



SenseTronic Ultraviolet Flame detector UV-185/3

Description:

The Ultraviolet Flame Detector UV-185/3 detects Hydrocarbon as well as non-Hydrocarbon flames from e.g. burning Wood, Paper, Petrol, Natural Gas, Hydrogen, Metals etc. It means that the UV-185/3 will detect virtually all fires. The Hydrocarbon fires burn with a typical yellow/red color due to the radiated hot Carbon Dioxide (CO₂). The non-Hydrocarbon fires burn with a transparent to light blue flame and are sometimes hardly visible to the naked eye. The atmosphere consists many UV absorbing gasses such as Ozone (O₃) although in fact every gas or vapor more or less absorbs UV. The atmosphere absorbs UV radiation from the sun (at sea level) above 300nm and therefore it will not effect the UV-185/3 which detects fires at 185 to 235 nm (UV-C). The UV-tube is based on the Geiger-Muller counter and is sensitive to the charged particles that emit from hot sources like flames or arcs. The detector is very fast since many radiation particles emit from the source in a very short time and the detector is able to detect at least 500 particles per second. Each particle causes the UV-tube to short between the electrodes which is translated into a count. The UV-185/3 is able to alarm within 200 msec. That is not always suitable for all application since the detector can also pick up UV radiation from static arcs or arcs caused by electric engines. Therefore the detector has a selectable alarm delay.

The UV-185/3 is suitable for virtually all fires but the performance of the detector will be effected by smoke and vapors coming from the fires. It is mostly used for indoor applications. The pro's and con's should be considered before applying this detector.

The UV-185/3 is well protected against the influences of :

- Sunlight or sunlight reflections.
- Artificial lights such as Tube Fluorescence or (glass protected) Halogen Lamps.
- Chopped or moving hot body radiation from machines or exhausts.
- Ice or water on the lens and in the atmosphere.

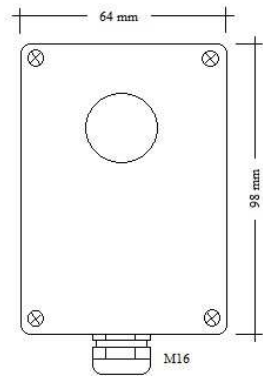
Applications:

- | | | |
|---------------------|--------------------------|--------------------------|
| - Area detection | - Gas stations | - Hydrogen processing |
| - Gas engine rooms | - Gas / Solvent storages | - Isolators for antennas |
| - Chemical storages | - Laboratories | - Radio equipment rooms |

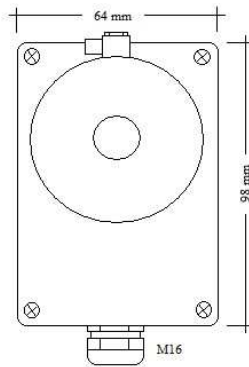
Properties:

Power : 12 Vdc (10-20) or 24 Vdc (15-30)
 Current : in alarm, at 12 Vdc, apr. 22 mA
 : in alarm, at 24 Vdc, apr. 45 mA
 : normal 50 μ A.
 Output : selectable latching / non-latching current increase
 Alarm output : Red alarm LED
 Alarm resistor : 560 Ohm (2 wire) and 10KOhm (3 or 4 wire)
 Time delay : selectable > 200 msec., > 2, 4 or 6 sec.)
 Sensor/filter : 185-235 nm
 Cone of vision : > 90⁰ (with Airshield +/- 35⁰)
 Certification : Designed to meet EN54-10
 Gland : M16

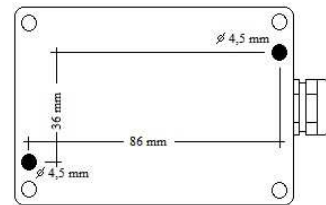
Housing : Epoxy coated Aluminum
 Swivel : Stainless Steel (304)
 Protection : IP65
 Temperature : -20⁰ C to +60⁰ C
 (-4⁰ F to +140⁰ F)
 Dimensions : 98 x 64 x 35 mm
 (3.8 x 2.5 x 1.4 inch)
 with Airshield : 98 x 64 x 54 mm
 (3.8 x 2.5 x 2.1 inch)
 Weight : 240 gram (0.53 lbs)
 Weight Airshield: 50 gram (0.11 lbs)
 Weight Swivel : 35 gram (0.08 lbs)



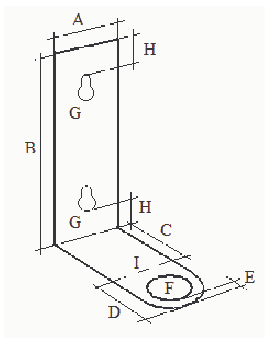
UV detector without Airshield



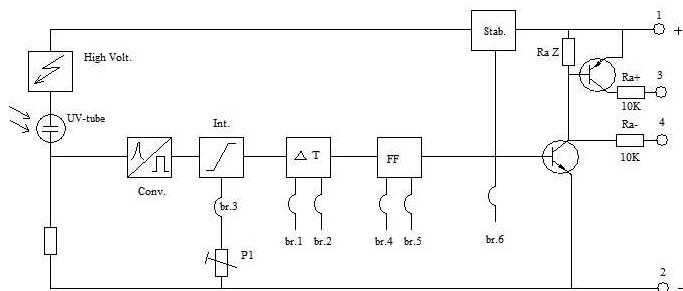
UV detector with Airshield



Backside with mounting holes.



The SenseTronic UV-185/3 comes standard with a Stainless Steel Swivel. The swivel has a bending line (I) so that it can bend downwards using pliers (one time only). This way the detector can point 45⁰ down using the full potential of the >90⁰ cone of vision. The detector can also swivel horizontally for at least 45⁰.



The time delay and selection of power voltage can be easily set using dipswitches. The alarm resistor RA is standard 560 Ohm but can also be factory supplied with another value. Two extra alarm outputs (3 and 4) are available with 10K resistors (Optional factory selectable).