USER MANUAL

SPIRFLAME®

FLAME DETECTOR model FD-110.00 # 15022

Description

The use of flames generated by the SPIRFLAME® flame generator mostly is in semi- or fully automated applications for soldering, brazing, annealing, flaming of surfaces and other tasks using the advantages of these artificial generated spirflames®.

Automated applications do need a system to detect the absence or presence of the flame.

The FLAME DETECTOR FD-110.00 uses a flame sensitive detector cell which responds to wavelengths specifically characteristic for burning hydrogen.

The detector cell is mounted about 15 mm behind the detector front panel. A small hole in the front panel defines for the detector cell a narrow angle of sight which can be altered by user.

The detector sensitivity is high enough to sense a 10 mm flame on 4 meters distance. Proper adjustment of the line of sight is therefore important.

The flame emissions detected are electronically "collected" and must be in a standard setting be present for approx. a 1 second duration to be reported as an existing flame to create a <flame ok>.

The flame signal must be at least 4 to 5 seconds absent to create a <no flame> signal.

Presence of a flame is indicated by a red LED. Presence is indicated by a relay neutral change over contact.

Supply:	±24 VDC on pin 6 / 7
Cord:	1,5 meter length, free lead ends
Dimensions:	65 x 120 mm x35 mm deep
Weight:	145 gram detector 120 gram cord

SPIRIG SWITZERLAND DIPL.ING. ERNEST SPIRIG POBOX 1140 HOHLWEG 1 CH-8640 RAPPERSWIL
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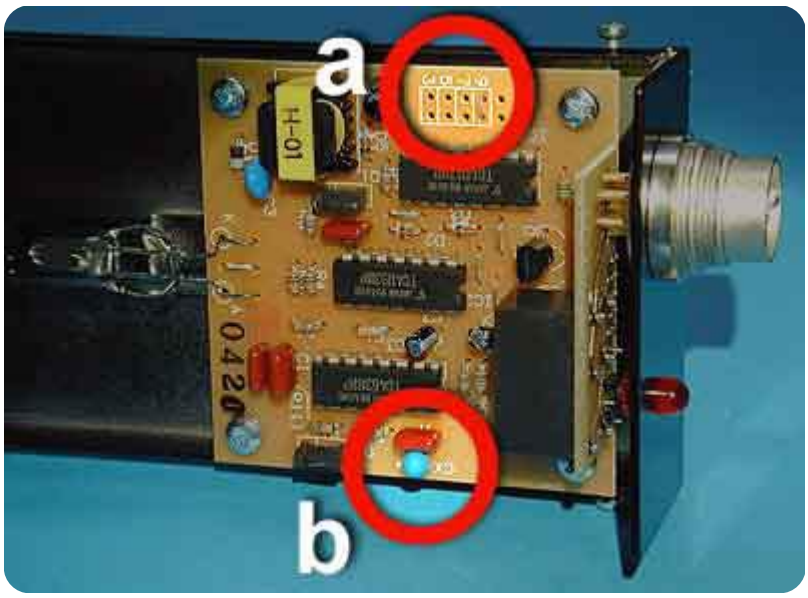

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<u>To increase Speed of detection</u>:
On the printed wiring board (pc board) a set of wire bridge holes (3 / 5 / 7 / 9), see (a) of image, carries as a standard a wire bridge on position 9. To increase reaction speed bridge can be set to 3.

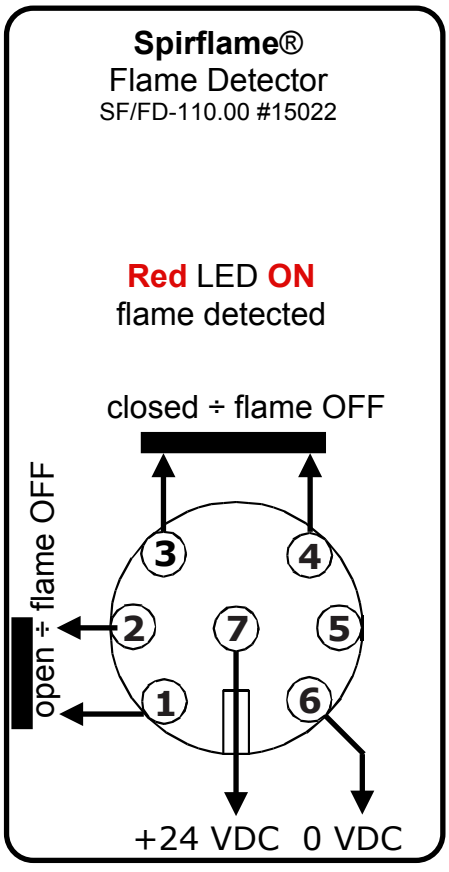
<u>Reduction of the Loss of Flame Response</u>:
The 4,7 µF tantalum capacitor (b) responsible for this can be reduced to a value of 1 µF. Attention upon unsoldering and resoldering of new cap.

<u>To enlarge the Detection angle</u>:
Take front panel from the FD110 housing. Drill out the existing ø 3 mm hole in the aluminium panel to 4 or more millimeter.

<u>To reduce the Detection angle</u>:
Cover the standard ø 3 mm hole with a black mask (paper or metal) having a smaller hole.

<u>Contamination Protection of the detector tube</u>:
The open "viewing" hole for the flame sensing tube gives also access to dust and other contaminations, like soldering fumes. The view hole can be covered with an optical neutral glass, preferably a quartz glass plate (approx 0,5 to 1 mm thick). The plate can be fixed to front with a silicon adhesive.

<u>Precaution for using multiple Detectors simultaneously</u>:
The detector tubes when receiving UV radiation may also emit UV radiation. Flame detectors within a proximity of meters should not face each other to avoid optical interferences. Use of preferably smallest viewing hole diameter is preferred.



	Aderfarben Kabel			
1	weiss	white	blanc	no
2	braun	brown	brun	no
3	grün	green	vert	nc
4	gelb	yellow	jaune	nc
5	grau	gray	gris	not used
6	rosa	pink	rose	0 vdc
7	blau	blue	bleu	+ 24vdc

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