



**UV4SH**

**Flame detector**

# UV4

## Flame detector

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### Description

The UV4SH is a flame sensor to be used with the burner control system CFK. It is designed for detection of gas, oil and mixed burner flames and suitable for use in industrial plant.

### Features

The core component is a glass bulb filled with gas, containing two electrodes. When appropriate voltage is applied between electrodes, there is a current flow if an ultraviolet electromagnetic radiation hits the bulb.

The body is made of thermal isolating material so that the sensor can be used without additional protection up to 70°C. If the peak temperature is higher than 70°C, it is advisable to add a pipe spacer and apply cooling air to the connection on the side. When the spacer cannot be used or temperature is very high, it is possible to install a quartz glass tube, which is available on request.

The UV4SH is very sensitive in a small region of ultraviolet spectrum, so it is sensitive to a flame of gas and oil, but blind to infrared light or light from sun or tungsten lamps. This sensor can detect flame presence with high safety. The picture below gives further details about sensor sensitivity and light emission by flame, sunlight and tungsten lamps.

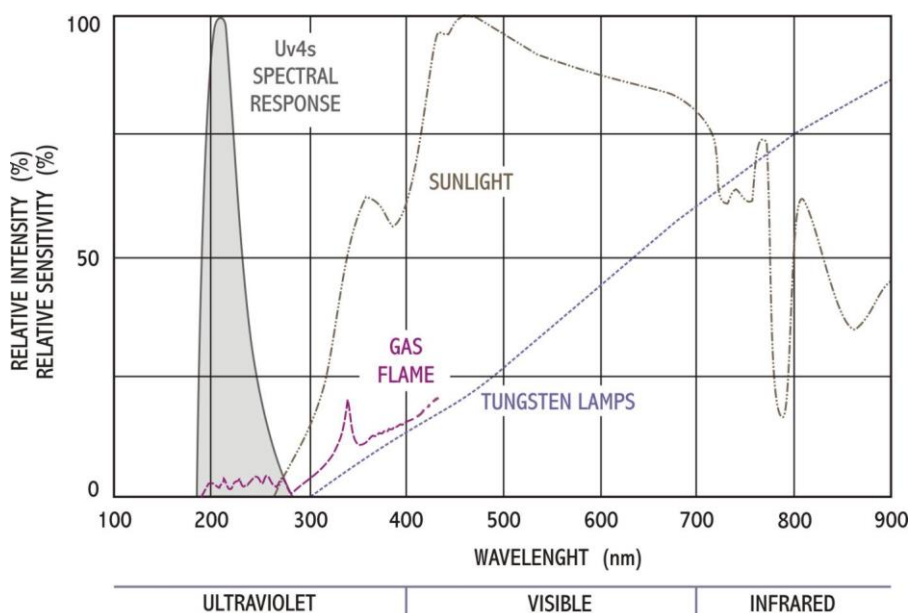


Fig. 1



### WARNING

This control must be installed in compliance with the rules in force.

## Technical specifications

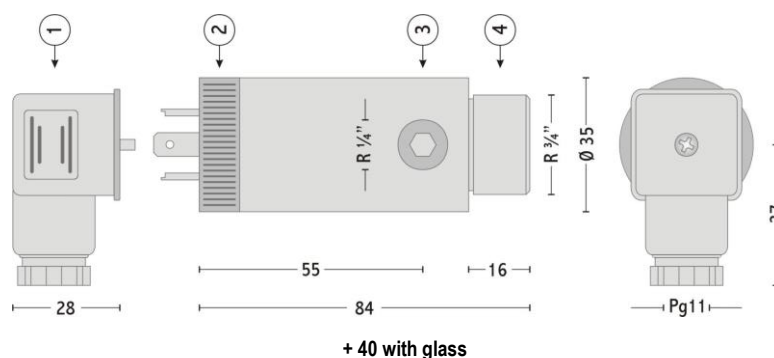
Tab. 1

<b>Spectral Response</b>	185 ... 260 nm
<b>Operating voltage</b>	200 ... 280 VAC To avoid malfunctions and damages, operating voltage must always be within range above.
<b>Discharge current (Peak current)</b>	1 mA (peak 30mA)
<b>Recovery time</b>	20µs @ 10% Duty Cycle
<b>Operating temperature</b>	-20 ... +90°C
<b>UV sensor temperature</b>	Max. 125°C
<b>Protection class</b>	IP65
<b>Operating life</b>	> 10.000 ore @ 50°C / 1mA <sup>1</sup>
<b>Vibration</b>	0,5g MAX
<b>Relative humidity</b>	10 ... 90% (NON-CONDENSING)
<b>Mounting position</b>	ANY <sup>2</sup>
<b>Weight</b>	150 grams

Note 1: operating life is directly linked to operating temperature: it is advisable to replace the sensor always after 10.000 h, in some applications, replacement may be necessary in a shorter time.

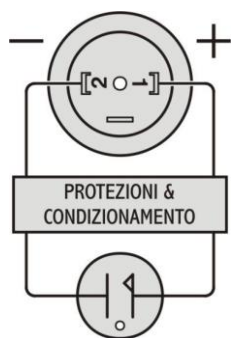
Note 2: do not install on top of burner in vertical position because combustion products can contaminate the sensor. Select the installation position so that the sensor can only see the flame of the burner, but not the ignition spark or the flame of other burners, and so that no dirt can accumulate on the sensor. Connecting pipes of sensor and burner shall not be reflective inside.

### Dimensions:



- 1 e 2** Plug and socket DIN 43650 – ISO4400 2 poles + ground – Pg11
- 3** Connection 1/4" for cooling air (filtered), if necessary
- 4** Burner Head Connection 3/4"

## Wiring diagram:



### 1 Positive terminal

Usually connected to Ground

### 2 Negative terminal

Usually connected to Flame Input of burner control (CFK - terminal 10)

In case of reversed connection, the sensor is not damaged, but flame is not detected.

### Class II device

Connection to protection ground is not required.

Fig. 3

## Optional

The detector can be supplied with an additional protective quartz glass. In this case, for cooling air, the connection in the additional joint shall be used. The quartz glass and its joint can be added later too.

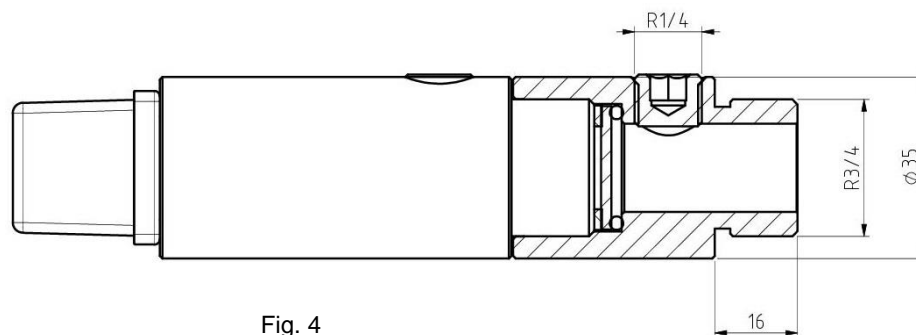


Fig. 4

## Ordering Information

Tab. 2

	<b>UV4SH</b>
<b>Product type</b>	
<b>UV4SH flame sensor</b>	
<b>Version</b>	
_ Standard	
.V with protective glass	

## Standards and approvals

UV4SH has been tested with burner control CFK based on standard EN 298. The detector can work with other devices (see Tab.1 for features), but no warranty can be given in this case.

Quality management system certified in accordance with EN ISO 9001.

The information in this document contains general descriptions of technical options available and based on current specifications. ELETTROMECCANICA DELTA S.p.A. reserves the right to update or make any technical changes without prior notice.

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