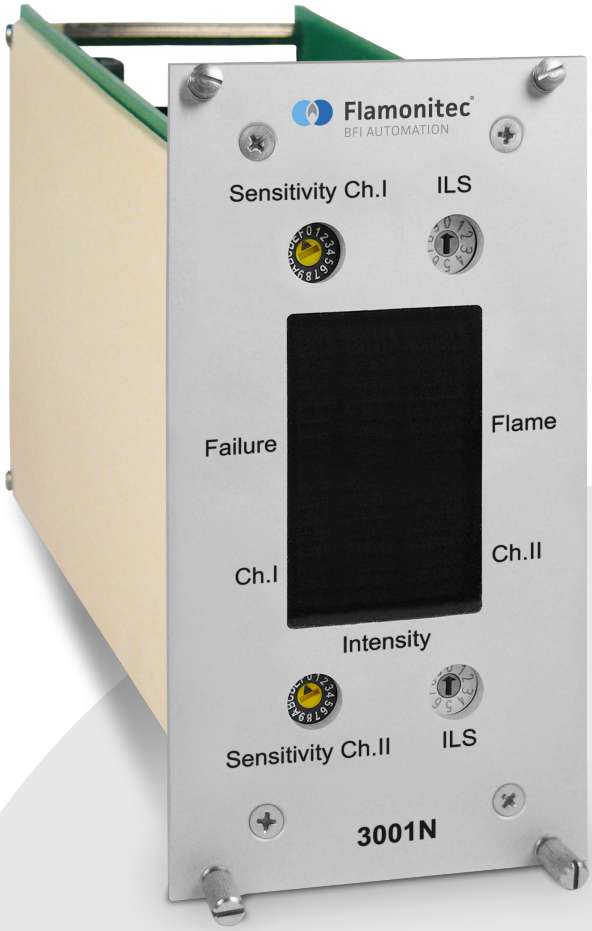
BFI Automation

Product Information

FLAME AMPLIFIER 3001X

3001(N)(DN)



- **failsafe design**
- **continuous operation**
- **two adjustable sensitivity levels**
- **flame scanner redundancy operation**
- **safety related binary outputs**
- **flame intensity analog output**
- **flame intensitiy/quality digital input (only 3001DN)**
- **Failure relay (optional)**
- **SIL 3-certified**

1 | Design

The Flame Amplifier 3001N / 3001DN 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

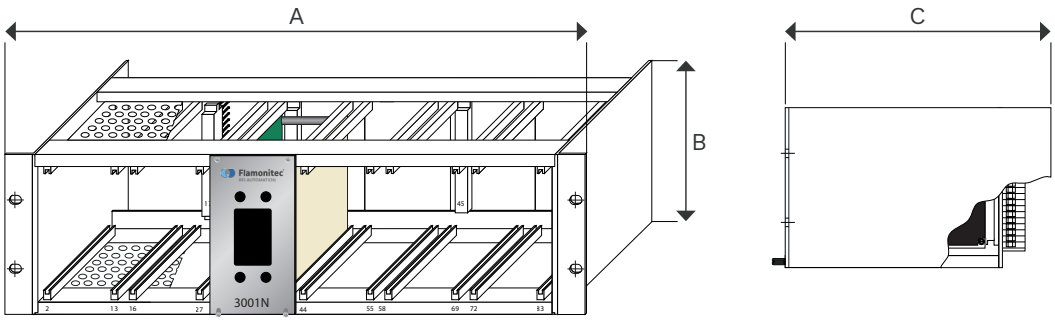
- self monitoring to control fault free function
- selective of different flames
- certified for continuous operation
- optimization of combustion process
- multiple sensitivity ranges and switch-off times, selectable by remote signal
- parallel connection of multiple Flame Scanners (scanner redundancy)
- 19”-design in accordance with international standards
- failure relay (optional)
- SIL 2 / SIL 3 (depending on system)

3 | Housing versions

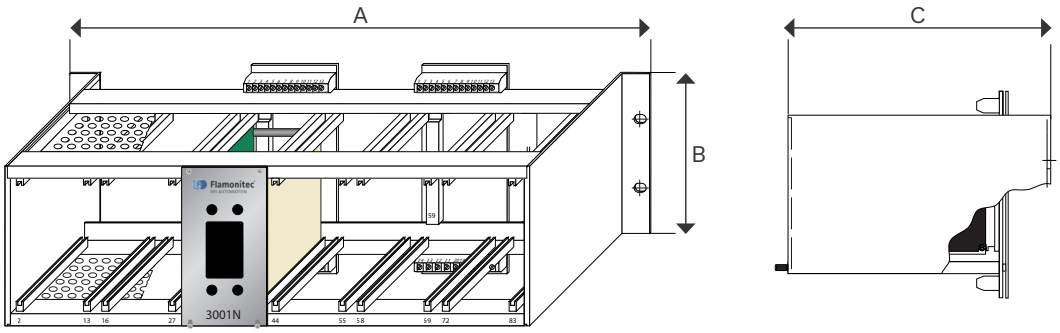
The following housing versions are available for the Flame Amplifier 3001N / 3001DN:

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

Built-in rack



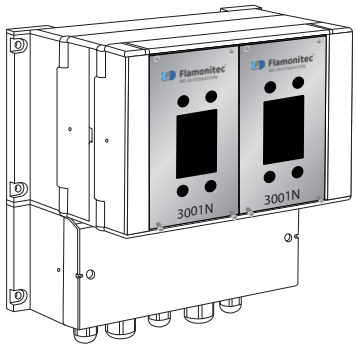
Built-on rack

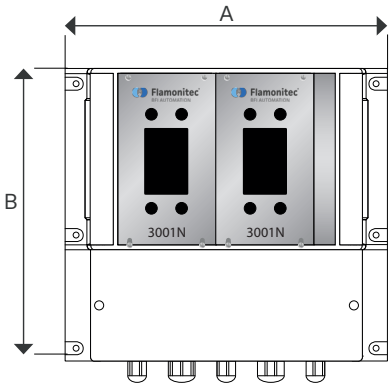


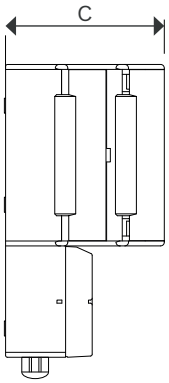
Horizontal Pitch	Width A	Height B	Depth C	Weight
14 HP for 1 module	110.3 mm	132.5 mm	221.0 mm	approx. 0.54 kg
28 HP for 2 modules	181.4 mm	132.5 mm	221.0 mm	approx. 0.72 kg
42 HP for 3 modules	252.6 mm	132.5 mm	221.0 mm	approx. 0.87 kg
56 HP for 4 modules	323.7 mm	132.5 mm	221.0 mm	approx. 1.02 kg
84 HP for 6 modules	465.9 mm	132.5 mm	221.0 mm	approx. 1.8 kg

3 | Housing versions

Wall mounting housings

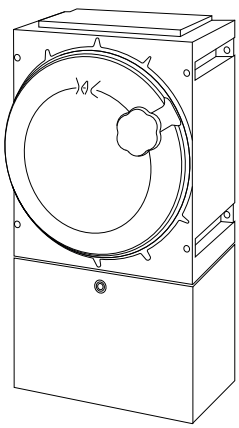


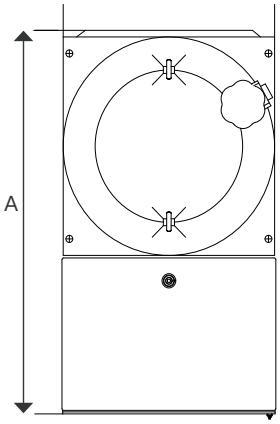


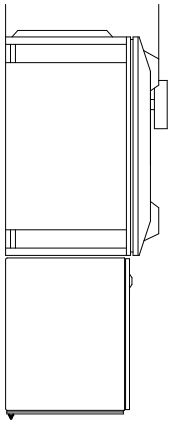


Horizontal Pitch	Width A	Height B	Depth C	Weight
20 HP for 2 modules	175.7 mm	236.7 mm	275.3 mm	approx. 1 kg
30 HP for 3 modules	226.5 mm	236.7 mm	275.3 mm	approx. 2 kg
49 HP for 4 modules	323.0 mm	236.7 mm	275.3 mm	approx. 3 kg

Ex-wall mounting housings





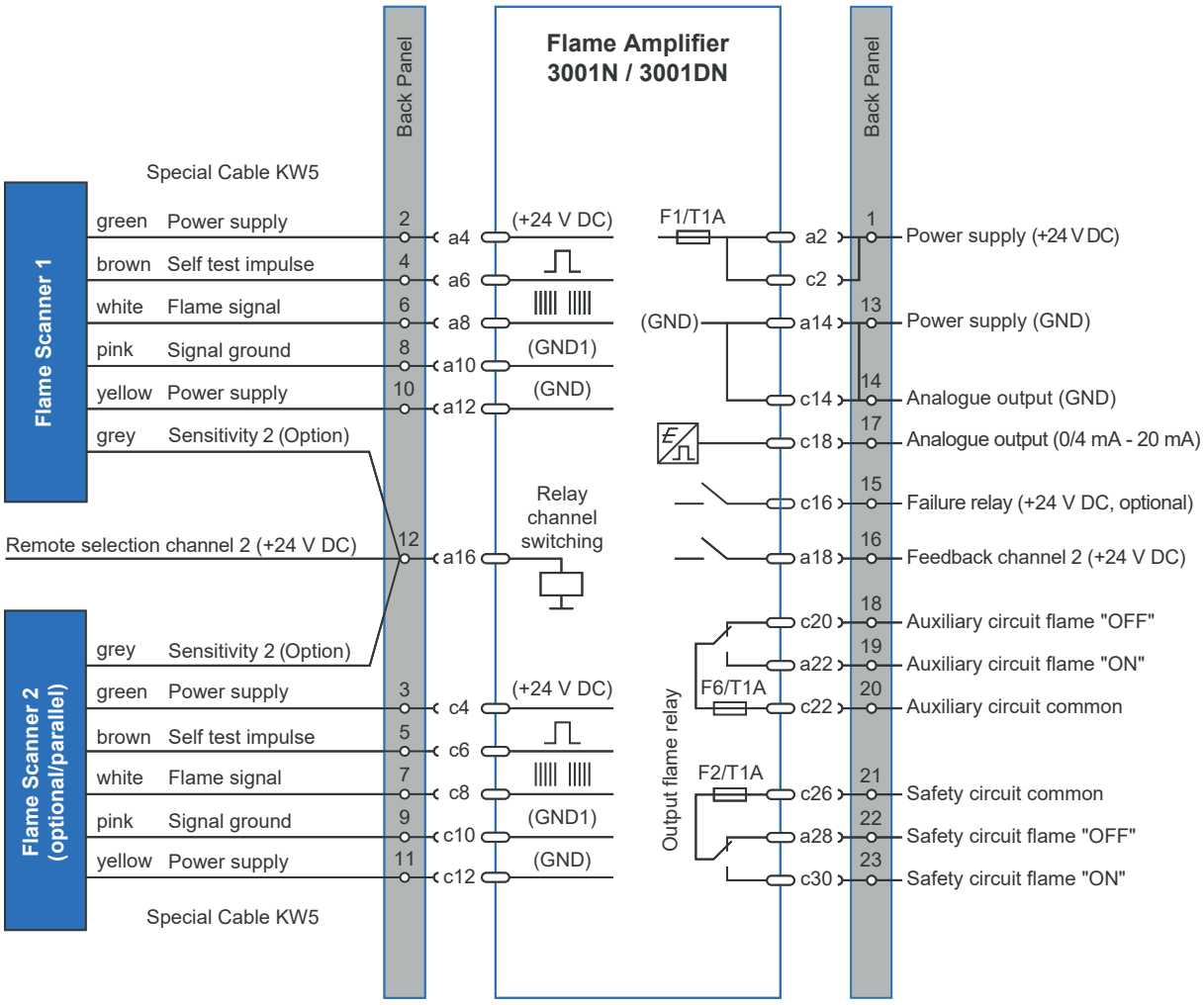


IP-Protection	Length A	Width B	Depth C	Weight
IP 55	860 mm	594 mm	410 mm	approx. 150 kg
IP 55	645 mm	325 mm	311 mm	approx. 37 kg
IP 65	755 mm	435 mm	311 mm	approx. 58 kg

4 | Technical data

Power supply	24 VDC
Current consumption	max. 300 mA
Preliminary fuse, built in	1 A, time lag
Ambient temperature	-40 °C to +85 °C
Intensity display	10-segments, LED bargraph
Status displays	LED flame relay (yellow) LED failure diagnosis (red) LED sensitivity levels (green)
Failur display	coded upper 5 LEDs from bar graph for failure indication
Module failure detection	yes, output over relay contact
Sensitivity switching	via external signal, 24V DC approx. 20 mA or DIP switch S1.1
Threshold value	selectable by a 16 step rotary switch in front
Interference light suppression	adjustable in 10 steps via rotary switch ILS in the front panel
Switch off time	selectable from 0,2 s to 6 s (see also note in chapter 5.5)
Design	in accord. with protection class III SELV
Current output	0/4 - 20 mA, max. load 800 Ω
Relay outputs	
Flame relay	each 2 potential free changeover contacts, internally fused with 1 A
Auxiliary circuit	max. switching voltage 48 V DC SELV / 1 A / 30 W ohmic load
Safety circuit	max. switching voltage 250 V AC / 1 A / 250 VA 300 V DC / 1 A / 30 W ohmic load
Signaling relay for	
Parameter channels	1 x 24 V DC / 50 mA max., ohmic load
Failure relay	1 x 24 V DC / 50 mA max., ohmic load
Type of protection	IP 00, in non-installed state

5 | Connection diagram



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