones or when the **'PRESSED' 'EXTING'** switch is in the **YES** position, and an extinguishing release delay is programmed, then the red 'delay' LED is lit in the 'Extinguishing' group. When operating the **'PRESSED' 'HOLD'** switch, the tone signal will change, and the yellow 'hold' LED is lit in the 'Extinguishing' group. This operation does not apply when DIP switches 7 & 8 are programmed. Refer to the µ-FEP manual for this.

10.2 CONFIRMATION OF RELEASE

The confirmation of an extinguishing release is signalized by the lighting of 5 red LEDs and the frequent flashing of 5 clear extinguisher igniter LEDs. This signaling does not work when power is supplied via a laptop connection and/or the emergency power battery, but only and exclusively when used with the included switch mode power supply.



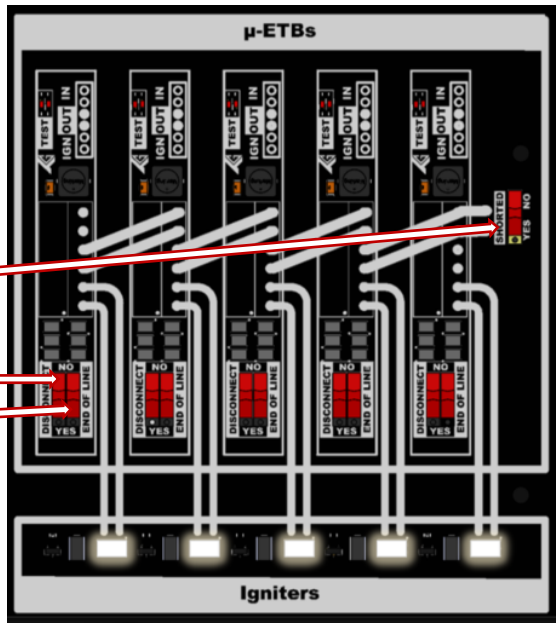
11 TESTING THE EXTINGUISHER OUTPUT MONITORS

The µ-FEP has a short circuit and wire malfunction monitored output for controlling the µ-ETB-connection units intended for the aerosol extinguisher igniters. The extinguisher igniters can be disconnected for test purposes via the µ-ETB connection unit. The end of line diode can also be set via the µ-ETB connection unit. All functions can be simulated via the µ-FTM.

Short circuit

Igniter disconnected

End of line diode



12 TESTING THE VFC OUTPUTS

The µ-FEP has potential free output contacts for external information.

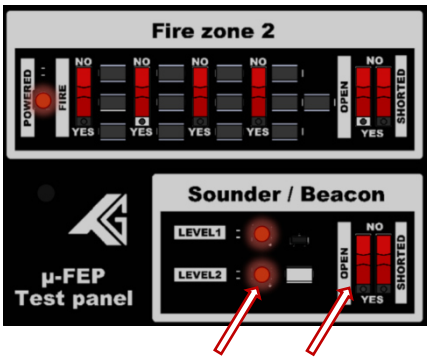
- 1 relay output for signaling the 1st stage (pre) fire alarm
- 1 relay output for signaling extinguishing release
- 1 relay output for signaling a fault
- 1 relay output for switching off ventilation and/or air conditioning

The activation of these VFC relays is signaled by the µ-FTM with red LEDs.

13 TESTING THE 1ST AND 2ND STAGE FIRE ALARMS

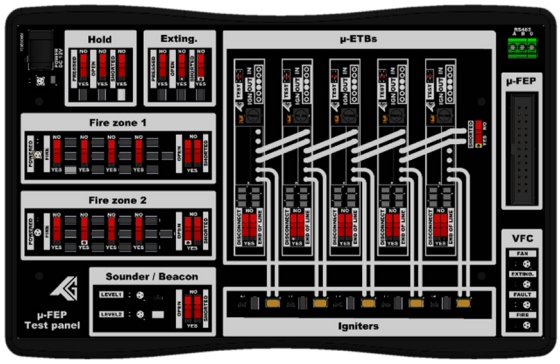
The activation of the 1st and 2nd stage fire alarms is signaled by two red LEDs. An LED for signaling the output for the 1st stage fire alarm and a separate LED for signaling the 2nd stage fire alarm, which signals an impending, possibly delayed, extinguishing action.

A cable malfunction switch and a short circuit switch are provided for testing the line monitoring.



14 HOUSING SPECIFICATION

Outer
- height maximum of 125 mm
- width 200 mm
- depth (not including switches) 10 mm
- depth including switches 20 mm



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. For Europe, this is the Waste Electrical and Electronic Equipment Directive 2012/19/EU.

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.