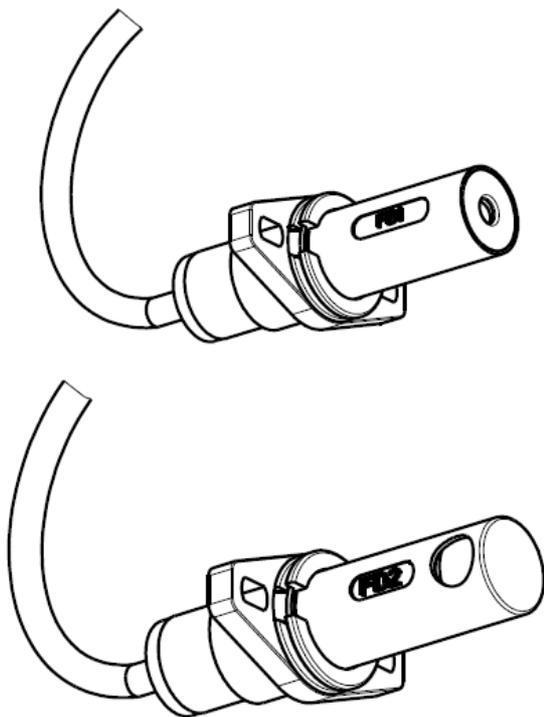


UV SENSOR TYPE FD1/S - FD2/S

FLAME DETECTION DEVICES FOR FUEL OIL AND GAS BURNERS WITH BRAHMA SAFETY DEVICE



INTRODUCTION

The combustion process, depending on the type of fuel used, emits more or less light radiation belonging to the ultraviolet, visible or infrared spectrum.

Of course, gas oil combustion generates a very bright flame, which is easily detectable by means of sensors using common photocells; nevertheless, at the same time gas oil combustion generates a quantity of substances not completely burnt (unburnt substances), which pollute and also dirty the combustion chamber step by step.

By suitably adjusting the combustion, it is possible to solve this problem and improve the flame quality, making it similar to the flame produced by gas, natural gas or propane combustion (blue flame).

Since photocells are not sensitive to blue flame light, in most gas burners the presence of flame is detected by exploiting the ionization principle; to this purpose, you simply need an electrode (electrically isolated metal rod) suitably "immersed" in the flame. This principle is not easily applicable in oil burners, as the electrode immersed in the flame gets dirty quickly (consequently losing its efficiency) and modifies the turbulence in the combustion chamber, thus creating serious problems.

For all these reasons, it is necessary to detect the presence of flame by means of ultraviolet sensitive detectors.

The FDx/S sensor has also proved suitable for gas applications where the use of an electrode, for example for high temperatures, is not possible.

DESCRIPTION

The FDx/S sensor uses a silicon preamplified active element, specifically designed for blue flame burner applications; the UV light peak detection of this sensor is around 310 nm.

An adequate electronic boundary placed inside the device renders it compatible with all BRAHMA devices with a gas application.

In particular is suited with DS11, DS11P, DSM11, DSM11P and SM592N/S. It's strongly recommended for single electrode applications DSM11 and DSM11P

In order to meet the widest range of market requirements, this device is available in the FD1/S version (with front view) and in the FD2/S version (with lateral view). In application where the flame is far from the point of detection an high sensitivity sensor can be required.

Please note that the FDx detector is sensitive to the ultraviolet component of visible light; therefore, its use is recommended in burners fitted with closed combustion chambers and in an application environment perfectly shielded from visible light.

FEATURES

- Supply voltage	220-240V @ 50/60Hz
on request:	110-120V @ 50/60Hz
- Power consumption	1VA
- Visible band	290-350nm
- Reception angle	8°
- Max. output current	50µA
- Operating temperature range	-20 to +60°C
- Max. humidity	95%

