

1. General

The Rod-Temperature Fire Detector reacts to absolute temperature as well as to increases in temperature and thus combines the positive performance characteristics of conventional heat sensitive detectors and differential detectors.

The Rod-Temperature Fire Detector operates on the so-called principle of differential expansion. It consists of a preformed concave or convex contact system with low coefficients of expansion housed inside a feeler tube whose coefficients of expansion are high (see Fig. 1). The contact system is anchored to the fronted of the feeler tube.

Under the action of heat the different rates of expansion come into play, the contact system is thus tensioned and then either opens or closes, according to type. The actuation point (specified value) is preset by the manufacturer.

Depending on the type of fire, actuation of the detector will be in one of two ways:

◆ Actuation by a slow rise in temperature caused (e.g.: by a smouldering fire)

Feeler tube and contact system are heated at the same rate and the fire-detector thermostat triggers an alarm exactly as the preset actuation point is reached (see Fig. 2).

◆ Rapid rise in temperature caused (e.g.: by a motor fuel fire):

Because of thermal resistance it takes the heat of the fire longer to reach the contact system. But since the feeler tube expands at a faster rate than the contact system, it triggers an alarm - an "early-warning" - before the preset actuation point is reached (see Fig. 3).

The more rapid the rise in temperature, the earlier the alarm is actuated.

The well-balanced design of the heat detector ensures that false alarms are not triggered if there is a brief and harmless change in temperature (for example, when the opening of an oven door releases hot air).

2. Maintenance

In principle, the thermostat requires no maintenance. However, it is extremely important to ensure that the temperature sensing sleeve is kept clean. If the thermostat is installed in extractor hoods above cooking ranges, tip-up frying blocks, deep-fat fryers or the like, encrustations of fat and dirt must be removed at regular intervals.

During painting works in the mounting area of the thermostats have to make sure that the temperature sensing sleeve in no case is painted with a color layer, because the response is deteriorated significantly.

3. Testing

The thermostat can be tested with an electric heater.

All rights strictly reserved except when stipulated otherwise expressly by contract. Reproduction or issue to third parties in any form whatever is not permitted without written authority from the proprietors.

4. Special Remarks about Actuation Temperatures

On the nameplate there is a type code which identifies the detector model and indicates the temperature at which the alarm is released (+60°C, +71°C, +88°C, +107°C, 135°C, +162° C).

Example

Code on the nameplate

DAF94-060-S

Normally-open contact

Actuation temperature +60°C

Example

Code on the nameplate

DAF94-071-0

Normally-closed contact

Actuation temperature +71°C

Alle Rechte, soweit nicht vertraglich anders vereinbart, sind ausdrücklich vorbehalten. Vervielfältigung oder Mitteilung an Dritte, gleichgültig in welcher Form, ist ohne schriftliche Genehmigung des Eigentümers nicht gestattet.

Date

04/11/2011

EGON HARIG GmbH
Gewerbering 4 • D-22113 Oststeinbek
Tel./Phone: +49 (0)40 713752-0
Telefax: +49 (0)40 713752-24
E-Mail: egonharig@egonharig.de
www.egonharig.de www.flamtron.de

Functional description No

4.8069.3-1

Version

3/W.HR

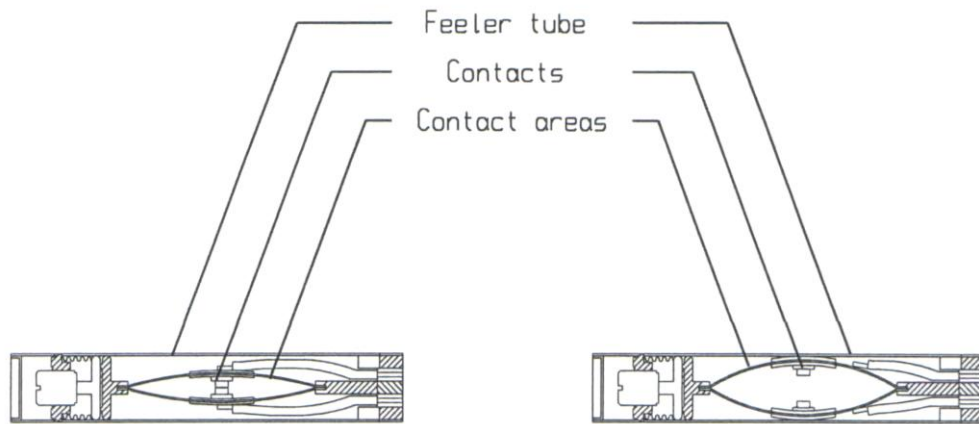
Page 2 of 3

Rod-Temperature Fire Detector

Type: DAF 94-...-...

All rights strictly reserved except when stipulated otherwise expressly by contract. Reproduction or issue to third parties in any form whatever is not permitted without written authority from the proprietors.

Fig. 1



Normally-open contact

The contact system is hermetically sealed inside the feeler tube. The connection wires are sealed inside a glass lead-through.

Normally-closed contact

Because of the hermetic seal the contact system is inaccessible to harmful substances such as inflammabel gases. Each individual thermostat is vacuum-tested.

Fig. 2

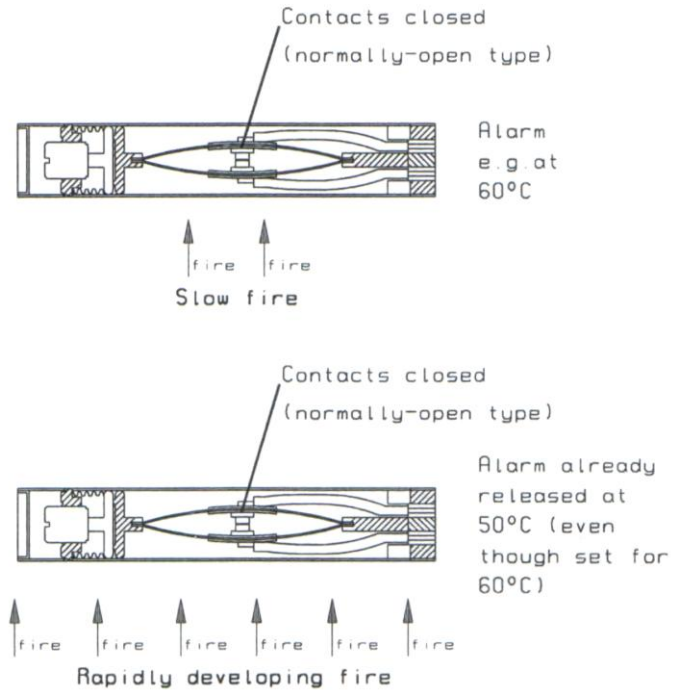


Fig. 3

Alle Rechte, soweit nicht vertraglich anders vereinbart, sind ausdrücklich vorbehalten. Vervielfältigung oder Mitteilung an Dritte, gleichgültig in welcher Form, ist ohne schriftliche Genehmigung des Eigentümers nicht gestattet.

Date

04/11/2011

Version

3/W.HR

EGON HARIG GmbH
 Gewerbering 4 • D-22113 Oststeinbek
 Tel./Phone: +49 (0)40 713752-0
 Telefax: +49 (0)40 713752-24
 E-Mail: egonharig@egonharig.de
 www.egonharig.de www.flamtron.de

Functional description No

4.8069.3-1

Page 3 of 3