Selenium Photocell Detectors

RAR...

ISO 9001

Flame detectors for use with Landis & Staefa burner controls for the supervision of oil flames. The selenium photocell detectors are used especially in connection with burner controls controlling and supervising burners of large capacity.

The RAR... and this data sheet are intended for use by OEMs that integrate the detectors in their products!

Use

The RAR... selenium photocell detectors are used for the supervision of yellow burning oil flames.

Selenium photocell detector	For use with burner controls type
RAR...	LAL..., LAE1, LOK..., LAE10...

Function

With this type of supervision, the radiation of oil flames in the visible band of the light spectrum is used to generate a flame signal. The light-sensitive element is a selenium photocell. When illuminated, it generates d.c. voltage causing a current to flow to the input of the flame signal amplifier. Hence, the selenium photocell is an **active detector**. The cell is insensitive to infrared radiation so that glowing firebrick in the combustion chamber cannot generate a flame signal.

Type summary and ordering

Type	Length of detector lead	Flange and clamp
RAR7	up to 20 m max.	without
RAR7(1)	up to 20 m max.	with
RAR8	up to 100 m max.	without
RAR8(1)	up to 100 m max.	with

When ordering, please give type reference according to «Type summary».

Mechanical design

The cell is accommodated in a dustproof duroplast casing under a protective glass window. It can be supplied with or without connecting flange and clamp (refer to «Type summary»).

Technical data

Safety class	I	Mounting position	optional
Degree of protection	IP40	Weight	approx. 85 g

Ambient conditions	
- Transport	IEC721-3-2
Climatic conditions	class 2K2
Temperature	-20...+60 °C
Humidity	< 95 % r.h.
Mechanical conditions	class 2M2
- Operation	IEC721-3-3
Climatic conditions	class 3K5
Temperature	-20...+60 °C
Humidity	< 95 % r.h.

Condensation, formation of ice and ingress of water are not permitted!

Warning notes

- **In the geographical areas where DIN standards are in use, the installation must be in compliance with VDE requirements, particularly with the standards DIN / VDE 0100 and 0722!**
- **All regulations and standards applicable to the particular application must be observed!**
- **Installation and commissioning work must always be carried out by qualified personnel!**
- **Condensation and ingress of humidity must be avoided!**
- **The electrical wiring must be made in compliance with national and local standards and regulations!**
- **Ignition cables must always be laid separately, maintaining the greatest possible distance to the unit and other cables!**
- **RAR... are safety devices. It is therefore not permitted to open, interfere with or modify the units!**
- **Check wiring carefully before putting the detector into operation!**
- **Check all safety functions when putting the detector into operation or after performing service work!**

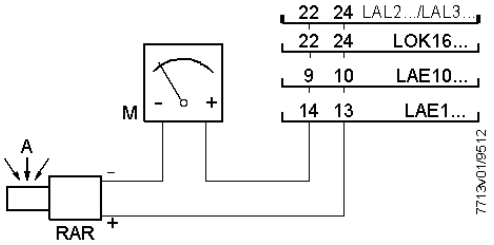
Mounting and installation notes

When mounting directly on the burner, the detector's clamp engages on the burner's light metal flange.

Commissioning notes

The intensity of light radiation on site is checked by measuring the detector current.

Measuring circuit



Legend

A Incidence of light
M D.c. ammeter, internal resistance 5000 Ω

Measuring circuit for adjusting the detector
For minimal detector current values required, refer to the data sheet of the respective burner control unit

Dimensions

Dimensions in mm