



RAR9 with flange with radius and clamp



RAR9 with straight flange and clamp

Photocell Detectors

RAR9...

The photocell detectors are designed for use with burner controls, for the supervision of yellow-flame oil flames. The photocell detector is primarily used in connection with burner controls for larger burners.

The RAR9 and this Data Sheet are intended for use by OEMs which integrate the flame detectors in their products!

Use

The RAR9 flame detectors are used for the supervision of yellow-burning oil flames.

RAR9 are designed for use with the following types of burner controls: LAL, LAE1, LAE10, LFE1, LME75 / LME76, LOK16, LFS1.1.

Warning notes



To avoid injury to persons, damage to property or the environment, the following warning notes must be observed!

It is not permitted to open, interfere with, or modify the photocell detector.

- All activities (mounting, installation and service work, etc.) must be performed by qualified staff
- Before making any wiring changes in the connection area, completely isolate the plant from mains supply (all-polar disconnection). Ensure that the plant cannot be inadvertently switched on again and that it is indeed dead. If not observed, there is a risk of electric shock hazard
- Ensure protection against electric shock hazard by providing adequate protection for the connection terminals. If this is not observed, there is a risk of electric shock
- Each time work has been carried out (mounting, installation, service work, etc.), check to ensure that wiring is in an orderly state. If this is not observed, there is a risk of loss of safety functions and a risk of electric shock
- These photocell detectors must not be put into operation following impact or shock; even if they do not exhibit any visible damage, their safety functions may be impaired. If this is not observed, there is a risk of loss of safety functions and a risk of electric shock

Mounting notes

- Ensure that the relevant national safety regulations are complied with
- The flame detector plugs into the burner (the detector's clamp engages on the burner's light metal flange)

Installation notes

Always run the detector cable separately from other cables, especially from high-voltage ignition cables, while observing the greatest possible distance.

Electrical connection of the photocell detectors

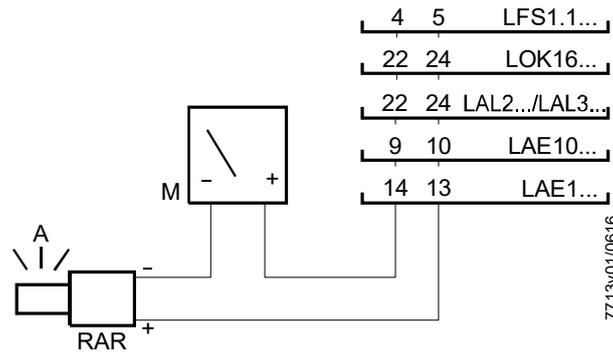
It is important to achieve practically disturbance- and loss-free signal transmission:

- Never run the detector cable together with other cables
 - Line capacitance reduces the magnitude of the flame signal
 - Use a separate cable
- Observe the permissible detector cable lengths (refer to *Type summary* and *Technical Data*)

Commissioning notes

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

Measuring circuit for measuring the detector current



Legend

A Incidence of light

M Microammeter (DC), internal resistance 5,000 Ω

For the minimum detector currents required, refer to the Data Sheet of the relevant burner control.

Standards and certificates



Note!

Only in connection with burner controls!



EAC Conformity mark (Eurasian Conformity mark)



China RoHS

Hazardous substances table:

<http://www.siemens.com/download?A6V10883536>

Service notes

Each time a unit has been replaced, check to ensure that wiring is in an orderly state and that the wires are firmly connected.

Disposal notes

The RAR9 contains electrical and electronic components and must not be disposed of together with domestic waste. Local and currently valid legislation must be observed.

Mechanical design

- Housing made of dust-proof duroplast
- Photocell is under protective glass
- Flame detector can be supplied with or without flange (version 4 241 8855 0) and clamp (refer to «Type summary»)

Type summary

Artikel-Nr.	Type reference	Length of detector cable *)	Clamp and flange	Photocell made of
BPZ:RAR9	RAR9	Max. 100 m	Without clamp / flange	Silicon
BPZ:RAR9(1)	RAR9(1)	Max. 100 m	With clamp and flange with radius	Silicon
BPZ:RAR9(2)	RAR9(2)	Max. 100 m	With clamp and flange straight	Silicon

*) The information in the data sheet for the relevant burner control also apply

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

Accessories (to be ordered separately)

Item	Part number
Flange with radius	4 241 8855 0
Flange straight	4 241 8898 0
Clamp	4 199 8806 0

Type reference	Description
AGG09 Article no.: BPZ:AGG09	IP40 Kit for RAR9 - Cable sealing element Ø 5...8 mm
	

Technical data

General data	Safety class	II
	Degree of protection	IP20
		 Note! IP40 to DIN EN 60529, at relative design of cable entry (e.g. AGG09)
	Mounting position	optional
	Weight	approx. 85 g
	Cable connection	Screw terminals for min. 0.5 mm ² and max. 1,5 mm ² wire cross section
	Cable with ferrules	Adapt at stranded wire cross section
	Detector cable	Supplied by customer
	Cable type	Recommended: H05VV-F 2 x 0.75 Application standards should be observed.
	Environmental conditions	Storage
Temperature range		-20...+60 °C
Humidity		< 95 % r.h.
Transport		
Temperature range		-20...+60 °C
Humidity		< 95 % r.h.
Operation		
Temperature range		-20...+60 °C
Humidity		< 95 % r.h.
Installation altitude	Max. 2,000 m above sea level	



Warning!

Condensation, formation of ice and ingress of water are not permitted!
If not observed, the safety functions are no longer ensured and there will be a risk of electric shock!

Function

With this type of flame supervision, the radiation of oil flames in the visible band of the light spectrum is used for generating the flame signal. The light-sensitive element is a photocell. When illuminated, it generates DC voltage, causing a current to flow to the input of the flame signal amplifier. Hence, the RAR9 is an active detector. The photocell is insensitive to infrared radiation so that glowing firebrick in the combustion chamber cannot produce a flame signal.

