



SAFYR CE, FLICKER FLAME DETECTORS self-checking type



Fig.1 - Scanner (explosion-proof)

1 - SAFETY

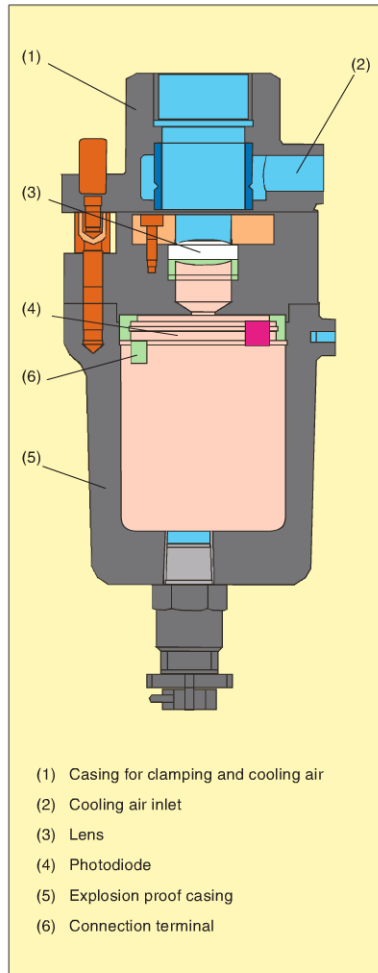
The safety of generators is based upon burner checks, among which a permanent individual detection of flame is mandatory.

The Pillard SAFYR CE flame detector, self-checking flicker type, enables supervision of flames when firing fuel oil, pulverised coal, pet-coke, tar, extra heavy liquid residues.

It ensures flame discrimination too, thus detecting exclusively the flame from the burner on which it is installed. It complies with the European Standards.

2 - PRINCIPLE

The flame of liquid or solid fuels emits a pulsatory light spectrum. Inside the scanner (Fig.2), the photodiode (4) transforms the flame light flux variation into an electric current proportional to this variation (flicker principle). The electronic processing of the signal allows the light flux frequency (5 to 200 Hz) to be analysed, thus eliminating any continuous radiation such as from refractories. Four "high pass" cross-overs eliminate scintillation emitted by other flames, or by solid fuels burnt on a grate.



- (1) Casing for clamping and cooling air
- (2) Cooling air inlet
- (3) Lens
- (4) Photodiode
- (5) Explosion proof casing
- (6) Connection terminal

Fig.2 - Scanner principle

3 - DESCRIPTION

- The SAFYR CE detector includes :
- An explosion-proof scanner (Fig.1 and 2), incorporating :
 - a photodiode with a silicium junction (4)
 - a connecting terminal (6)
 - A control box (Fig.3), standard EN60529 IP 66 protection, containing :
 - electronic card
 - connecting terminal
 - detection level indicating LEDs
 - manual adjustment of sensitivity
 - manual selector for the "high pass" cross-over frequency
 - LEDs indicating the flame presence or absence

4 - ADVANTAGES

- The SAFYR CE detector positively detects only the flame of its own burner.
- The self-checking system is controlled by micro processor which exclude any possibility of false detection (positive safety)
- Based on a total reliability concept, it is an essential complement of Pillard burners

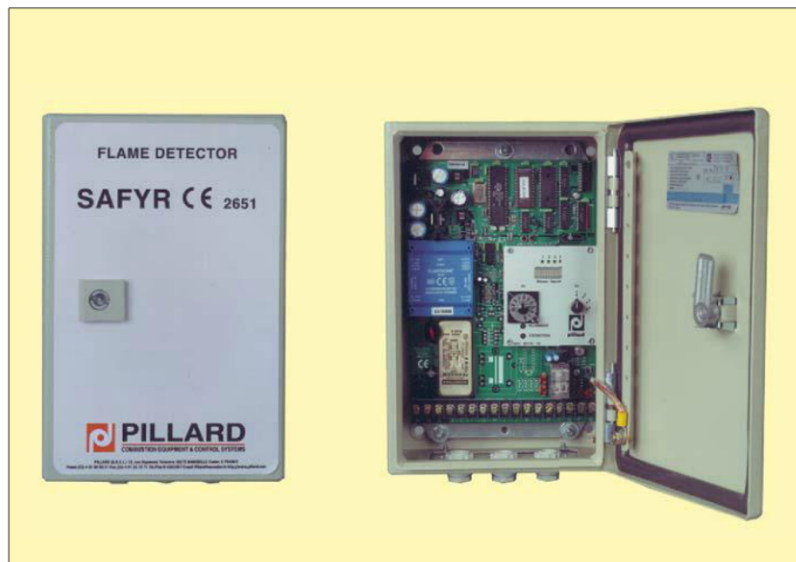


Fig.3 - Control box

CHARACTERISTICS

- Applications : high temperature or cooled furnaces, fired on liquid and solid fuels.
- Detection of the pulsatory light spectrum of the flame to which it is aimed.
- Not sensitive to ultraviolet rays or non-pulsatory infrareds, or other flames.
- Intrinsic positive safety (controlled by CETEN APAVE International) with immediate trip off in case of any failure.
- Easy selection of the cross-over frequencies and simple site adjustment.
- Detection level : local display (LED) and remote signal (4-20 mA)
- Trip-off time < 3 sec.
- Flame presence : Available on two independent contacts.

Scanner

Protection	EEx dIICT6
Sensible element	Photodiode
Spectrum range	320 to 1100 nm
Max voltage	450 mV
Temperature	< 60 ° C (other temp. on request)
Cleaning/cooling air	< 3 (n)m ³ /hr
Length	290 mm
Weight	3.2 kg

Control box

Protection	IP 66 (EN 60-529)
Temperature	< 50 °C (other temp. on request)
Moisture	0 to 90 %
Electrical supply	115 or 230 V, 50/60 Hz
Electric consumption	50 VA
Dimensions	300 x 200 x 120 mm
Weight	5 kg

APPROVALS AND STANDARDS

EC examination certificate N° 49AT2651 AFNOR (EC directive 90/396)

Favourable technical certificate CETEN APAVE International N° D15/95-34.0

Product quality certificate AFAQ-ASCERT International N° P-0753

Complying with the European Standard EN 298

Scanner explosion-proof enclosure EExdIICT6 LCIE N° 96.D6166 X

Equipment used by Electricité de France



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The above data is given as indication and is susceptible to variation

LEAFLET 9414 G Rev. 4



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