



streamer[®]
keeping the light

Fire Prevention System

FIPRES



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1. Overview

In **30%** of cases, the cause of a fire is a malfunction associated with the wiring.

Faults may be due to:

- **Poor connection**
- **Improperly selection of circuit breakers and switches**
- **Old wiring**
- **Overloads.**

It is very important to identify weak points to prevent a fire. A natural indicator of faulty wiring is its heat. On the basis of this principle, our new «FIPRES» (Fire Prevention System) by STREAMER works.



What the system consists of

FIRE PREVENTION THERMOLABEL (rFPT)



+

FIRE PREVENTION ALARM (FPA)

+

FIRE PREVENTION CONCENTRATOR (FPC)

1 Thermolabel must be wrapped around all the contacts and the gas sensor installed into the switchgear



2 When heated above 50 - 90 °C indicator marks will irreversibly change their colors



3



In emergency situation when the temperature rises above 80/100/130°C the sticker releases signal gas which is detected by the gas sensor FPA.

4 FPA transmits alarm signal and/or turns off power supply.

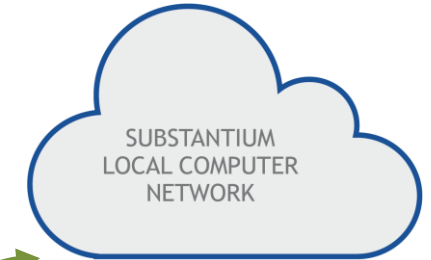


FPA also has "dry contact" type output

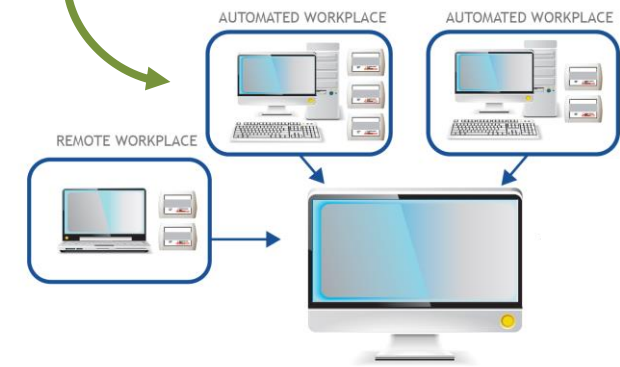
5 When the sensor is triggered, the FPC can transmit information to the central fire alarm system, to the the central control department or local network.



You can also use any similar device that supports RS-485 Modbus instead of FPC



FIRE ALARM SYSTEM



CENTRAL CONTROL DEPARTMENT

What the system consists of

FIRE PREVENTION THERMOLABEL (rFPT)

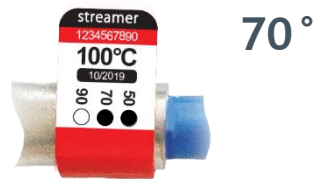
+

FIRE PREVENTION ALARM (FPA)

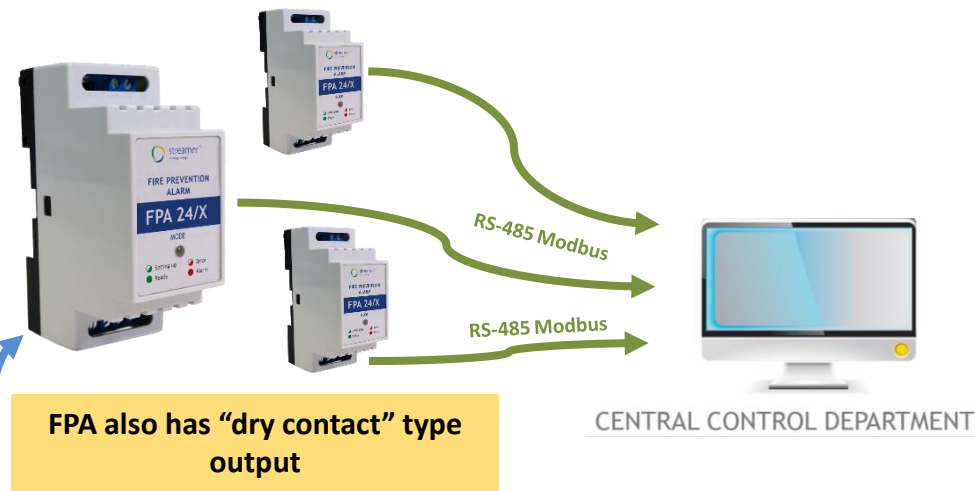


4 FPA transmits alarm signal and/or turns off power supply.

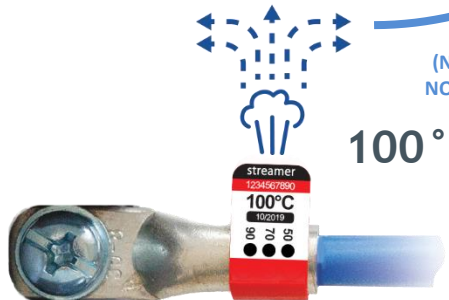
1 Thermolabel must be wrapped around all the contacts and the gas sensor installed into the switchgear



2 When heated above 50 - 90 °C indicator marks will irreversibly change their colors



3 In emergency situation when the temperature rises above 80/100/130°C the sticker releases signal gas which is detected by the gas sensor FPA.

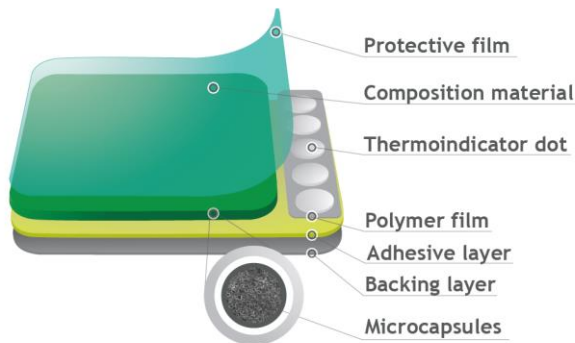
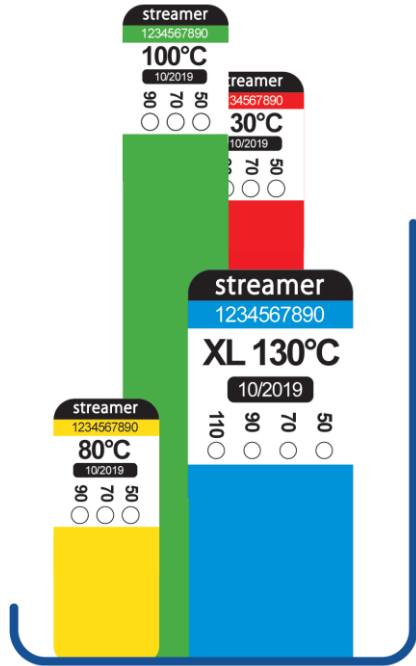


Light version



rFPT - remote Fire Prevention Thermolabel

rFPTs are installed at the contact connection points, on electrical wires or some parts of electrical equipment which are potentially prone to overheating. When heated to activation temperature, a signal gas is emitted from the rFPT and is detected by Fire Prevention Alarm



Act. temp.	Item name	Conductor cross-section, mm ²	The volume of a switch where FPA is located, mm ³	Reference	Notes
80°C	rFPT 80/0,1	less than 10	0,1	FP.RT.080A.01.WW	Set of heat-activated stickers (10 pcs).
	rFPT 80/0,3	10-35	0,3	FP.RT.080B.01.WW	
	rFPT 80/1	35-120	1	FP.RT.080C.01.WW	
	rFPT 80/XL	more than 120	more than 1	FP.RT.080D.01.WW	
100°C	rFPT 100/0,1	less than 10	0,1	FP.RT.080A.01.WW	
	rFPT 100/0,3	10-35	0,3	FP.RT.080B.01.WW	
	rFPT 100/1	35-120	1	FP.RT.080C.01.WW	
	rFPT 100/XL	more than 120	more than 1	FP.RT.080D.01.WW	
130°C	rFPT 130/0,1	less than 10	0,1	FP.RT.080A.01.WW	
	rFPT 130/0,3	10-35	0,3	FP.RT.080B.01.WW	
	rFPT 130/1	35-120	1	FP.RT.080C.01.WW	
	rFPT 130/XL	more than 120	more than 1	FP.RT.080D.01.WW	

* Operating temperature of all vFPTs is from -60°C to +50 °C

* Validity period of all vFPTs is 10 years



FPA - Fire Prevention Alarm



- **detects** the threshold concentration of the signal gas in the protected object
- **transmits** the alarm code via the communication line (RS-485) to the Fire Prevention Concentrator (FPC).
- **has a discrete output** ("dry contact" type), activated when the sensor switches to alarm mode.
- **has a LED indicator** of operating mode (READY, ALARM, ERROR) and of communication with the FPC.
- **can be used** with a FPC, as well as independently (in this case an alarm signal can be obtained from a discrete output of the "dry contact" type).

ITEM NAME	REFERENCE	DESCRIPTION
FPA 24/0,1	FP.AL.0100.01.WW	For electrical switchgear with volume up to 0,1 m ³
FPA 24/0,3	FP.AL.0300.01.WW	For electrical switchgear with volume up to 0,3 m ³
FPA 24/1	FP.AL.1000.01.WW	For electrical switchgear with volume up to 1 m ³
FPA 24(4S)	FP.AL.004S.01.WW	Line of communication – RS-485 Modbus with 4 corded sensors

*Compatible with FPC 220, FPC 220(M1), FPC 220(GSM) or any similar device



Corded sensor for FPA 24(4S)

TECHNICAL DATA

Type of connection: RS-485 Modbus RTU

Supply voltage: 24 V DC (can be powered from FPC)

Current consumption: 50 mA

Mode indicator: yes

Link indicator: yes

Degree of protection by shelf: IP40

Mounting type: To DIN-rail

Discrete outputs: Discrete output "Alarm"

Lifetime: 10 years

Dimensions: 35x86x58 mm

Weight: 90 g

FPA - Fire Prevention Alarm



- The FPC is a part of the FIPRES system for monitoring the status of the FPA sensors, for displaying and recording events and transfer information to the workstation (both local and remote). The FPC has a 4-line LCD display with backlight, status indicators, a three-button keyboard for viewing the events

New generation of FPC will be ready by September.

ITEM NAME	REFERENCE	NOTES
FPC 220	FP.CU.0000.01.WW	Line of communication RS-485
FPC 220(M1)	FP.CU.00M1.01.WW	Line of communication RS-485 with M1 module.
FPC 220(GSM)	FP.CU.0GSM.01.WW	Line of communication RS-485 with GSM module.

*Compatible with FPA 24/0,1, FPA 24/0,3, FPA 24/1, FPA 24/0,1

TECHNICAL DATA

Number of connected sensors: 32

Interface: CAN 2.0 ISO 11898, Modbus RTU

Ability to send alerts via SMS: yes (for FPC 220(GSM))

Supply voltage: 220 V AC

Current consumption: Not more than 0,5 A

Outputs: RS-485, discrete output "Alarm"; discrete output "Fault"

Operating temperature range: From -10 °C to +55 °C

Degree of protection by shelf: IP30

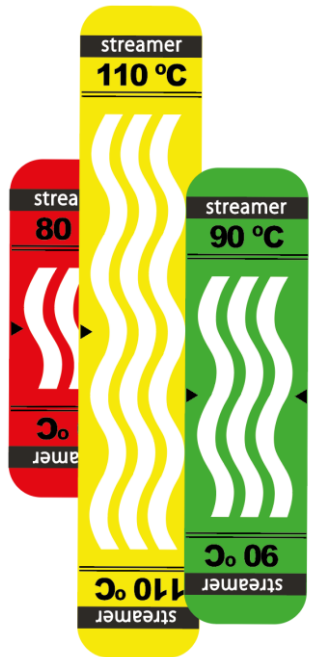
Lifetime: 10 years

Dimensions: 200x270x48 mm



vFPT - visual Fire Prevention Thermolabel

- vFPT allows to check the quality of installation works by visual inspection. Unlike thermal imaging, the -
- vFPT detects heating not only at the moment of the inspection. The principle of operation is pretty simple: at the activation temperature (indicated on vFPT) the strips will irreversible change their color to black



Example of operation



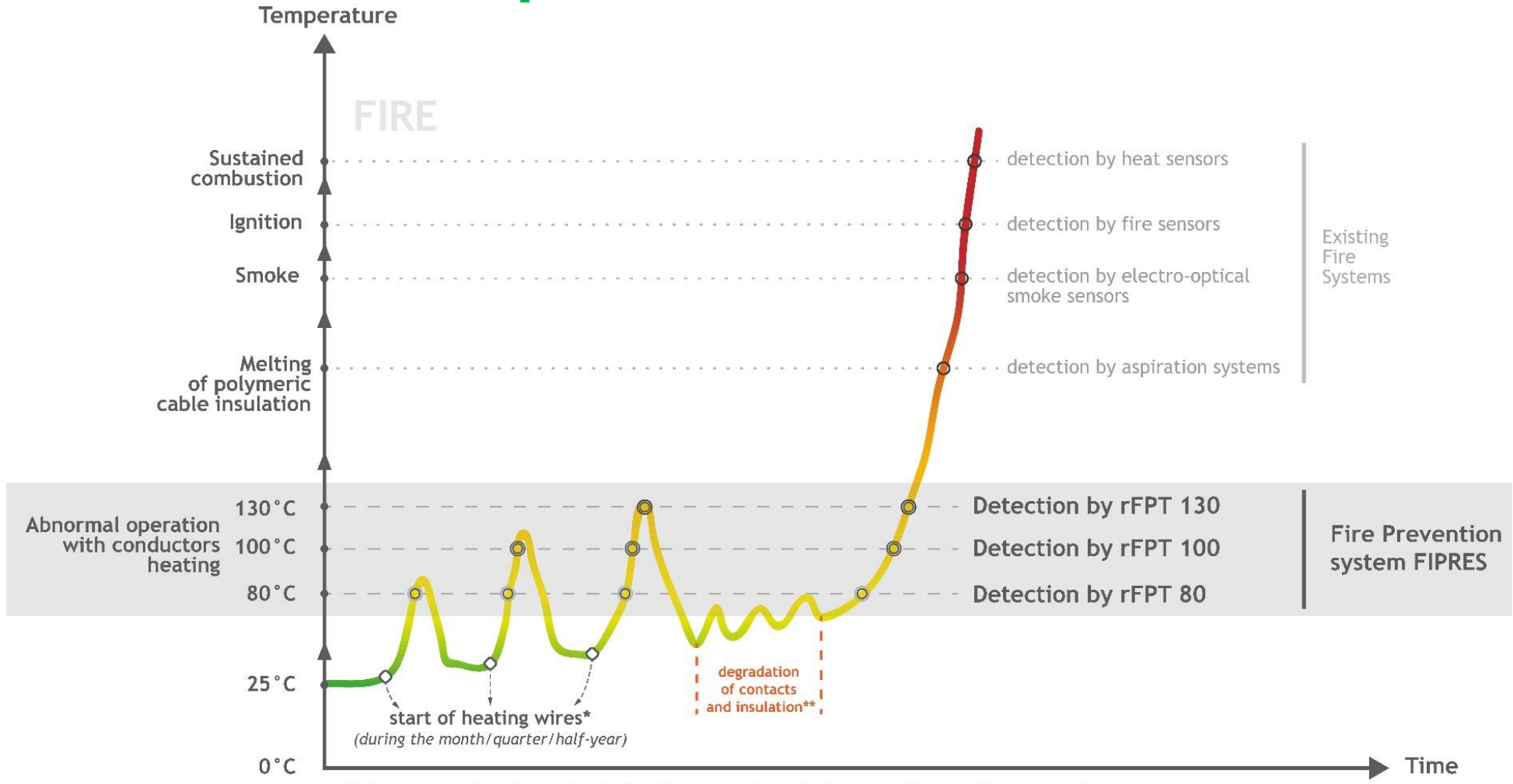
Act. temp.	Item name	Conductor cross-section, mm ²	Reference	Description
70°C	vFPT 70S	up to 10	FP.VT.070A.01.WW	In each set there are yellow, green and red stickers, 6pcs of each colour
	vFPT 70M	10-35	FP.VT.070B.01.WW	
	vFPT 70L	35-120	FP.VT.070C.01.WW	
90°C	vFPT 90S	up to 10	FP.VT.090A.01.WW	
	vFPT 90M	10-35	FP.VT.090B.01.WW	
	vFPT 90L	35-120	FP.VT.090C.01.WW	
110°C	vFPT 110S	up to 10	FP.VT.110A.01.WW	
	vFPT 110M	10-35	FP.VT.110B.01.WW	
	vFPT 110L	35-120	FP.VT.110C.01.WW	

* Operating temperature of all vFPT is from -60°C to +50 °C

* Validity period of all vFPT is 10 years



2. Technical comparison



* due to: overloadings, short-circuits, wear of contact connections or for many other reasons

** due to frequent heating / cooling, the contacts are oxidized, increasing the resistance of the contact connections. For the same reason, the insulation of the cables is subjected to heat aging, deteriorating their dielectric properties.

FIPRES works at the earliest stages and prevents the situation from worsening.



2. Technical comparison

Fire prevention system
(FIPRES)



- + Suitable to all types of wires and contacts
- + Supports IEC 618510 standard
- + Accurately detects a potentially dangerous place
- couldn't be used on open area

Arc fault detection device
(AFDD)



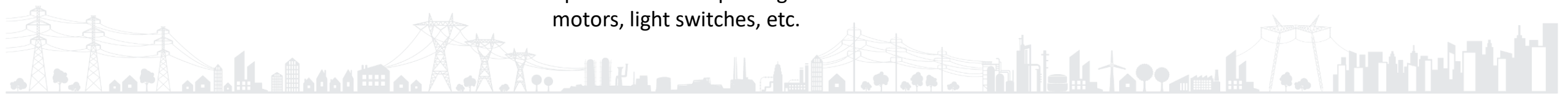
In case of overheating without arc AFDD doesn't work, but this is possible in many cases: from poor connection to an overload due to an incorrectly selected circuit breaker

AFDD could not work properly due to electromagnetic interference or falsely operates due to sparking brushes of electric motors, light switches, etc.

Fire-Protection systems



Modern fire systems can only recognize a fire if there is smoke, bright light, or substantial heat. But, as a rule, these markers mean that the fire has already begun and the damage cannot be avoided.



3. Scope of application

Wherever there is a switchgear/electrical panel but especially where there is:

- 1. Explosion protected electrical equipment** because technical staff can not open the explosion-proof housing during operation of the equipment (and can not check the equipment by a thermal imager)
- 2. Systems with expensive backup power supply** because its necessary to find weak point of the system ASAP and avoid re-off the main power supply
- 3. Systems where stopping the process is not allowed.** The FPA can work in “only sound alerts” mode without trip of supply circuit (*unlike AFFD*)

