



IR - Flame Detectors

FL20BA - FL20BI

TECHNICAL INFORMATION

APPLICATIONS

- petrol products storehouses (gasoline, diluents, etc.)
- paint storehouses
- paper storehouses
- wood storehouses and silos
- chemical laboratories with flammable gases

TECHNICAL ADVANTAGES

- optical head box separated from the analyzer
- possibility to install the optical head far from the analyzer (over 200 m)
- simple installation
- quick response
- unfrequent maintenance
- possibility of remote working test
- high immunity to false alarms
- high immunity to electric noise

The flame detectors are equipped with a special Aluminium light alloy (FL20BA) or Inox Steel AISI 136 (FL20BI) optical head, **separated** from the electronics (Analyzer).

An important feature is that the optical head can be installed remotely from the analyzer (over 200m) allowing an easy and suitable installation.

The detector is able to detect a flame, produced by a fire inside its viewing range, in a few seconds.

This detector is particularly used in environments where a fire could quickly grow like for example storehouses of petrol products, paint, plastic materials, alcohols, etc.

The working principle is based on the detection of the infrared radiation emitted by the flame.

The advanced circuitry and components utilized, make the detector very efficient and also highly immune to the false alarms produced by natural phenomena or inside the protected environment.

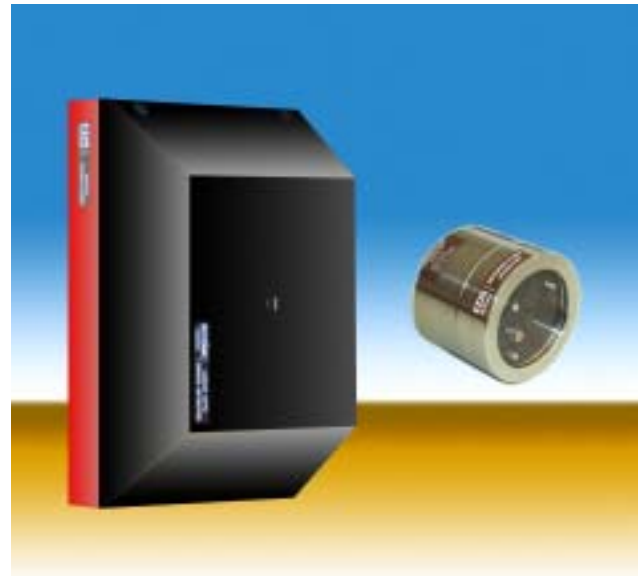
The Analyzer's container is an autoextinguishing polycarbonate box with IP65 protection that is very solid and easy to install.

FUNCTIONING

The FL20BA-BI detector has to be installed so that the zone to be protected results to be inside the viewing range of the optical head.

The zone to be protected is continuously monitored.

An important fact is that the optical head is composed by **two type of infrared sensors**, each with a different spectral range. In this way a great working safety is achieved and a high false alarm immunity too. Some optical filters are present to let the infrared beam pass through and to block all the other light radiation.



So the detector is insensible to the sun light, to the lamps light, to the ultraviolet rays and to the X and gamma rays. When a flame grows in the environment to be protected, it generates a powerful infrared radiation that is not constant but variable e pulsing.

The electronics of FL20BA-BI are able to compute the radiation received in terms of amplitude, frequency and time, and if it is recognised as a real flame, the output relay is activated to command eventual acoustic or optical alarms.

The FL20BA-BI is provided with an internal sensitivity control, with a regulation of the response delay and it's also endowed with a special circuit that simulates the flame action and permits to remotely perform a working TEST of the detector.

TECHNICAL DATA

- power supply : 12/24 Vcc
- current : 18 mA
- protection against polarity inversion
- max flame detecting distance : 20 m (with a target 20x20 cm flame 20 cm high)
- max distance between the optical head and the analyzer: 250m
- optical viewing angle : 120 degrees
- regulation of sensitivity and response delay
- remote test terminals
- output relay : 1 A/ 24 Vcc
- optical head container : Aluminium light alloy (FL20BA) - Inox Steel AISI 316 (FL20BI) - IP65 (IEC529-144)
- analyzer container : polycarbonate autoextinguishing box class V0 (UL94, IEC695, IEC707) - IP 65 (IEC 529-144)
- immunity to electromagnetic noise : conforms to EN50081-1 EN 50082-1
- dimensions of the head : D=75 H=75 mm
- optical head's weight : 0,6 Kg
- analyzer's dimensions : 247x146x114 mm
- analyzer's weight : 900 gr