



# Flamonitec

BFI AUTOMATION

## Product Information

# FLAME AMPLIFIER 3001D



- failsafe design
- suitable for continuous operation
- two adjustable channels
- sensor redundancy operation
- safety related binary outputs
- flame intensity/quality digital input
- flame intensity analog output
- SIL 3-certified
- pre-alarm

## 1 | Design

The Flame Amplifier 3001D is a 3000 Series system plug-in unit that, in conjunction with the system's flame scanners, provides a complete flame monitoring system for any burner rating, fuel, or combustion method. They contain all the control logic and provide the signals for external processing.

The flame monitoring and evaluation system 3000 was developed with due consideration of safety and optimal availability of customer plant.

The goal is the safe and reliable of fuel burning systems, provision of criteria to optimize the combustion process and to reduce emission of pollutants. The system is able to distinguish the flames of different burners and to selectively monitor them.

## 2 | Customer benefits and usage

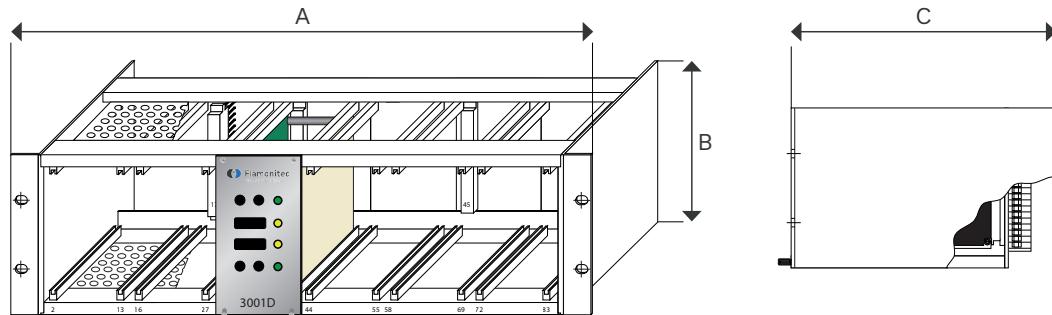
- self monitoring to control fault free function
- high resolution information of flame intensity/quality
- selective of different flames
- certified for continuous, intermittent and 72-hours-operation
- optimization of combustion process
- multiple sensitivity ranges and switch-off times, selectable by remote signal
- parallel connection of multiple flame scanners (scanner redundancy)
- 19"-design in accordance with international standards
- SIL 2/SIL 3 (depending on system)

### 3 | Housing versions

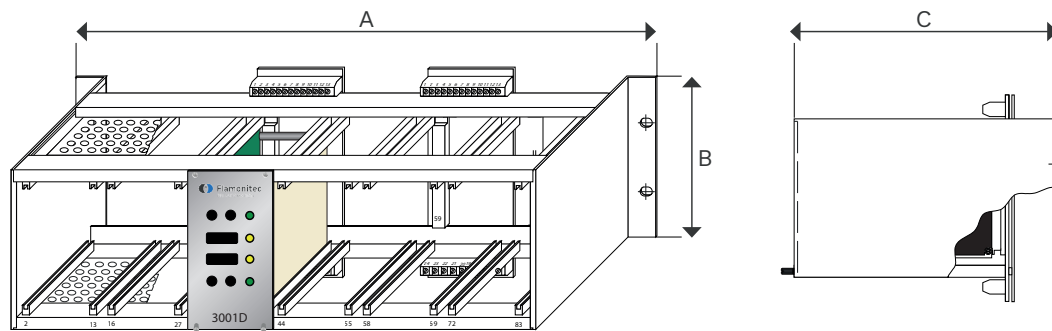
The following housing versions are available for the Flame Amplifier 3001D:

- Built-in rack
- Built-on rack
- Wall mounting housings for ATEX Zone 2
- EX-wall mounting housings for ATEX Zone 1

#### Built-in rack

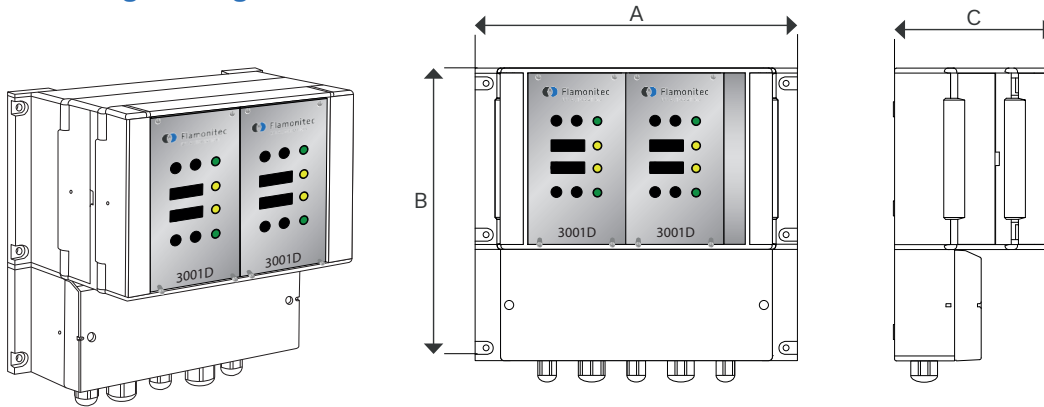


#### Built-on rack



Horizontal Pitch	Width A	Height B	Depth C
<b>14 HP</b> for 1 module	110.3 mm	132.5 mm	221.0 mm
<b>28 HP</b> for 2 modules	181.4 mm	132.5 mm	221.0 mm
<b>42 HP</b> for 3 modules	252.6 mm	132.5 mm	221.0 mm
<b>56 HP</b> for 4 modules	323.7 mm	132.5 mm	221.0 mm
<b>84 HP</b> for 6 modules	465.9 mm	132.5 mm	221.0 mm

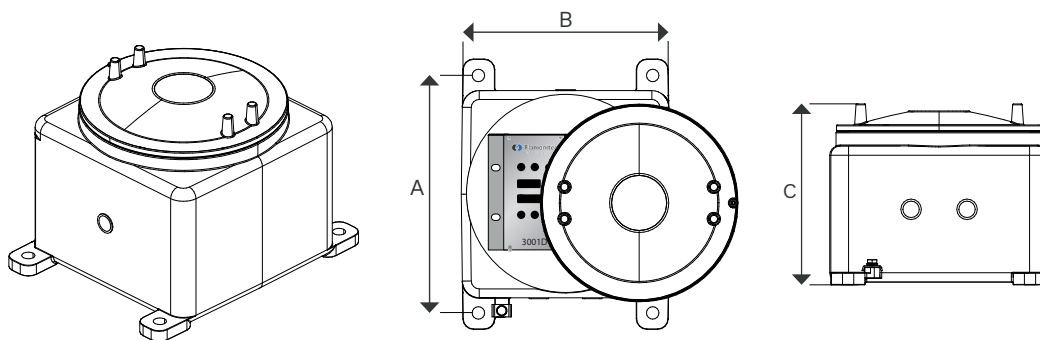
## Wall mounting housings



### ATEX Zone 2

Horizontal Pitch	Width A	Height B	Depth C
<b>20 HP</b> for 2 modules	236.7 mm	175.7 mm	275.3 mm
<b>30 HP</b> for 3 modules	236.7 mm	226.5 mm	275.3 mm
<b>49 HP</b> for 4 modules	236.7 mm	323.0 mm	275.3 mm

## Ex-wall mounting housings



### ATEX Zone 1

Length A:	x mm	Height C:	x mm
Width B:	x mm		

x The ATEX Zone 1 housings are sized according to the application. Housings are available in different sizes and with separate terminal compartment.

## 4 | Technical data

Self checking	fully electronic, once per second
Mode of operation	continuous, intermittent and 72-hours-operation
Safety Integrity Level	SIL 2, SIL 3 in combination with Flame Scanner 2.0, 2.0GT, 2.0L, 2.0LA
Certificates	CE, DVGW, CSA, UL, SIL 2/SIL 3
Norms	EN298, IEC61508, CAN/CSA-E60730-1, CAN/CSA-C22.2 No. 60730-2-5, UL60730-2-5
Power supply	24 V DC
Current consumption	max. 300 mA
Current consumption Scanner	max. 200 mA per Flame Scanner
Ambient temperature	-20 °C to +70 °C
Type of protection	IP00
Cable length	500 m (1000 m with special specification)
Flame intensity	0/4 mA to 20 mA (Ra < 360 Ohm)
Flame relay	two changeover contacts, potential-free
max. switching voltage	250 V ohmic load
max. switching current	1 A ohmic load
max. switching capacity	300 VA
Parameter channels	two, separately adjustable, remote selection
Safety switch-OFF time	adjustable (1 s to 6 s)
Sensitivity range	adjustable (99 steps)
Switching point prealarm	fixed at 50%
Pre-alarm output	24 V DC, 100 mA

### Status indication

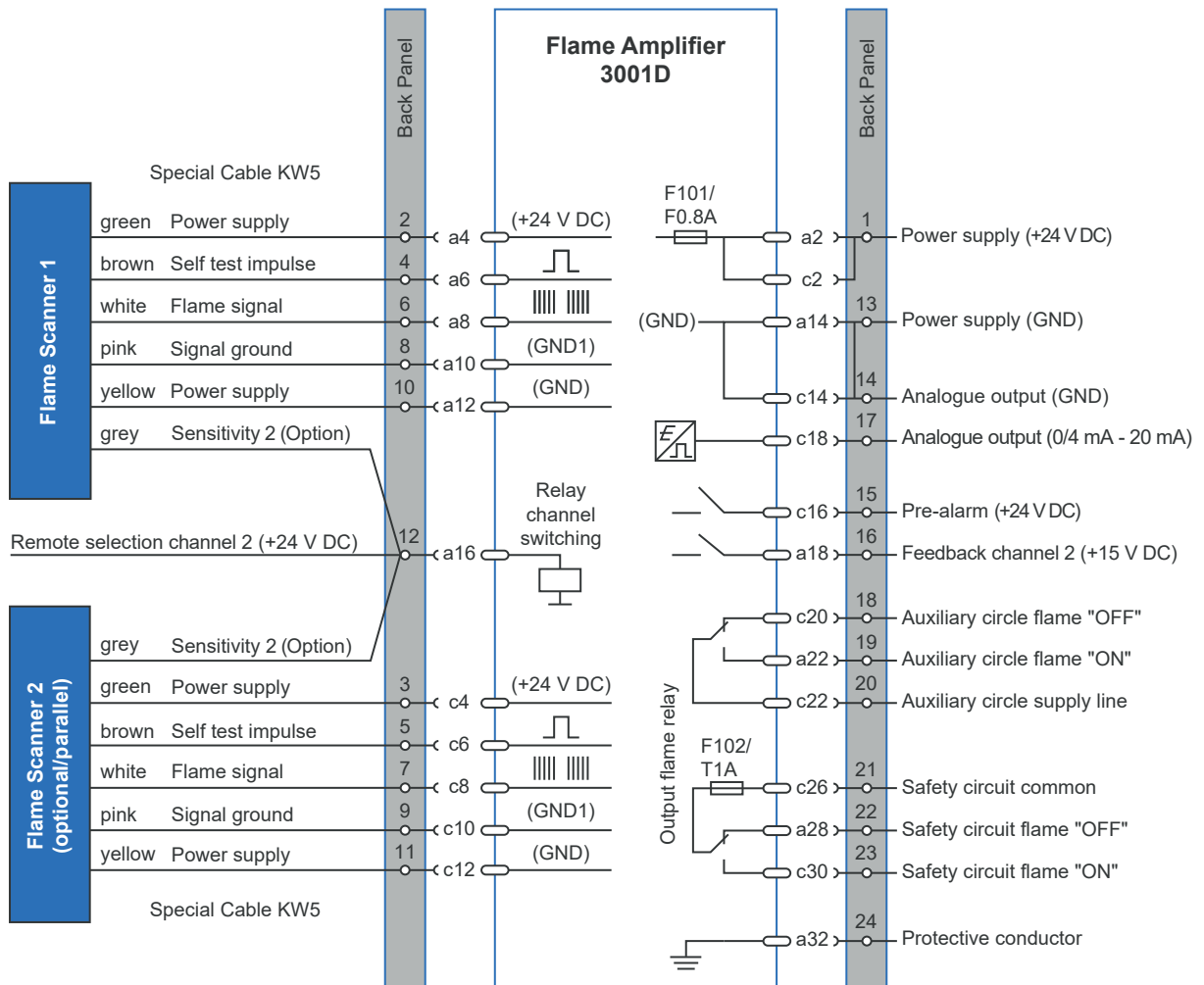
Flame intensity	bargraph 0% to 100%
Flame intensity/quality	7-segment digital indicator 0 to 999 digits
Impulse divider	1:1, 1:2, 1:4
Parameter channel I or II	LED (green)
Pre-alarm	LED (red)
Evaluation and monitor channel	LED (yellow)

### Dimensions and weight

Width	70.78 mm (14 HP)
Hight	128.70 mm (3 HE)
Depth	188.00 mm
Weight	approx. 0.7 kg

All 3000 series plug-in units are fully insertable for use in card magazines according to DIN 41494 (19"-standard).

## 5 | Connection diagram



Other connection diagrams with special configurations (fuel relay, heating, etc.) available on request.

## 6 | Part number

Type	Part number
Flame Amplifier 3001D	6020-3001-20



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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 2022/22

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