



Flamnitec[®]

BFI AUTOMATION

Technical information

Compact Flame Detector IFC 50

for oil -, gas- and combustion for intermittent burner operations



1 | Description

The IFC 50 is a compact UV flame detector, which has been developed for industrial combustion systems. It provides a galvanically isolated normally open contact and a galvanically isolated normally closed contact both with high switching power. The IFC 50 is in accordance with EN298:2012 designed for burner management systems that check the existence of a flame signal after every shut down.

The design of the UV sensor ensures that the flame detector does not react to background radiation from hot refractory or from any other infrared light source. The internal increase of the UV tube voltage immediately after apply supply voltage ensures the safety requirements for the examination of the UV tube to self-ignition for intermittent operation.

By means of its diopter, which is at the same time the mechanical interface to the combustion chamber, the IFC can be easily adjusted to special requirements with its accessories.

Via the LED the flame intensity is visualized without effort. An easy diagnostic of the flame intensity is directly possible at the combustion chamber. The optional BSTcom allows the flame intensity sensor signal to be graphically displayed and the values to be logged on the PC for later evaluation.

2 | Safety Instruction

The IFC 50 is a safety component and must therefore not be opened, modified or misused! In the event of a fall, impact, moisture, wetness or other influences that may cause damage to the flame detector, the unit must be replaced even if there is no apparent damage! Repairs are not permitted!

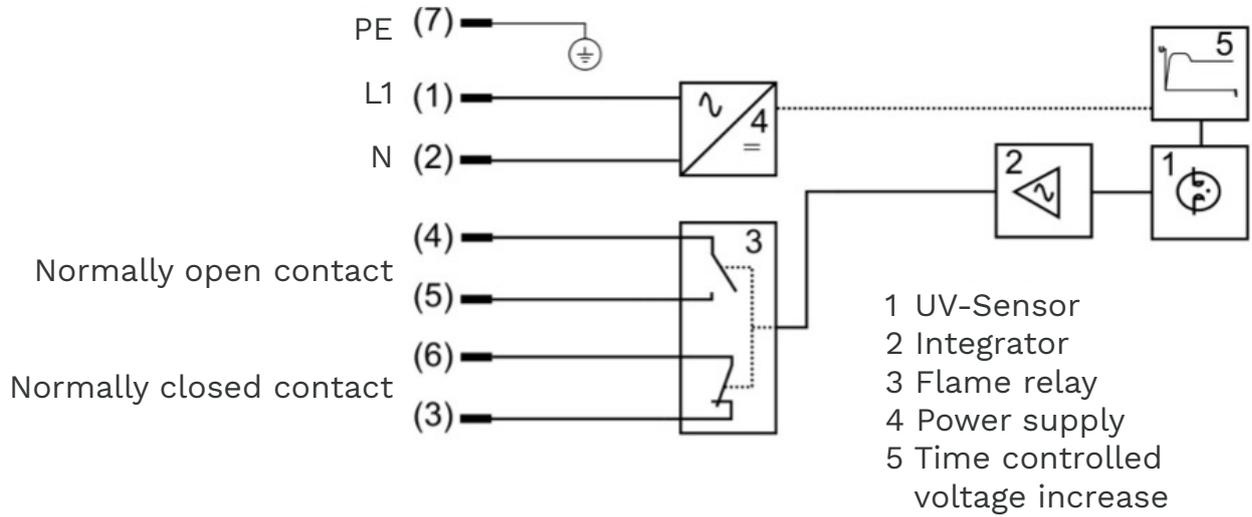
Before starting any work, the system must be disconnected from the power supply. Before initial commissioning or when replacing the unit, the electrical wiring must be checked!

This technical description is only valid in connection with the separately available operating instructions. If you are unsure about any application using this flame detector, please email or call the manufacturer or the authorised distributor.

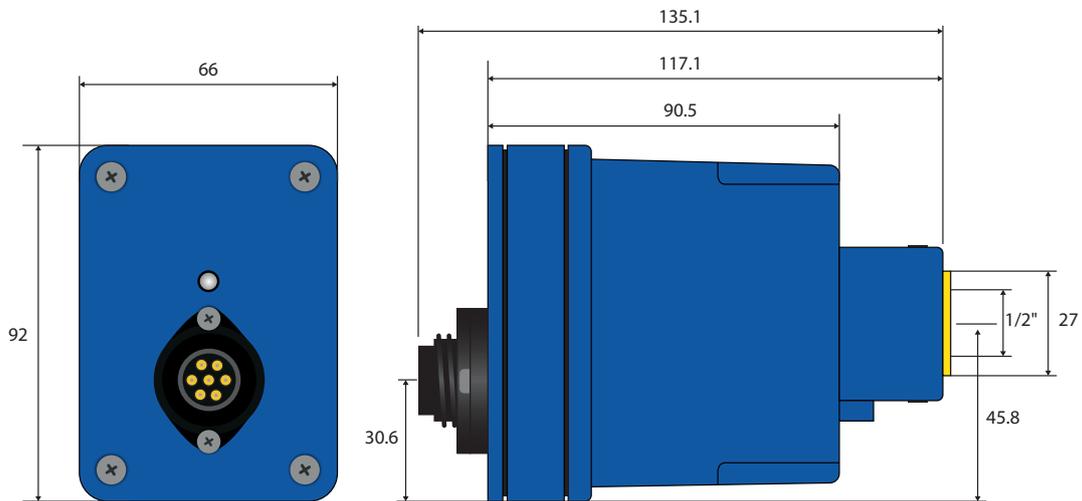
3 | Technical data

Optical features	185 to 260 nm
Tolerated flame signal fades	approx. 200 ms
Orientation	axial
Lifetime of the tube	approx. 10.000 h
Distance to flame	< 2 m
Input	230 V AC, Nominal frequency 50-60 Hz
Prefuse	max. 1 A , slow
consumption	max. 10 mA
Operating temperature	-20° C to +60 °C (temperatures higher than 50 °C reduces life of the UV tube)
Operating position	any position
Kind of protection	IP 65
Protection class	I, FELV
Humidity	max. 95% r.H., non-condensing
Electrical connenction for standard	Amphenol eco mate plug C016
Restart time	> 5s between controlled shutdown and renewed heat request
Reaction time Flame on Flame of	typically 0.5 s < 0.6 s
Relay output (1 x NC contact, 1 x NO contact)	Potential free max. switching current 1 A max. switching power 250 VA max. switching voltage 250 V AC
Weight	approx. 0.59 kg
Certification	CE 0085CN0133

4 | Block diagram



5 | Dimensions



All dimensions in mm

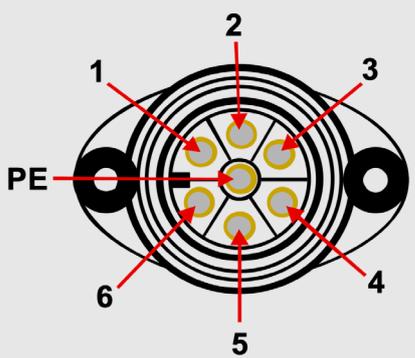
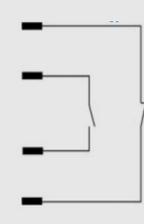
6 | Connection diagram IFC 50

Occupancy male and female plug

PIN

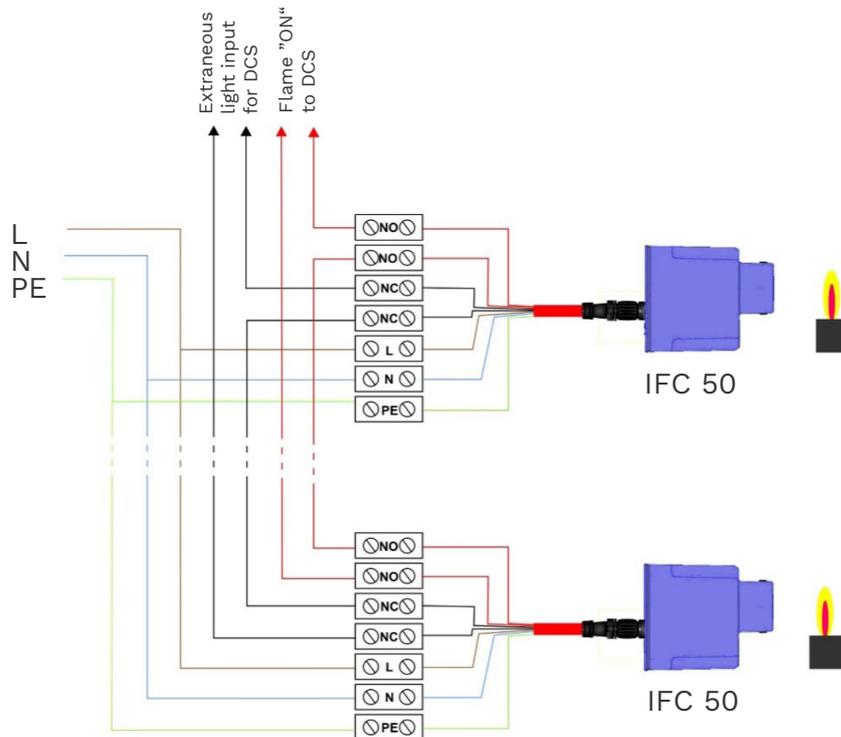
Internal Connection AC/DC

Connection

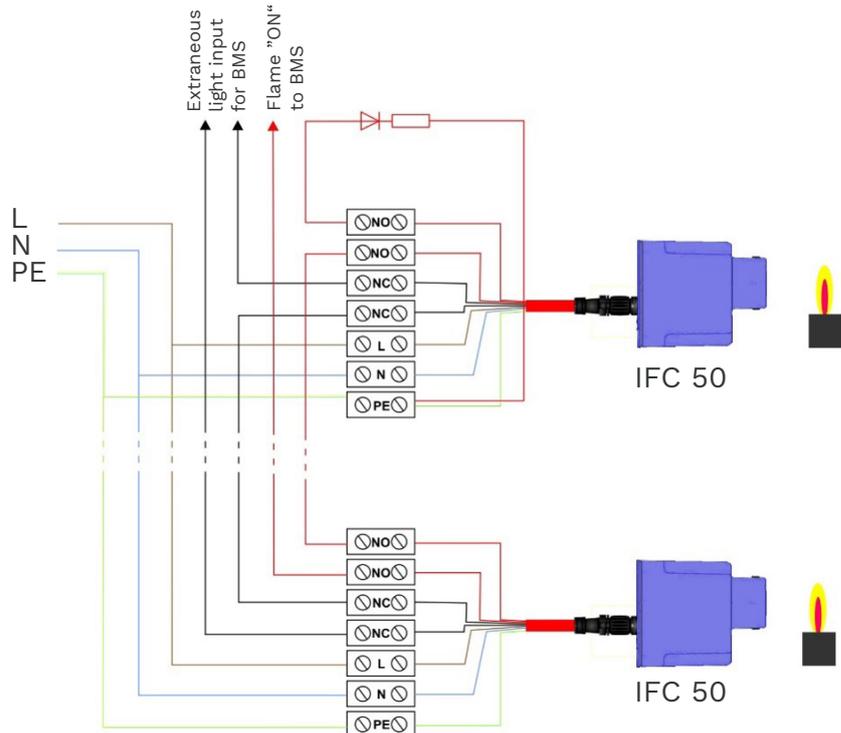
Occupancy male and female plug	PIN	Internal Connection AC/DC	Connection
	1	L	L
	2	N	N
	3		NC
	4		NO
	5		NO
	6		NC
	PE	PE	PE

7 | Multi-Flame monitoring with ambient light control

With DCS



With BMS and ionizations input



8 | Overview of the flame detectors IFC 50 and available additional components

Type	Description	Part-No
UV Flame Detector IFC 50 / 230	230 V AC, with Amphenol plug	6015-1204-00
UV-Tube kit for IFC		5010-0050-12
Adapter ½" with nut and gasket		1830-0160-00
Adapter ½" with UV-quartz glass plate*, nut and gasket		6595-8980-00
Adapter ½" with UV-quartz glass lense*, nut and gasket		6595-8980-10
Adapter 1" with purge air connector ½", UV-quartz glass lense*, nut and gasket		6595-8981-06
Adapter 1" with purge air connector ¼", nut and gasket		1830-0161-14
Adapter 1" with purge air connector ¼", UV-quartz glass plate*, nut and gasket		6595-8981-14
Adapter 1" with purge air connector ¼", UV-quartz glass lense*, nut and gasket		6595-8981-04
Connection cable BK06 with female angle jack, length 1.8 m		6060-2236-01
Connection cable BK06 with female angle jack, length 3 m		6060-2236-01
Read out unit UVT-Com, USB-Interface		6040-4832-00
Software BST-Com per Download		9030-2000-05

* If there is no continuous negative pressure in the combustion chamber, a lens or pane must also be ordered as a pressure barrier.



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Disposal information

The flame detector is equipped with electrical and electronic components and must be disposed separate from household waste. Follow the local and actual regulations for waste disposal.



All data are without guarantee and refer to the product group. Product-specific information is contained in the operating instructions. We reserve the right to make technical changes. | © BFI Automation Mindermann GmbH 2024/13

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