



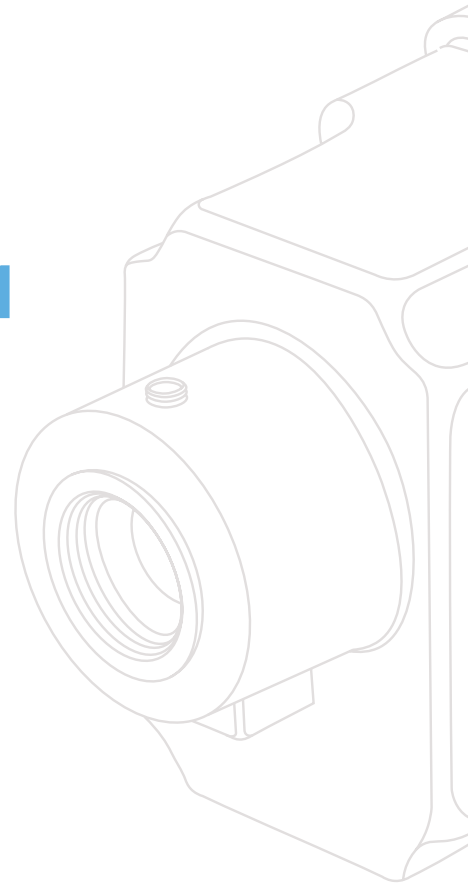
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BFI AUTOMATION

Technical Information

UV Flame Detector IFC 11

for oil -, gas- and dual fuel burners for intermittent burner operations



1 | Description

The IFC11 is a compact UV flame detector specially designed for use in industrial combustion systems. The flame detector can be connected directly to a compatible ionisation or LDR input of the burner control unit. The IFC11 flame detector is designed in accordance with EN298 for burner control units that do not check whether a flame signal is still present after a control shutdown. The internal increase of the UV tube voltage immediately after the supply voltage is applied ensures the safety requirement according to EN298 for checking the UV tube for ignition for intermittent burner operation within the pre-purge phase. In the case of a fault, the burner control unit recognises this state as extraneous light.

The UV tube used ensures that background radiation, e.g. from glowing refractory or mixing device parts, is not detected. By means of the adapter, which also serves as an interface between the flame detector and the combustion chamber, the IFC11 can be adapted to special requirements with various accessories.

The flame intensity can be easily recognised without any effort via an LED as an optical display. Simple diagnosis of the flame intensity is possible directly at the firing system. By means of the UVT com readout tool and the BST com readout software, the flame signals can be recorded and stored.

2 | Safety Instruction

The IFC 11 is a safety component and must therefore not be modified or misused! In the case of a fall, impact, moisture, wetness or other influences which can lead to damage to the flame detector, the unit must be replaced even if there is no apparent damage. Repairs are not permitted!

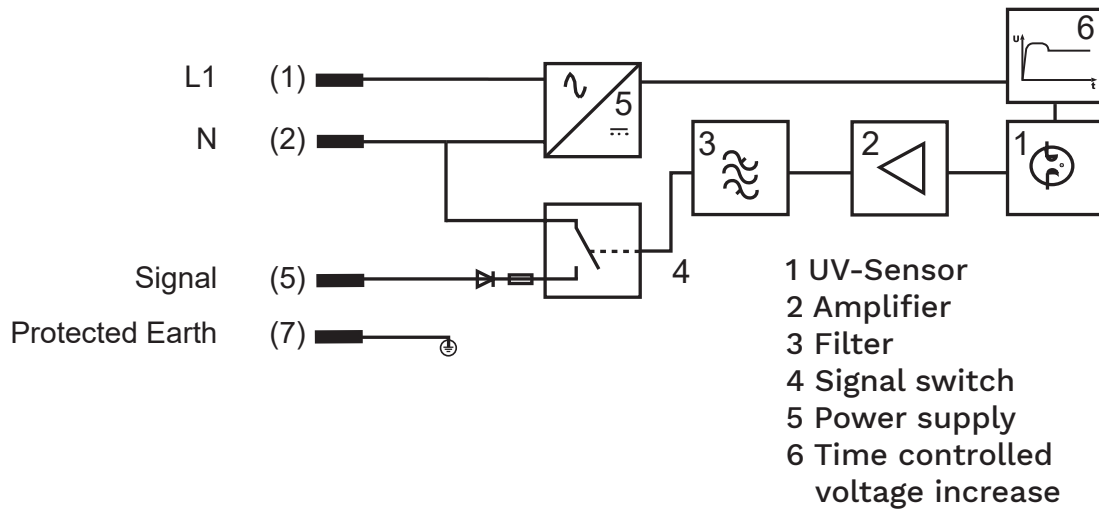
Before starting any work, the system must be disconnected from the power supply. Before initial commissioning or when replacing the unit, the electrical wiring must be checked!

This technical description is only valid in conjunction with the separately available operating manual. If you are unsure about the use of this flame detector, please contact or call the manufacturer or authorised distributor.

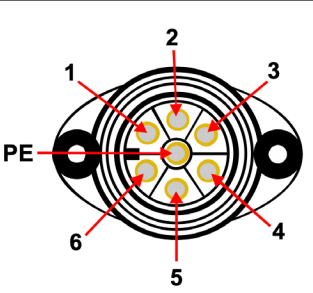
3 | Technical data

Optical Features	185 to 260 nm, tolerated Flame signal dips approx. 200 ms
Alignment to the flame	axial
Lifetime of the UV-tube	> 10,000 h
Distance to the flame	< 2 m
Power supply	230 V AC 120 V AC (optional) Nominal frequency 50-60 Hz
Preliminary fuse	max. 1 A, time delay fuse
Power consumption	max. 5,5 mA
Operating Temperature	-20 °C to +60 °C (temperatures >50 °C reduces the lifetime of the UV-tube)
Operating position	Any position
Type of protection	IP 65
Protection class	I
Humidity	max. 95 % relative humidity, non-condensing
Restart time	Between burner control switch-off and renewed heat demand > 5 s
Output data	Switch-On delay after Flame-On typically 0.5 s Switch-Off time after Flame-Off < 0.5 s
Switching output	max. switched current 15 mA max. switched power 0.3 W max. switched voltage 280V AC / 400 V DC
Weight	0.520 kg
Certification	CE 0085CN0133
Applied standards	EN298:2012-11 EU/2016/426

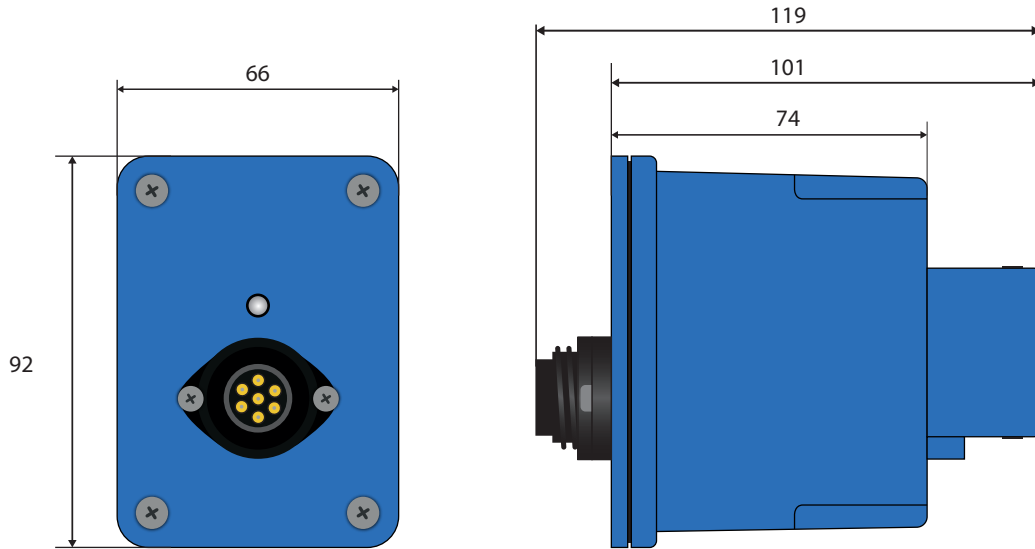
4 | Block diagram



5 | Connection diagram IFC 11

Assignment socket/plug part	PIN	Internal Wiring diagram AC/DC	Cable assignment 3 + PE	Connection at Ionisation output / LDR
	1	L	1	L
	2	N	2	N
	3	free	-	-
	4	free	-	-
	5	ION / LDR	3	ION / LDR
	6	free	-	-
	PE	PE	Green / yellow	PE

6 | Dimensions



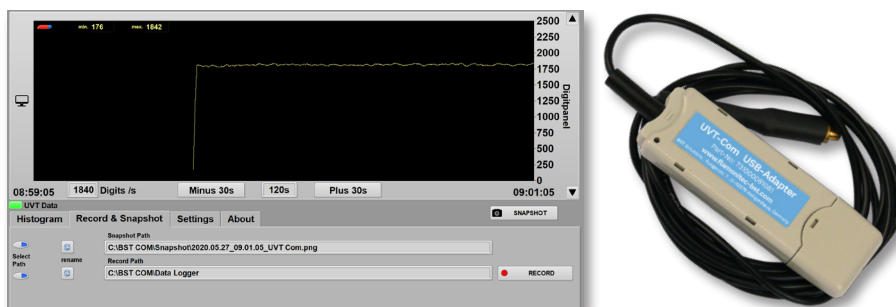
All dimensions in mm

7 | Diagnostic with BST-Com

With the UVT-Com data interface, consisting of an optical adapter with cable, USB interface and BST-Com software, the following information can be read out from the IFC11:

- the current pulses of the UV tube.

To do this, the USB optoadapter UVT-Com must be inserted into the recess of the LED. Via the connection cable and the interface, the data can be read into a laptop or PC with the corresponding BST-Com software. Further information can be found in the BST-Com operating instructions.



9 | Overview of the flame detectors IFC 11 and available accessories

Article	Description	Article number
UV Flame detector IFC 11/230	230 V AC, with plug	6015-1114-00
UV Replacement Tube Set IFC		5010-0050-12
Adapter ½“ with threaded nut and seal		1830-0160-00
Adapter ½“ with UV quartz glass disc*, threaded ring and seals		6595-8980-00
Adapter ½“ with UV quartz lens*, threaded ring and seals		6595-8980-10
Adapter 1“ with rinsing air connection ½“, with quartz glass lens*, threaded nut		6595-8981-06
Adapter 1“ with rinsing air connection ¼“, with threaded nut and seals		1830-0161-14
Adapter 1“ with rinsing air connection ¼“, with UV quartz glass pane*, threaded nut and seals		6595-8981-14
Adapter 1“ with rinsing air connection ½“, with quartz glass lens*, threaded nut		6595-8981-04
Connection cable BK03 with angled socket, 1.80 m long		6060-2233-01
Connection cable BK03 with angled socket, 3.00 m long		6060-2233-03
Relais Modul RMF 1/230		6040-0001-00
Read out tool UVT-Com	Opto-Adapter, Software BST-Com per Download	6040-4832-00

* 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 of separately from household waste. Observe the local and current 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 2023/33

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