

1. Allgemein

The UV-Flame Detector reacts only upon the short wave part of the UV range (UV C 200 nm to 280 nm, where by the highest sensibility is between 210 +/- 10 nm) of an optical radiation of an open flame. Thus, an influence generally caused by embers and bulbs and at respective sensibility adjustment against solar radiation, special fluorescent lamps and discharge sparks will be avoided.

ATTENTION!

Strong UV-radiating sources as e.g. welding flames, special type lamps, arc lamps and ionising radiation (radio-activity), X-rays) can cause a faulty alarm. Also reflected UV-radiation of high intensity will be sensed by the flame detector and will cause an alarm.

The time of response of the detector is depending on:

- a) Intensity and type of the flame
- b) Distance between flame and detector
- c) Evaluation circuit of the detection print

2. Principle of fire detection

The UV-detector tube 58uvt03 will be supplied with approx. 600 VDC from the DC/DC transformer in the detector.

The emitting UV-radiation of an open flame will be detected by UV-detector tube and transformed into rectangular wave pulses of max. 15 VDC in the DC/DC converter.

3. Voltage monitoring

Generation of the voltage for the UV detector tube will be continuously monitored and as output signal of max. 15 VDC continuously transmitted.

4. Pollution monitoring

The monitoring of the device for pollution consists of:

- ◆ 1 light bulb installed in the detector
- ◆ 1 optical lens installed in the detector
- ◆ 1 phototransistor installed in the detector
- ◆ 1 electronic threshold switch (steplessly adjustable) on the detection print.

The bulb emits a light beam slanting through the lens and glass of the flame detector. This light beam is detected by the phototransistor. In case of contamination of the glass or lens the intensity of the beam decreases.

This will be detected by the threshold switch and indicated as "Fault".

This monitoring device operated on the closed-circuit principle, i.e. a defective bulb, phototransistor or wire breakage of the signal line will also be detected by the detection print and will be signalled as failure.