

# SYSTEM 3000

# FLAME SIGNAL CONVERTER 3007

## TECHNICAL DESCRIPTION

EDITION: TB\_3007\_EN\_Rev6

# Flame signal converter 3007

## Application

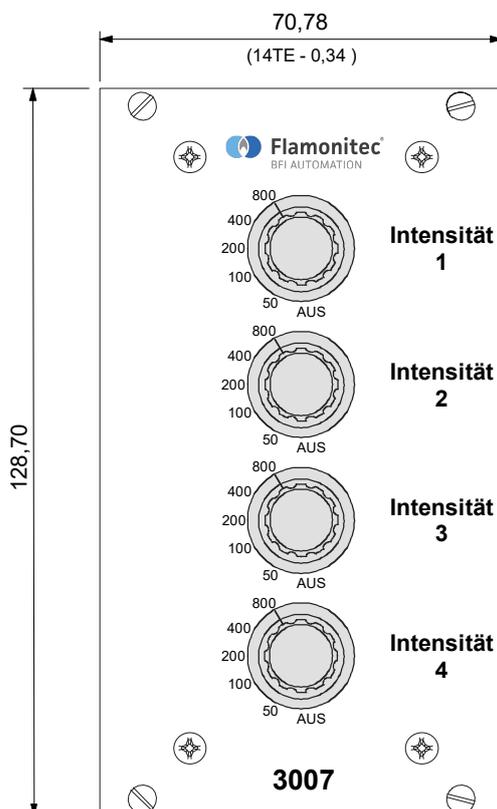
The flame signal converters **3007** is a plug-in units of the **3000** line. They blank-out the flame signal of the corresponding flame scanner and establish, linear to the measured flame intensity, a current signal (0/4...20mA) for the external processing.

The plug-in units operate completely independent from the flame amplifier module **3001/3001D** or **3001S** assigned in parallel. Whereas the flame amplifier adjustments are optimised for highest availability and max. safety, the flame signal converter is focused on the flame radiation analysis. This means, that changes of the flame intensity are revealed far ahead and before any unstable flame amplifier signals, which may even cause a burner switch-off, can occur.

If secondary affects can be excluded ( soiled flame scanner optics, misalignment or absorption due to smoke or dust), signals are gained, which allow immediate recognition of combustion changes through the flame image, thus permitting early corrective actions. Increased emission values are also avoided if applied in combination with corresponding radiation absorbers.

The output signals of the flame signal converters **3007** are either integrated into the burner control directly, or used for visualisation through a process signal display (mainly via monitors).

## Front view



## Construction

The plug-in unit incorporate four measuring channels for the **3007**. The input signal for each channel is taken from the corresponding flame amplifier. The galvanic separation between the input signals and the output current permits an unproblematic signal transmission of the flame

## Function

The flame scanner output signals, as well as the informative scanner message (800ms/s) are decoded by the flame signal converter. The time-cycle control is achieved via the pulse generator of the flame amplifier.

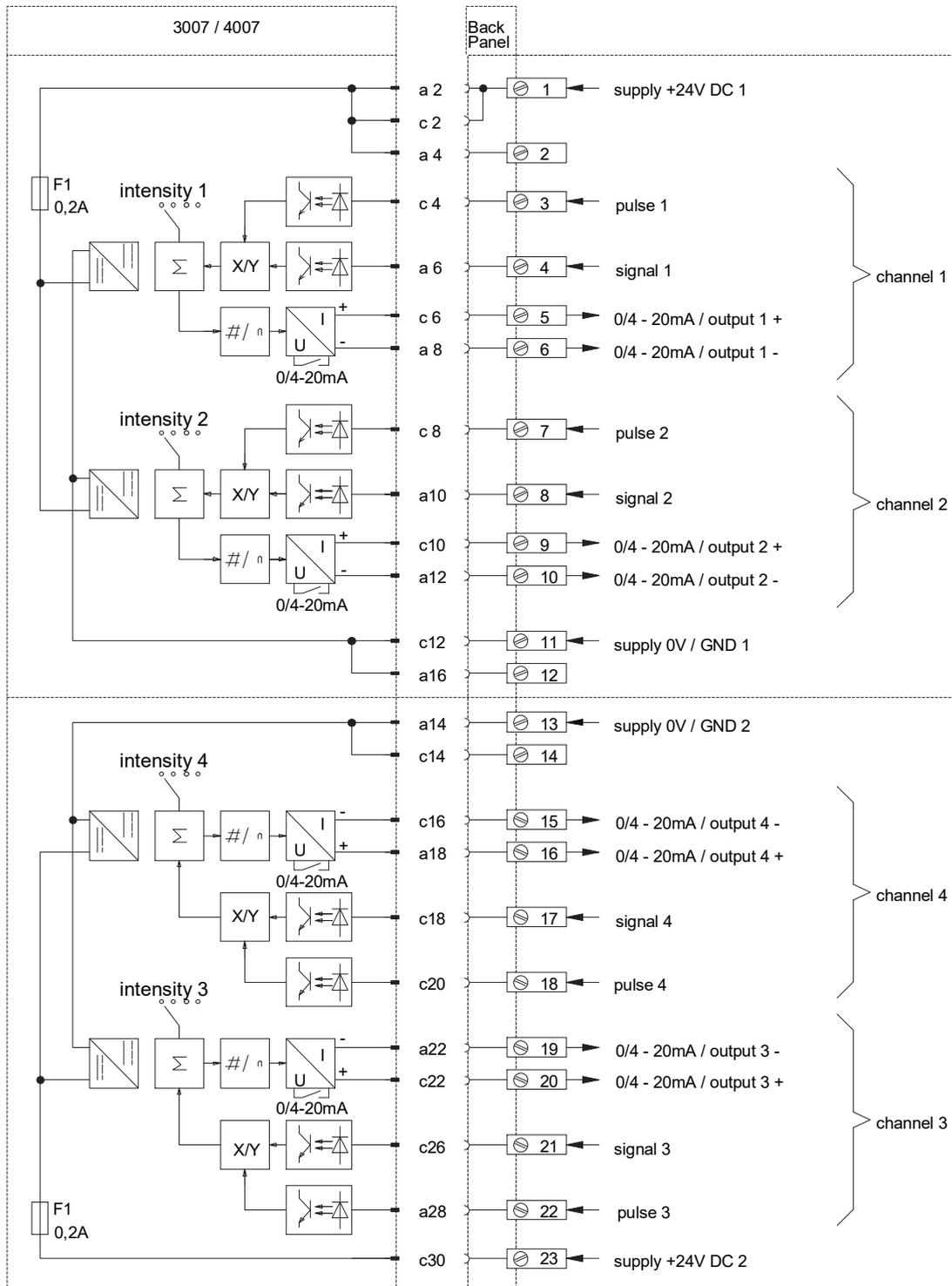
At the end of a measuring cycle the generated flame signal is transmitted to a digital/analogue converter and temporarily stored. The analogue output signal controls the precision output current driver. The output current value changes once per second. No additional delay or smooth-

ing action is to be made in the unit. A signal information covering several measuring cycles is not carried out in order to permit a speedy reaction.

signal converter **3007** to the control board and process control system. A malfunction of the flame signal converter would have absolutely no affect on the flame monitoring.

The final measuring value can be pre-selected in 5 steps. A turn-switch is available for this at the front plate of each channel. Should an over-range occur due to high fluctuation of the intensity process of the firing, the measuring channel will remain at 102% of the final measuring value without experiencing any damage.

### Connection diagram



### Technical Data

Measuring ranges:	0 - 800	
	0 - 400	
	0 - 200	indication flame evaluator
	0 - 100	3001D, 3003, 3103 o.ä.
	0 - 50	
	out	
Number of channels:	4	
Choice of measuring range:	turn-switch at the front plate	
Measuring output:	0/4 – 20mA ( reversible by plug-in jumper)	
	burden max. 500 Ω	
Measuring error:	smaller 1% of the final value	
Supply voltage:	24 VDC, ± 20%	
Current consumption :	approximate 340 mA	
Operating temperature:	-20°C up to +70°C	

The plug-in unit 3007 is completely pluggable for the application in sub racks accordance to DIN 41494. (19" Standard)

Depth:	70.78 mm (14HP)
Width:	128.70 mm (3U)
Height:	188.00 mm

On request available with screw terminals (back-panel) and sub-rack.