DESIGNATED TESTING LABORATORY AND CERTIFICATION ORGANISATION
DESIGNATION NUMBER: 1-A/258/2005
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FIRE PROTECTION CONFORMITY TESTING REPORT

Subject of Order:	Fixed fire extinguisher system
• type code:	FirePro FPC-4
• manufacture no.	-
• date of manufacture	-
Name of Manufacturer:	FirePro Systems Ltd.
• address:	CY-3720 Limassol, Tonia Court No. 2.
• country:	Cyprus
Testing Report Number:	J-10302/2014
Date of Testing Report:	2014. April 18th
Name of Client:	FirePro Hungary Kft.
• address:	1132 Budapest, Visegrádi u. 53. 3/1.

TABLE OF CONTENT

1. Circumstances of tests

1.1. Start of test: 2014. March 29th
End: 2014. April 18th

1.2. Place of test: FirePro Kft. and site of GÉPMI

1.3. Subject of test: Fire protection conformity test of fixed fire extinguisher according to ATEX

1.4. Name of testing staff: Perlinger Ferenc
electric engineer
industrial expert
'explosion protection'
licence no.: 13-5789
Ex inspector
licence no.: 6/27/8/2013

1.5. Requirements applied through testing

1.5.1. Standards

MSZ EN 1127-1:2011
Explosive atmosphere. Explosion prevention and explosion protection.
Part 1.: Principles and methods.
MSZ EN 13237:2003
Potentially explosion hazardous environments. Technical terms of equipments and protection systems designed for potentially explosion hazardous environments.
MSZ EN 13463-1:2009
Non electric equipments of potentially explosion hazardous atmospheres.
Part 1.: Methods and requirements
MSZ EN 60079-0:2007
Electric products in explosive atmosphere.
Part 0.: General requirements
MSZ EN 60079-10-1:2009
Electric products in explosive atmosphere.
Part 10.: Classification of explosion hazardous areas.
MSZ EN 60079-14:2009
Electric products in explosive atmosphere.
Part 14.: Installation of electric equipment in explosion hazardous environments (excluding mines)

1.5.2. Decrees

28/2011 (IX.06.) decree of Ministry of Interior Affairs
National Fires Safety Regulation
8/2002 (II.16.) decree of Ministry of Economy
Testing and certification of equipments for potentially explosion hazardous environment.
3/2003 (III.11.) decree of Ministry of Employment and Ministry of Health, Social and Family Affairs
Minimal security of workstations in potentially explosion hazardous environments
(22/2009 (VII. 23.) decree of Ministry of Municipality altered by the 51/2012 (X. 11.) decree of Ministry of Internal Affairs
Regulations on acquisition of fire protection conformity certification

1.6. Testing documentations

FPC-4 electric wiring diagram	/1 page/
Single-configuration and multiple configuration wiring diagram	/2 pages/
Technical description	/1 page/
Requirements of termination box – Ex certification	/1 pcs/

1.7. Antecedents and purposes of professional examination

According to the request of the client we examined the fixed fire extinguisher system in terms of usability and installation in Zone 1 and 21.
Our examination does not apply for any occupational-health and security or environmental security means.

2. Datas and architecture of tested equipment

The FCP-4 module provides an option of fire detection and extinguishing in explosion hazardous zones with the usage of linear 'heat cable' and 'aerosol extinguisher generators'.

Architecture of the system:

The single configuration's architecture displayed below:

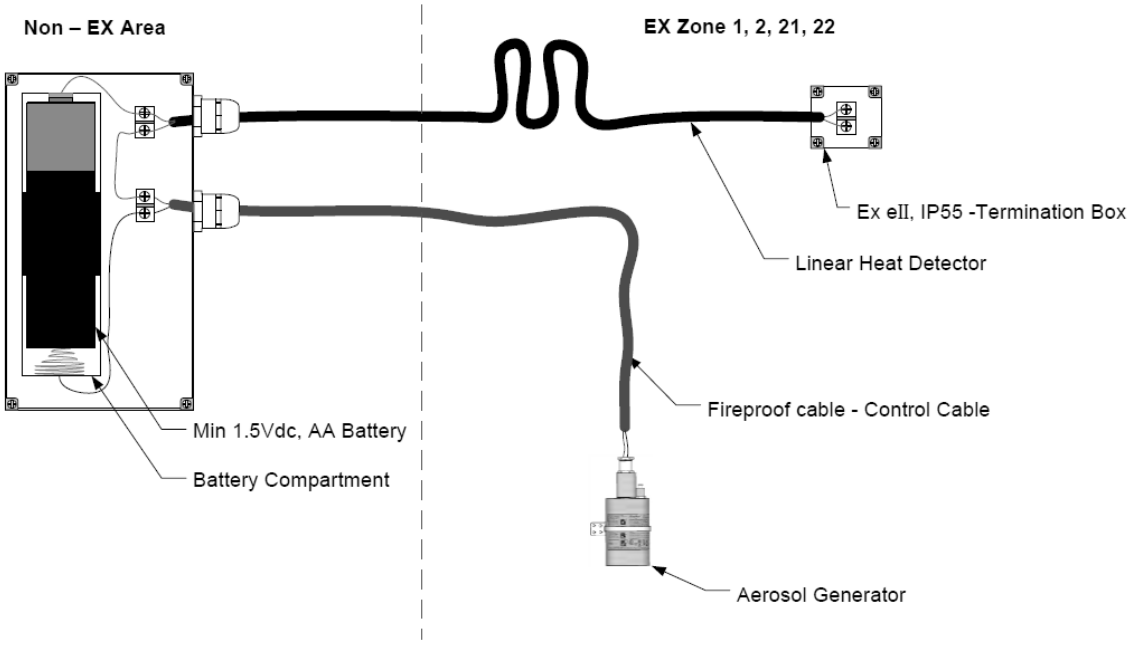


Figure 2

The multiple configuration's architecture displayed below:

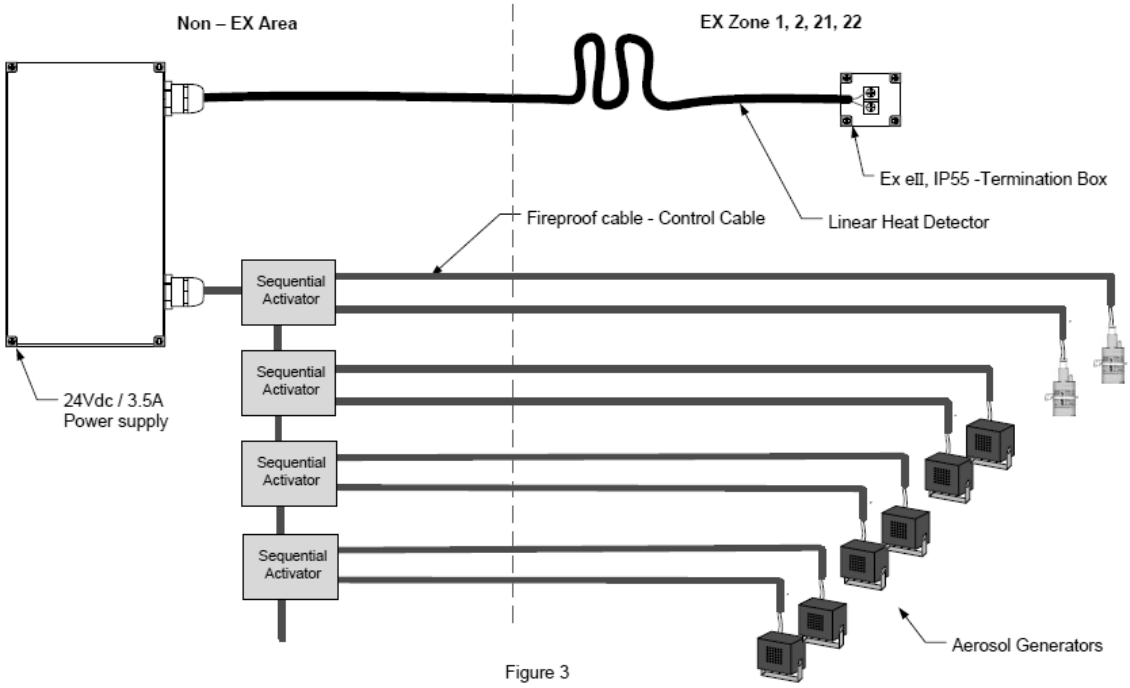


Figure 3

The linear heat detector provides a short circuit between the two wires with the melting of the plastic covering of the cable, that initiates the actuator of the aerosol generators from the min. 1,5 Vdc max. 3 Vdc battery power supply.
The electric current requred for the activation is 0.8 A per generator.
The control cable for the activation is fireproof to avoid undesired short circuit.
The termination of the linear heat detector cable within explosion hazardous area is inside a termination box that has ex-certification of Ex II 2GD Eex e II with standard terminal blocks.
In case a higher number of aerosol generators must be initiated with one FPC-4 module, it is recommended to use a 24Vdc / 3.5 A power supply with UDS.
The FP-BTA type generator is not electrically controlled – it is initiated with heat cartridge.

3. Classification

The FirePro linear heat detector cable and the Ex II 2GD ATEX termination box and the aerosol generators can be used in:

Zone 1 and 2 with presence of gases of IIA, IIB and IIC hazard groups
Zone 21 and 22 with presence of dusts of IIIA, IIIB and IIIC hazard groups

The FPC-4 control module can only be installed outside explosion hazardous areas, together with any power supply inside a case that has a minimum of IP 54 protection.

The FP-BTA type can be used in Zone 1, 2, 21 and 22, because it does not contain any external source of ignition.

4. Examination of security measures

4.1. The termination box with its Ex-protection can be used in Zone 1, 2, 21 and 22.

CONFORMS

4.2. The linear heat detector cable can only provide short circuit on a preset temperature detecting fire, therefore it can not cause fire or explosion in an explosion hazardous area. (In case of fire, there is no dangerous concentration.)

CONFORMS

4.3. The FP-BTA type generator with built-in thermal cartridge actuator does not contain any electric part – it does not present an ignition source.

CONFORMS

4.4. The control cable of the generators are fireproof, therefore it can not cause a short circuit before extinguishing.

CONFORMS

5. Requirements of safe operation

5.1. The linear heat detector cable must be installed in a way, that machinery or technical equipment can not cause false activation by temperature raising through normal operation!

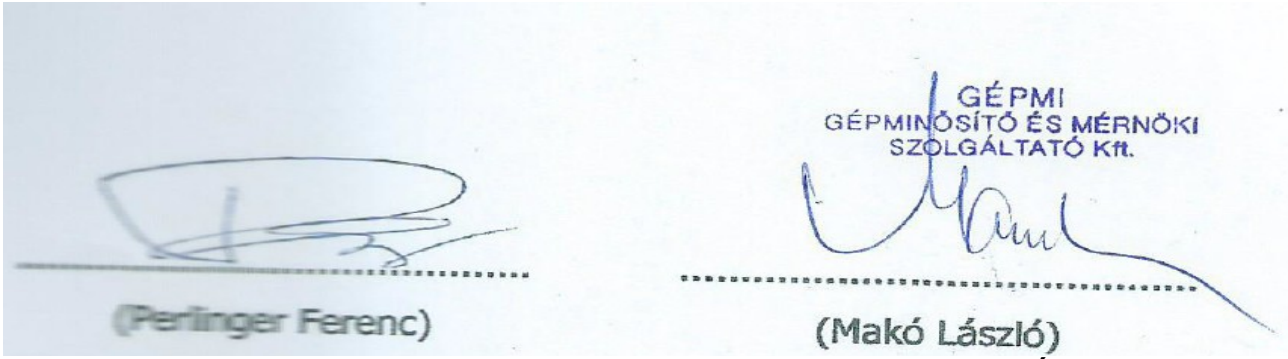
5.2. The chosen temperature of the FP-BTA's thermal cartridge (57°C – 162°C) shall not cause false activation by temperature raising through normal operation inside the protected area!

5.3. The signal for shutting down the protected technology must be provided simultaneously with the activation of the FirePro generators!

This Fire Protection Conformity Testing Report contains 8 numbered pages and can be copied only as a whole.

Budapest, 2014. April 18th

The examination was performed by:



Head of Testing Laboratory Director of GÉPMI Kft.