Type UV

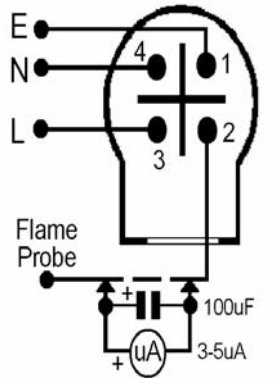
Flame detector

technology factfile

A compact, gas tight ultra-violet flame sensing head giving rectification compatible output. Tested and approved by BG plc, the unit is specifically designed to operate with all Pactrol burner controls in applications where probe detection is not feasible.

Technical Data

Voltage	220 -15% .... 240+10% V
Frequency	50...60 Hz
Ambiant Temperature	-5 ... +85 °C
Output,maximum	5µA
minimum	2.5µA
Flame-failure response time	0.75 s
Weight	85gm
Dimimensions	104 mm X 25.4 mm dia
Viewing end-tapped	1/2” BSP X 12mm deep



Pactrol Part Numbers

401500	UV 240V
401600	UVV 110V

Description

The UV head gives a rectification compatible output enabling all Pactrol Gas Burners to be operated on either flame rectification (electrode) sensing or ultra-violet flame sensing without any modification to the Pactrol control.

Construction

The Ultra-violet sensing head and associated circuitry is housed in a robust gas tight aluminium housing.
The viewing end of the housing is protected by a 2mm thick quartz window.
The Ultra-violet sensing head is designed to be attached to the viewing tube or burner by means of a 1/2" BSP thread.
Electrical connections are made through a 4 pin plug and socket, simplifying installation and replacement.
The printed circuit board mounted voltage-multiplier enables the UV flame sensing head to be operated consistently over a wide range of mains voltages.

Installation

NB. Before installing or replacing any controls, check that the type number/voltage is correct for the application.
The following points must be considered when installing the Pactrol UV flame sensing head:-

(a) The UV head should wherever possible be directed towards the base of the flame to monitor maximum UV radiation.

(b) No other flames or sources of ultra-violet radiation should be within the viewing area if the UV head

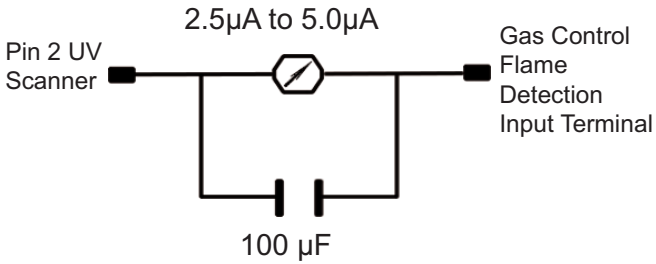
(c) The UV head must have an uninterrupted view of the flame to me monitored

(d) The ignition spark should not be within the viewing area of the UV head unless the control is specifically deigned for spark proving, as the UV radiation from the spark will cause a lockout condition

(e) Where possible, purging air should be passed across the viewing end of the UV head to facilitate cooling and reduce dust deposits onto the quartz window
Electrical connections should be made to the 4 pin plug using good quality 4 Core mains cable; co-axial screened cable is not recommended. Any suitable lengths of cable can be used, but intermediate terminations are not advisable. Pin 1 must be wired directly to the earth on the mains outlet as pipework earthing tends to be unreliable.

Testing

The folllowing circuit can be used for testing the flame current. A steady current between 2.5µA and 5.0µA should be obtained. If the flame current drops below 2,5µA intermittent lockout conditions may occur.



Maintenance

For safety reasons the scanner should be replaced after 10,000 to 15,000 hours of operation, the life depending upon the operating temperature.
When the scanner is used in a dusty environment the quartz window should be cleaned regularly to prevent loss of flame current. A proprietary lens cleaning tissue is suitable for cleaning the window.
Scanners which are suspected to be faulty should be returned to the supplier for examination.
To take advantage of any warranty, controls must be retured in good conditions and must not have been tampered with.