



BOILER CONTROL, COMBUSTION MANAGEMENT & HARDWARE FOR THE STEAM POWER INDUSTRY

FLAME SCANNERS

Spectrum UV Flame Scanner

The Fossil Power Systems Inc (FPS) Spectrum UV5 Flame Scanner is designed specifically for propane or natural gas fired boilers. It uses an ultraviolet (UV) tube for highly reliable flame scanning and discrimination. The compact design is also well suited for dual fuel (oil/gas) single burner “package boilers”.

The UV5 Flame Scanner can be used standalone within a NEMA 4X junction box suitable for burner front mounting, or as an integral component of a control cabinet. The Scanner is rail-mountable, with removable terminal blocks for easy installation. Tabs are also provided for mounting directly to the backpanel.

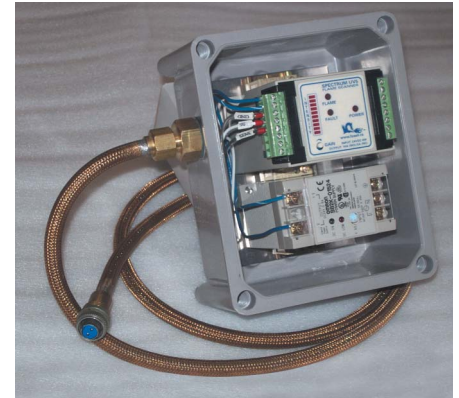
THE UV5 IS AVAILABLE IN TWO MODELS

- Electronic self test
- Mechanical shutter test

Both models use the same Scanner Module, one has an electronic mechanism for internal self-test, while the other uses a mechanical shutter in the Scanner Head to physically block the tube sighting. The Scanner continuously performs a self-check to ensure that the UV tube has not failed in a “Flame Detected” state. If a fault were to occur the FLAME contact would be de-energized, and the FAULT contact energized. Replacing the tube clears the fault permitting the scanner to resume normal operation. An input is also provided to allow a signal from the safety control system to force an integrity check.

The UV5 Flame Scanner responds to electro-magnetic radiation in the ultraviolet spectrum and produces a series of pulses proportional to flame intensity. The amplifier contains the decoding electronics which converts the variable frequency pulsed output to a proportional voltage level. This is then translated into a flame level, which is presented on a bargraph located on the face of the module. A comparator circuit determines the voltage level at which a flame condition is established. When the level rises above the pre-determined setpoint the FLAME contact is energized.

The UV5 amplifier has a dedicated sensitivity adjustment. The level of the tube excitation voltage can be adjusted via a potentiometer. With an FPS power source, the scanner can maintain the proper excitation voltage for a given sensitivity setting with supply fluctuations between 100 and 240 VAC.



SPECTRUM UV FLAME
SCANNER ENCLOSURE



SPECTRUM UV SCANNER HEAD

Controlling
the **power**
of **steam**



Spectrum UV Flame Scanner

SPECIFICATIONS

POWER REQUIREMENTS

- 24 VDC, 6W per Scanner

FPS SUPPLIED POWER SOURCE

- 100 to 240 VAC
- 50/60 Hz
- Rail Mounted

CONTACT RATING

- 10A @ 120 VAC (NO) (resistive)
- 5A @ 30 VDC (NO) (resistive)
- 3A @ 120 VAC (NC) (resistive)
- 3A @ 30 VDC (NC) (resistive)
- One (1) Form-C Flame relay
- One (1) Form-B Fault relay

ANALOG OUTPUT

Isolated 4-20 mA standard
0-20 mA, 1-5VDC, 0-10VDC selectable

ENVIRONMENT

- 32°F to 158°F (0°C to 70°C)
- Cooling / Purge Air @ 25°C
- Volume-4 scfm (0.11 cmm)
- Pressure-4" (100mm) > windbox

DISTRIBUTED BY:



Fossil Power Systems Inc.
10 Mosher Drive Dartmouth, Nova Scotia
B3B 1N5 Canada
Phone: 1-902-468-2743
Fax: 1-902-468-2323

Sales: Sales@Fossil.ca
Support: Support@Fossil.ca
Administration: Admin@Fossil.ca
www.Fossil.ca

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FEB/03 9190-1001