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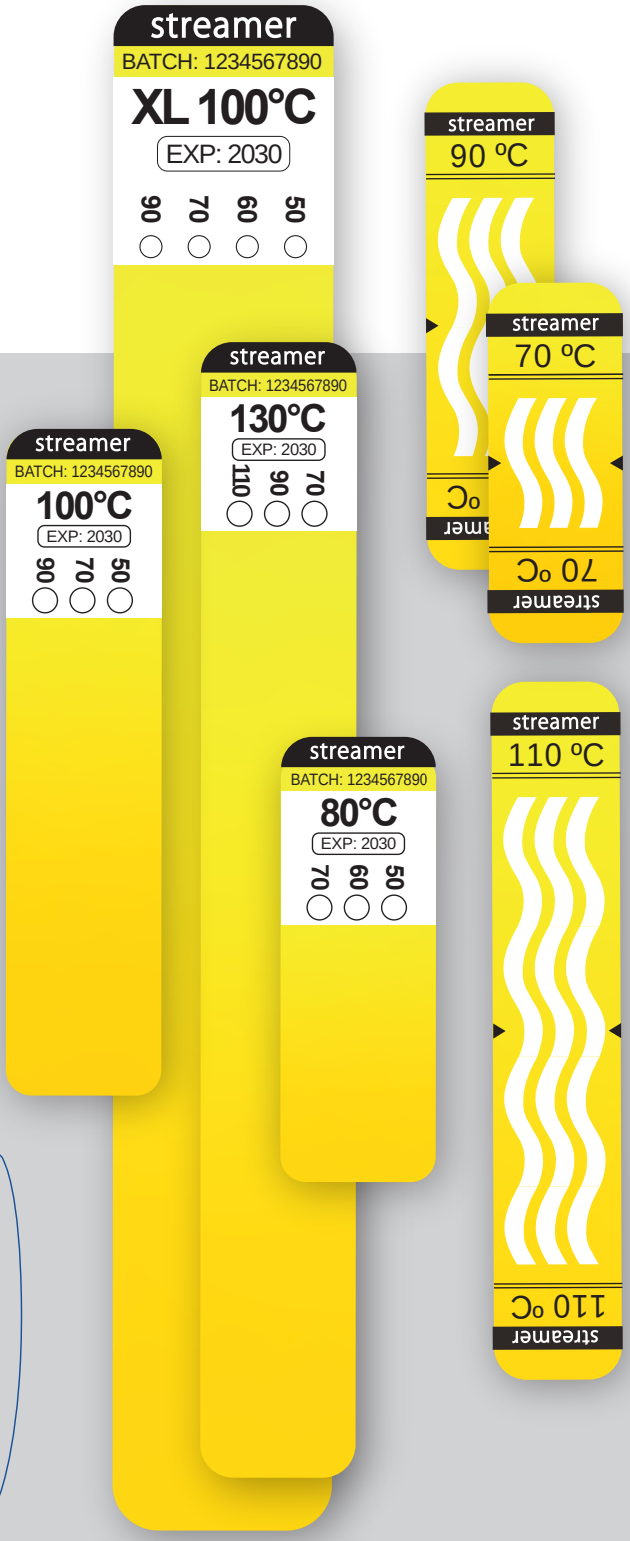
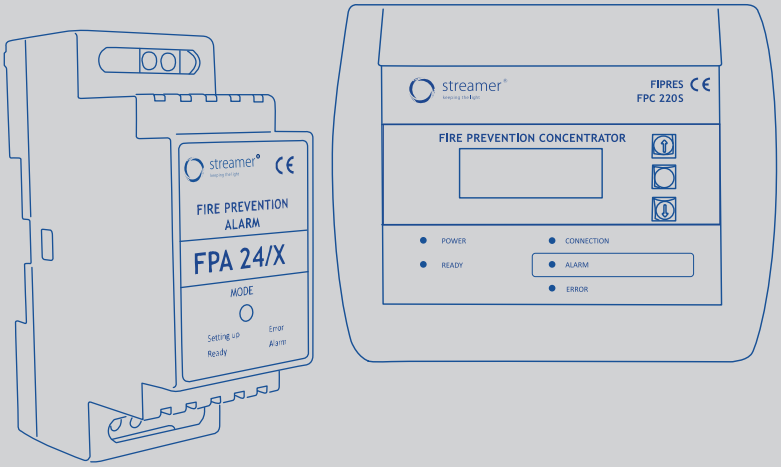
# FIPRES

## Fire prevention system

- 24/7 monitoring
- Detects points of overheating before a dangerous situation and earlier than any existing fire system
- Easy installation even for existing systems
- Allows to inspect the network, equipment, or quality of repair
- Can be connected to SCADA system via Modbus and/or to external system via dry contact

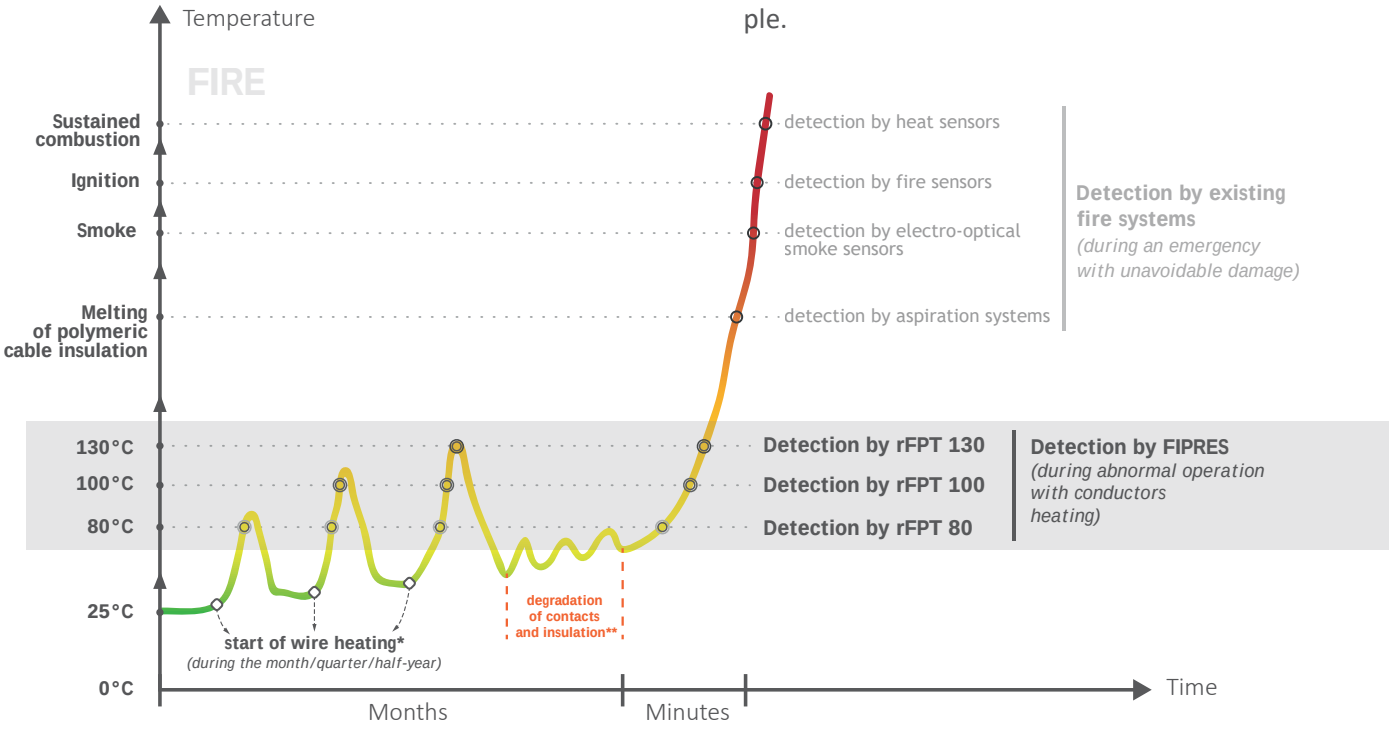


# OVERVIEW

## 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** rFPT must be wraped around cables/busbars close to the contact points. A gas sensor (FPA) should be installed into the same volume.


**2** When a contact is heated above 50°/70°/90° C thermoindication dots irreversibly change their colors to black.


**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 FPA.

SIGNAL GAS (NON-TOXIC AND NON-FLAMMABLE)

## 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

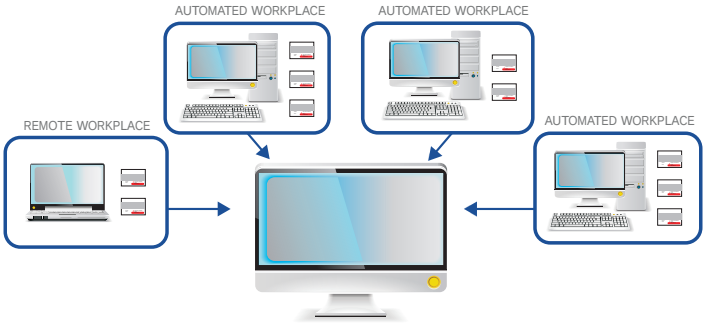

## FIRE PREVENTION CONCENTRATOR FPC


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

When FPA is triggered, FPC transmits information to the central fire alarm system and/or to SCADA system.

*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






VIA ETHERNET RS 232, RS485 MODBUS, GSM

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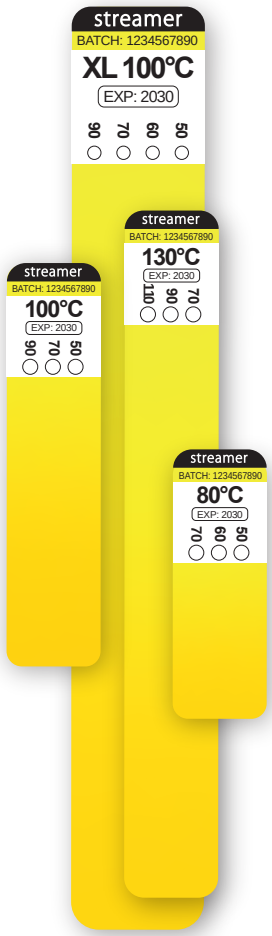
# remote FIRE PREVENTION THERMOLABELS

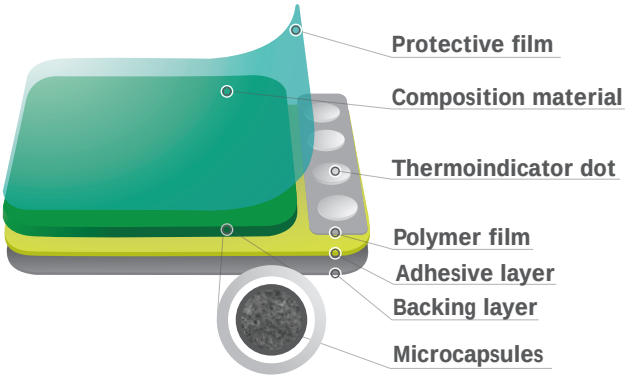
**Remote Fire Prevention Thermolabels (rFPTs)** are installed at the contact connection points, on electrical wires or some parts of electrical equipment which are potentially prone to overheating. When heated to activation temperature, a signal gas is emitted from rFPT and is detected by Fire Prevention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




| Activation temperature | Item name | Conductor cross-section, mm² | Volume of compartment, m³ | Reference | Notes |
|---|---|---|---|---|---|
| 80°C | rFPT 80/0,1 | < 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 | > 120 | 1-3 | FP.RT.080D.Y1.WW | |
| 100°C | rFPT 100/0,1 | < 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 | > 120 | 1-3 | FP.RT.100D.Y1.WW | |
| 130°C | rFPT 130/0,1 | < 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 | > 120 | 1-3 | 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

**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 220S, FPC 220S (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:** 100-240 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 220S (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 220S | FP.CU.S000.01.WW | basic version |
| FPC 220S (GSM) | FP.CU.SGSM.01.WW | FPC with additional 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.Y1.WW | 10 years | There are 18 yellow thermolabels in one set |
| | vFPT 70M | 10-35 | FP.VT.070B.Y1.WW | 10 years | |
| | vFPT 70L | 35-120 | FP.VT.070C.Y1.WW | 10 years | |
| 90°C | vFPT 90S | up to 10 | FP.VT.090A.Y1.WW | 10 years | |
| | vFPT 90M | 10-35 | FP.VT.090B.Y1.WW | 10 years | |
| | vFPT 90L | 35-120 | FP.VT.090C.Y1.WW | 10 years | |
| 110°C | vFPT 110S | up to 10 | FP.VT.110A.Y1.WW | 10 years | |
| | vFPT 110M | 10-35 | FP.VT.110B.Y1.WW | 10 years | |
| | vFPT 110L | 35-120 | FP.VT.110C.Y1.WW | 10 years | |

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