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FIPRES

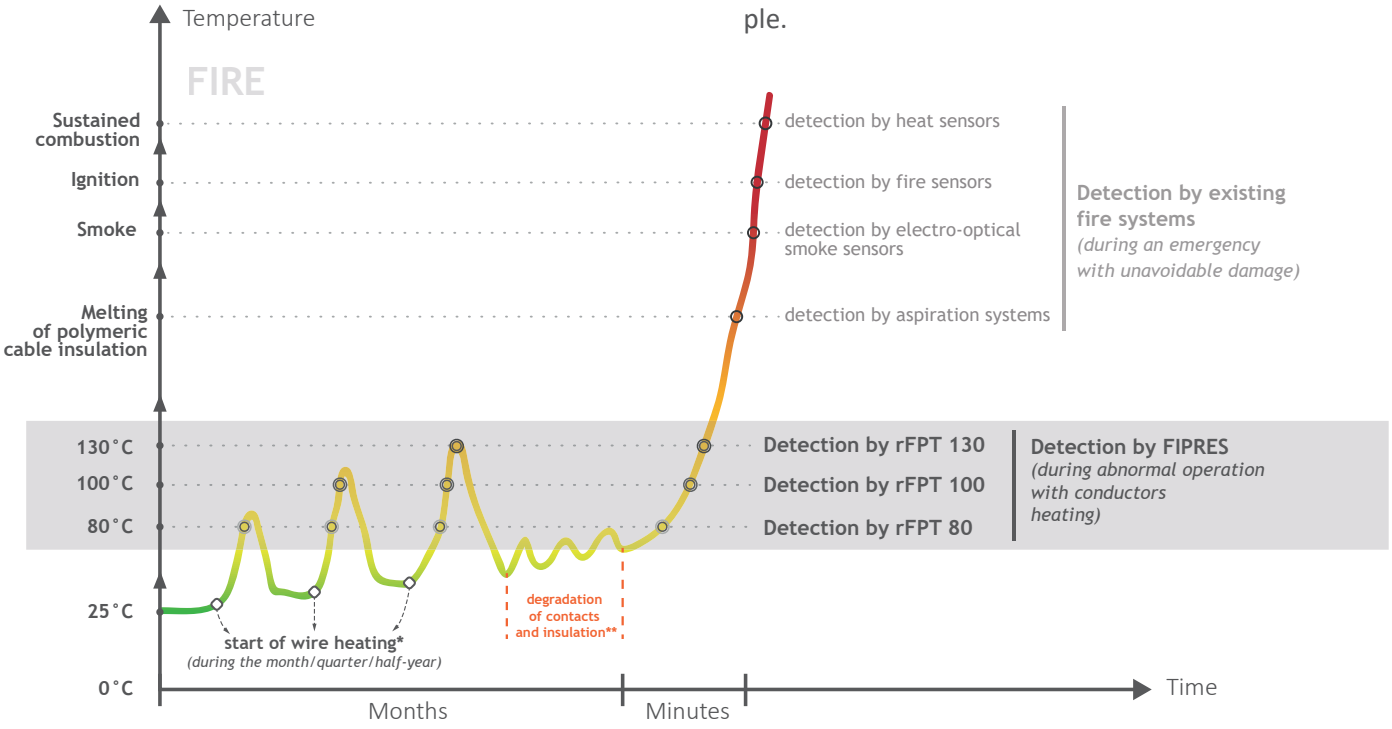
Fire prevention system

- *The system can be installed both in existing or new electrical panels*
- *Thermolabels do not require power supply and are immune to electromagnetic interference*
- *The technology allows to prevent the fire and its terrible consequences*
- *The ability to find fault location with high accuracy*
- *Continuous monitoring of equipment*
- *The ability to centrally collect data from all sensors thanks to the support of IEC 618510 and GSM/GPRS*

OVERVIEW

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

Faults may be due to poor connection, improper selection of circuit breakers and switches, old wiring or overloads. It is very important to identify weak points in order to prevent fire. A natural indicator of faulty wiring is its heat. The new FIPRES (Fire Prevention System) by Streamer works on the basis of this principle.



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

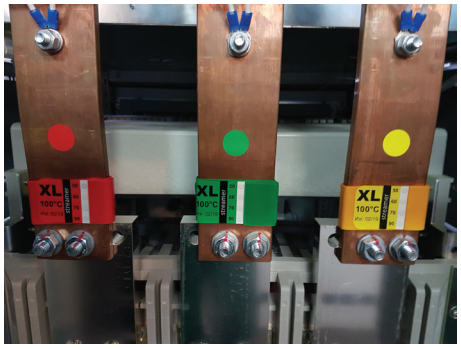
** due to frequent heating / cooling, the contacts are oxidized, increasing the resistance of the contact connections. For the same reason, the insulation of the cables is subjected to heat aging, deteriorating their dielectric properties

FIPRES WORKS AT THE EARLIEST STAGE OF THE ISSUE. HENCE PREVENTING FIRES AND DAMAGE ASSOCIATED WITH IT

SCOPE OF APPLICATION

FIPRES can be used in:

- Low/medium voltage electrical panels
- Switchgear cells
- Any electrical equipment, including equipment in explosion-proof housings



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HOW IT WORKS

remote FIRE PREVENTION THERMOLABEL rFPT

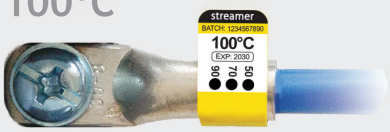
1 Thermolabel must be wrapped around all the contacts and the gas sensor installed into the switchgear.

70°C

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

SIGNAL GAS (NON-TOXIC AND NON-FLAMMABLE)

100°C



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

FIRE PREVENTION ALARM FPA

4 FPA transmits alarm signals to FPC via RS 485 and to a circuit breaker via "dry contact" output to turn off power supply.

VIA RS 485 MODBUS

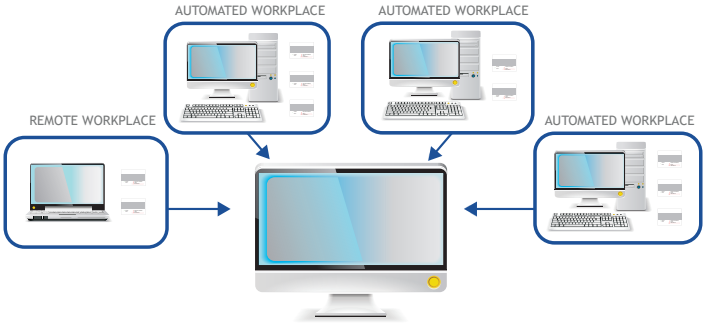
FIRE PREVENTION CONCENTRATOR FPC

5 FPC monitors the status of all FPA, displays and records signals.

When FPA is triggered, FPC can transmit information to the central fire alarm system, or to central control department.

or you can use a similar device which supports RS 485 Modbus instead of FPC (or even use light version of FIPRES: only rFPT + FPA)

SUBSTANTIUM LOCAL COMPUTER NETWORK



CENTRAL CONTROL DEPARTMENT

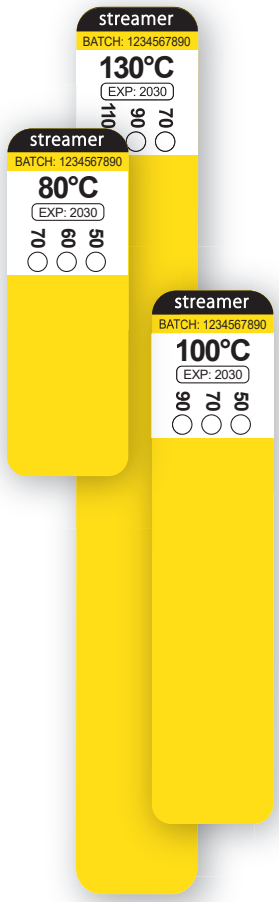
SMS
FIRE CHIEF

FIRE ALARM SYSTEM

VIA ETHERNET RS 232, RS485 MODBUS, GSM

remote FIRE PREVENTION THERMOLABELS

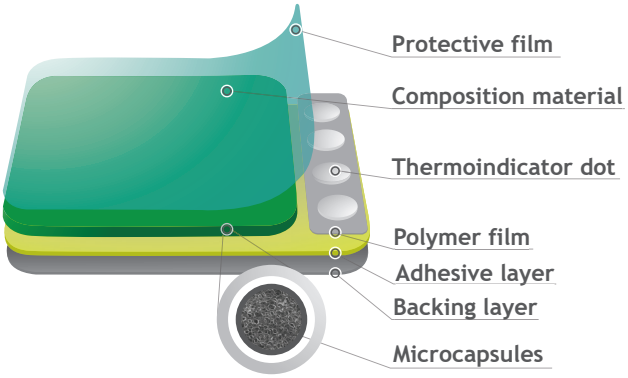
Remote Fire Prevention Thermolabels (rFPTs) are installed at the contact connection points, on electrical wires or some parts of electrical equipment which are potentially prone to overheating. When heated to activation temperature, a signal gas is emitted from rFPT and is detected by Fire Prevention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



Activation temperature	Item name	Conductor cross-section, mm²	Volume of switchgear, m³	Reference	Notes
80°C	rFPT 80/0,1	less than 10	0,1	FP.RT.080A.Y1.WW	Set of heat-activated stickers (10 pcs).
	rFPT 80/0,3	10-35	0,3	FP.RT.080B.Y1.WW	
	rFPT 80/1	35-120	1	FP.RT.080C.Y1.WW	
	rFPT 80/XL	more than 120	more than 1	FP.RT.080D.Y1.WW	
100°C	rFPT 100/0,1	less than 10	0,1	FP.RT.100A.Y1.WW	
	rFPT 100/0,3	10-35	0,3	FP.RT.100B.Y1.WW	
	rFPT 100/1	35-120	1	FP.RT.100C.Y1.WW	
	rFPT 100/XL	more than 120	more than 1	FP.RT.100D.Y1.WW	
130°C	rFPT 130/0,1	less than 10	0,1	FP.RT.130A.Y1.WW	
	rFPT 130/0,3	10-35	0,3	FP.RT.130B.Y1.WW	
	rFPT 130/1	35-120	1	FP.RT.130C.Y1.WW	
	rFPT 130/XL	more than 120	more than 1	FP.RT.130D.Y1.WW	

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

* Validity period of all rFPT is 10 years



	0.1	0.3	1	XL
Length, mm	50	80	138	210
Width, mm	20	20	20	35
Thickness,mm	1,75	1,75	1,75	1,75
Weight,g	1,1	2,2	4,3	11,0

FIRE PREVENTION ALARM and CONCENTRATOR

Fire Prevention Alarm (FPA) is designed to detect the threshold concentration of the signal gas in the protected object and to transmit the alarm signal.

FPA has a LED indicator for operating mode (READY, ALARM, ERROR) and LED for indicating communication with FPC.

FPA can be used with FPC, as well as independently (in this case an alarm signal can be obtained from a discrete output of the "dry contact" type).

TECHNICAL DATA

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

Type of connection: RS-485 Modbus RTU

Current consumption: 50 mA

Discrete outputs: Discrete output “Alarm” (dry contact)

Mounting type: To DIN-rail

Degree of protection: IP40

Dimensions: 35x86x58 mm

Lifetime: 10 years

ITEM NAME	REFERENCE	DESCRIPTION
FPA 24/0,1	FP.AL.0100.01.WW	For electrical switchgear with volume up to 0,1 m³
FPA 24/0,3	FP.AL.0300.01.WW	For electrical switchgear with volume up to 0,3 m³
FPA 24/1	FP.AL.1000.01.WW	For electrical switchgear with volume up to 1 m³
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

Fire Prevention Concentrator (FPC) is a part of FIPRES system for monitoring the status of FPA, for displaying and recording events and transfer information to the workstation (both local and remote).

FPC has a 4-line LCD display with backlight, status indicators, a three-button keyboard for viewing the event log.

TECHNICAL DATA

Supply voltage: 220 V AC

Interface: CAN 2.0 ISO 11898, Modbus RTU

Current consumption: Not more than 0,5 A

Ouputs: RS-485, discrete output “Alarm”; discrete output “Fault”

Number of connected sensors: 32

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

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

Degree of protection: IP30

Dimensions: 200x270x48 mm

Lifetime: 10 years

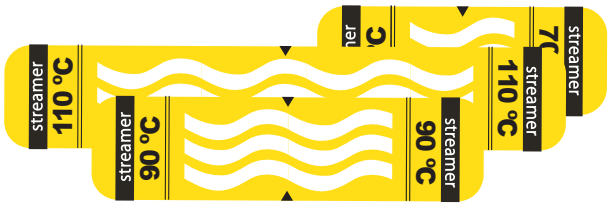
ITEM NAME	REFERENCE	DESCRIPTION
FPC 220	FP.CU.0000.01.WW	Line of communication RS-485
FPC 220(M1)	FP.CU.00M1.01.WW	Line of communication RS-485 with M1 module.
FPC 220(GSM)	FP.CU.0GSM.01.WW	Line of communication RS-485 with GSM module.

*Compatible with FPA 24/0,1, FPA 24/0,3, FPA 24/1, FPA 24/(4S)

visual FIRE PREVENTION THERMOLABELS

vFPT allows to check the quality of installation works by visual inspection. Unlike thermal imaging, vFPT **detects heating not only at the moment of the inspection.**

The principle of operation is pretty simple: at the activation temperature (indicated on the thermolabel) the strips will irreversibly change their color to black.



Example of operation:

	S	M	L
Length, mm	42	57	82
Width, mm	16	16	16

Activation temperature	Item name	Conductor cross-section, mm²	Reference	Validity Period	Description
70°C	vFPT 70S	up to 10	FP.VT.070A.01.WW	10 years	There are 18 yellow thermolabels in one set
	vFPT 70M	10-35	FP.VT.070B.01.WW	10 years	
	vFPT 70L	35-120	FP.VT.070C.01.WW	10 years	
90°C	vFPT 90S	up to 10	FP.VT.090A.01.WW	10 years	
	vFPT 90M	10-35	FP.VT.090B.01.WW	10 years	
	vFPT 90L	35-120	FP.VT.090C.01.WW	10 years	
110°C	vFPT 110S	up to 10	FP.VT.110A.01.WW	10 years	
	vFPT 110M	10-35	FP.VT.110B.01.WW	10 years	
	vFPT 110L	35-120	FP.VT.110C.01.WW	10 years	

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

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