



# Flamnitec

BST SOLUTIONS

## Technical information

# Compact Flame Detector IFR 50

Compact Flame Detector IFR 50 gas- and combustion for intermittent burner operations



## Description

The IFR 50 is a compact UV flame detector, which has been developed for industrial combustion and especially for forced draught burners with the flame monitor position on the side.. It provides a galvanically isolated normally open contact and a galvanically isolated normally closed contact both with high switching power. The IFR 50 is in accordance with UL 372-2, CSA C22.2 and EN 298 designed for burner management.

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 through-ignition for intermittent operation.

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.

## Safety Instruction

The IFR 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!

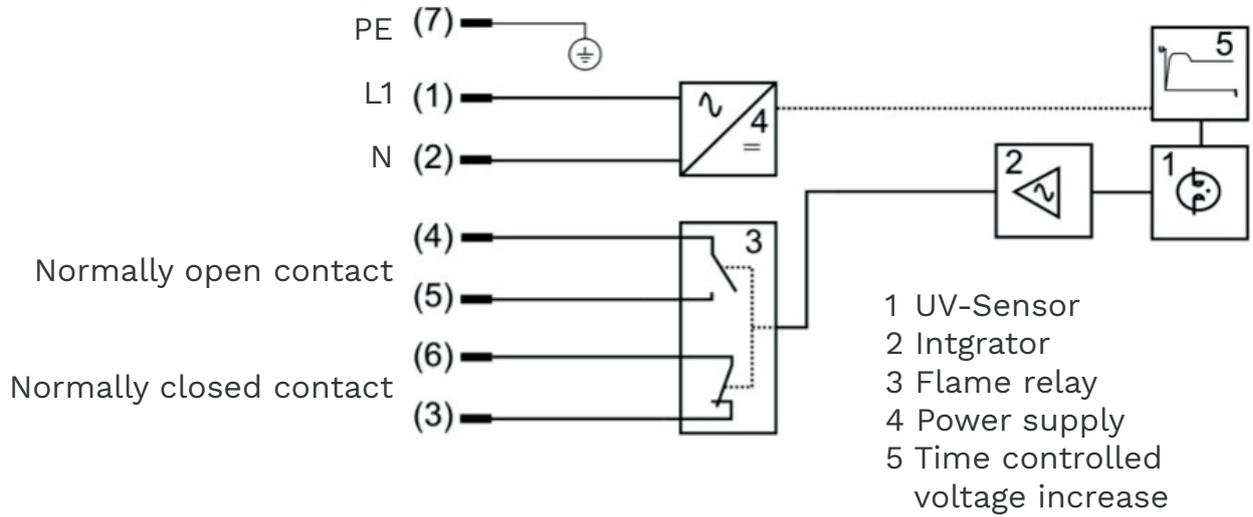
**Before starting any work, the system must be disconnected from the power supply. Before initial commissioning or when replacing the unit, the electrical wiring must be checked!**

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.

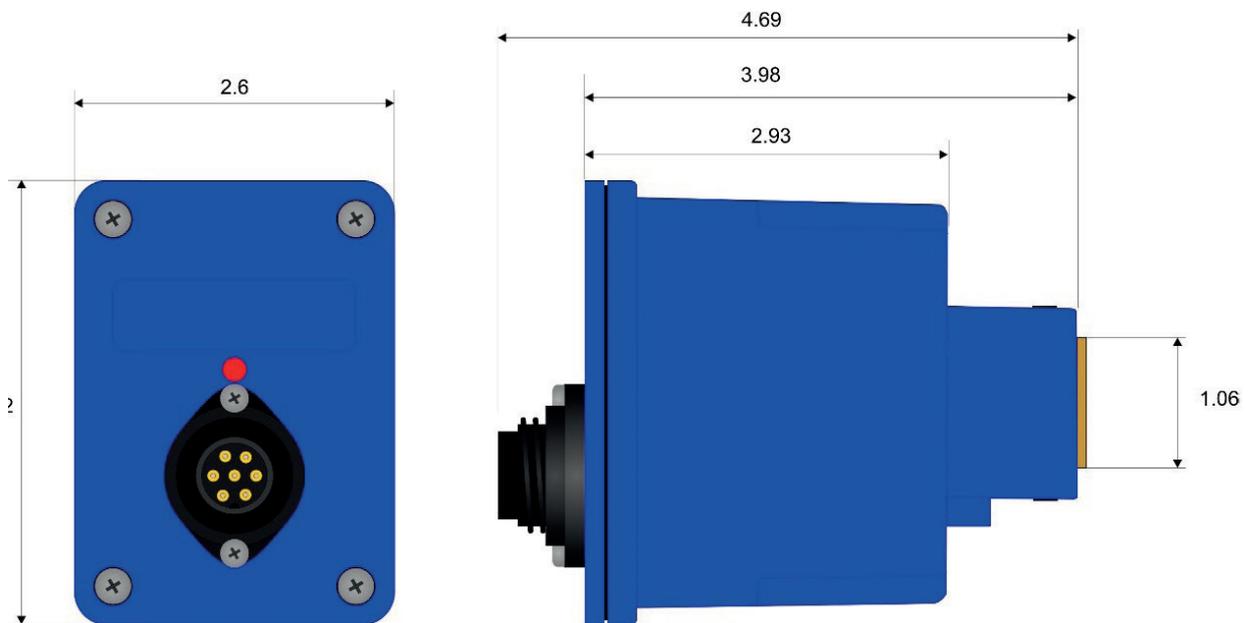
## Technical data

Input	AC 230 V (-15/+10 %) AC 120 V (optional) Frequency 50 – 60 Hz Consumption 18 mA
Prefuse	max. 1 A, slow
Relay-Output (1 x NC, 1 x NO)	Potential-free, galvanically isolated max. switching current 0.5 A max. switching power 125 W max. switching voltage 250 V AC
Optical Features	Spectral range 185 – 265 nm
Lifetime of UV-tube	approx. 10,000 h
Distance to flame	< 2 m
Restart time	5 s between controlled shutdown and renewed heat request
Response times	Flame on reaction time typically 0.5 s Log off time <0.5 s
Adjustment	axial
Operating Temperature	-20 °C to +60 °C (temperatures higher than 50° C reduces life of the UV tube)
Humidity	max. 95 %, no condensation permitted
Operating position	Any position
Kind of protection	IP 65
Protection Class	I
Weight	0.620 kg
Electrical connection	Amphenol eco mate plug C016
Applied standards	EN298:2012-11, UL 372-2, CSA C22.2 EU/2016/426
Certification	CE-0085CU0083, MH 47747

## Block diagram



## Dimensions



All dimensions in mm

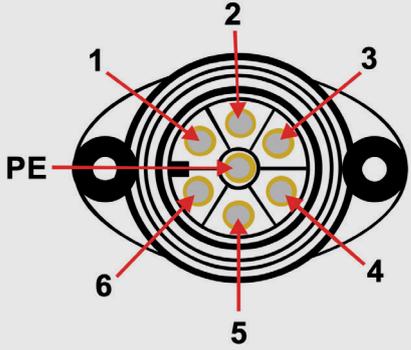
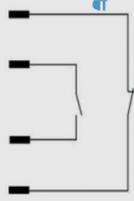
# Connection diagram IFR 50

Occupancy male  
and female plug

PIN

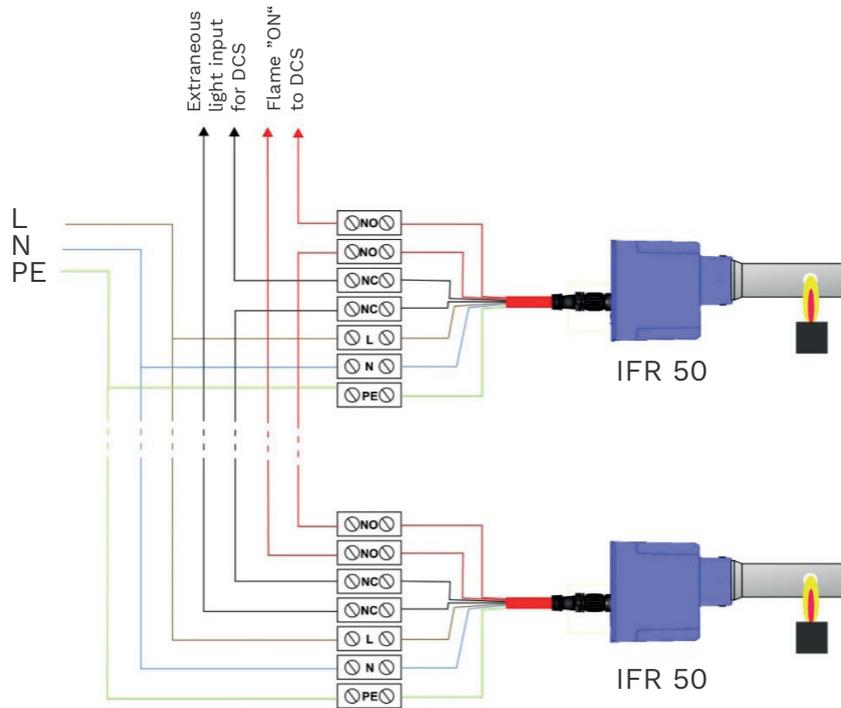
Internal  
Connection AC/DC

Connection

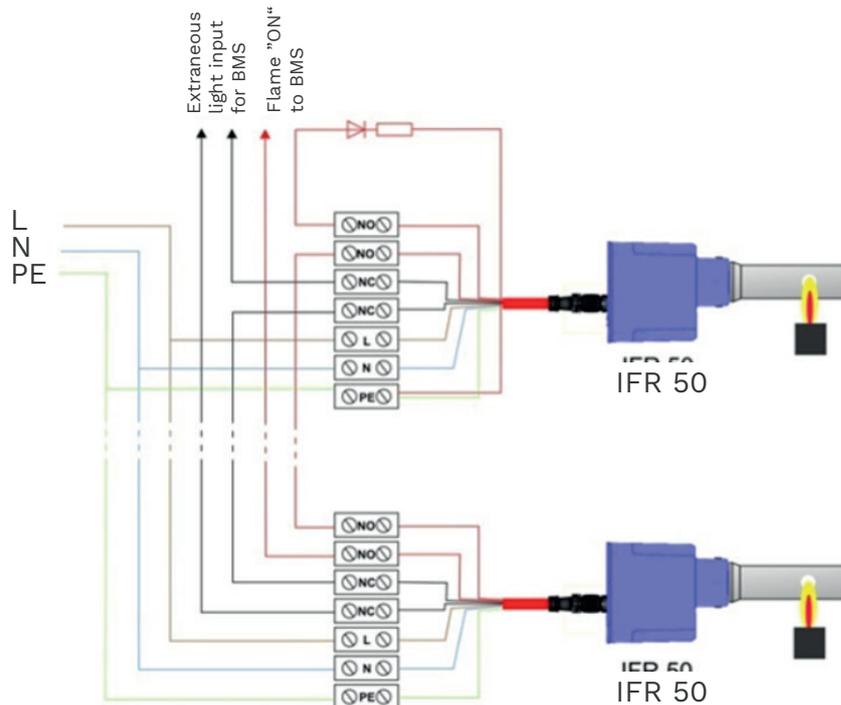
Occupancy male and female plug	PIN	Internal Connection AC/DC	Connection
	1	L	L
	2	N	N
	3		NC
	4		NO
	5		NO
	6		NC
	PE	PE	PE

# Multi-Flame monitoring with ambient light control

With DCS



With BMS and ionizations input



## Overview of IFR 50 flame detectors

Type	Description	Part-No.
Compact UV Flame detector IFC 50 / 230	230 V AC	611185031000
Compact UV Flame detector IFC 50 / 120	120 V AC	611285031000
UV-tube kit for IFC		5010-0050-12
Adapter ½" with nut and gasket		114030110000
Adapter ½" with UV-quartz glass plate, nut and gasket		114030112000
Adapter ½" with UV-quartz glass lens, nut and gasket		114030122000
Adapter 1" with purge air connector ½", nut and gasket		46530100010
Adapter 1" with purge air connector ½", UV-quartz glass plate, nut and gasket		46530112010
Adapter 1" with purge air connector ½", UV-quartz glass lens, nut and gasket		46530122010
Adapter 1" with purge air connector ¼", nut and gasket		46530100020
Adapter 1" with purge air connector ¼", UV-quartz glass plate, nut and gasket		46530112020
Adapter 1" with purge air connector ¼", UV-quartz glass lens, nut and gasket		46530122020
Connection cable BK06, 1.8 m		561984840094
Connection cable BK06, 3.0 m		561984840096
female right-angled plug		165303041000



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## Disposalinformation

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.



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