Credfeld

Flame Eye FE2020

Advanced Flame Monitoring System

For Supervision of all types of Flames in Industrial Multi-Burner Boilers, Process Fired Heaters and Incinerators

Features

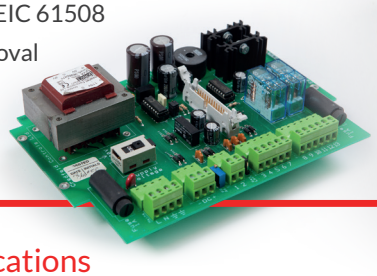
- Excellent discrimination between adjacent or opposite burner
- Fully fail-safe self-checking design
- Easy to use and set up
- Continuous readout of flame and threshold levels
- Electronic head testing – no mechanical shutter
- Based on infra-red (IR) detectors sensing the high frequency flicker in the flame
- Low power consumption (10 Watt)
- 4 Selectable high pass filter characteristics for improved discrimination
- Constant flame signal over wide turndown range due to use of high frequency flicker flame
- Easily adjustable gain and threshold
- Easy access to viewing head lens for cleaning
- Quick disconnect plug at viewing head
- Available in 115VAC / 230VAC / 24VDC
- SIL 2 Certificate of testing D009_SV001 Rev2 to EIC 61508
- CE Approval

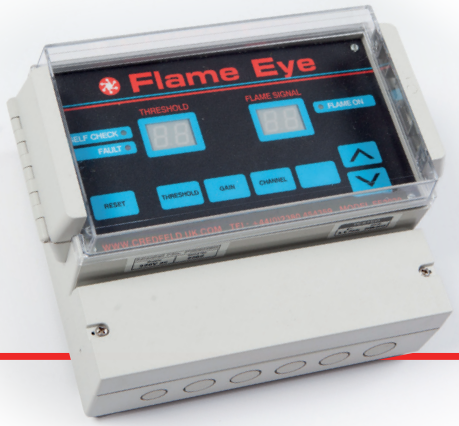
General Description

The Flame Eye Flame monitoring system consists of a viewing head, which is mounted on the burner front and powered by remote signal processor unit. The signal processor unit is housed in an IP65 enclosure and consists of signal processing circuitry, display drive, Flame "On/Off" relays, Fault relay and 4–20mA analogue output for remote Flame indicator.

How It Works

The viewing head uses a solid-state photo detector that responds to the high frequency flicker in the flame. This fluctuating signal is then converted to balance signal lines for transmission to the signal processor unit. The use of balanced signal lines enables a high rejection of electrical interference to be achieved.





Specifications

Electric Power Input
AC Model – 115/230 VAC
+10%–20%, 50/60Hz, 12VA
DC Model – 24 VDC
+10%–10%, 10 Watt

Optical
Silicon Viewing Head (Type FM2020SI)
Spectral Response
– 300nm to 1100nm

Environmental

Ambient Temp. Control Unit	0°C–70°C
Viewing Head (FM2020SI)	0°C–125°C
Case Temp.	
Viewing Head Housing	0°C–85°C

Cable (between Viewing Head & Control Unit)
2 twisted pair overall braided screen

Outputs from Control Unit
Flame on Relay –
1 Changeover contacts rate at
2A @ 230VAC
Fault Relay –
1 Changeover contacts rate
2A @ 230VAC
Analogue Flame Signal –
4–20mA for remote signals

Time Delay Settings
Flame on delay time fixed at 1 second
Flame off delay time fixed at 2 seconds

Flame Filter Characteristics

Channel 1	18Hz
Channel 2	36Hz
Channel 3	72Hz
Channel 4	144Hz

Self-Check Time
Periodic self check every 5 seconds

Error Code

E1	Internal fault
E2	Flame on delay driver fault
E3	Electronic shutter fault

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