

## Signal Converter – Pulse Prolongation with NPN Input

**SF2**

Characteristics:

- Input for devices with NPN output
- 10ms – 1,5s pulse prolongation free adjustable
- min. 5µs/20µs trigger pulse
- Output 24VDC/100mA
- Retrigger-able, or not retrigger-able
- Status display in output
- With/without transparency function
- Supply 24VDC
- Mountable on 35mm cap rail TS35
- Mountable side by side via link plug
- Tension spring connection
- Shape 6,2mm
- High reliability, 5 years warranty



Description:

The devices of the signal converter series SF2 are made for pulse prolongation of extremely short pulses. Already from 5µs on output pulses from 10 – 1500ms can be generated. The output pulse length can be rough adjusted via switch and fine adjusted via potentiometer. The devices have a connectable retrigger function. An also connectable transparency function allows also a longer input pulse than the adjusted output pulse length. The switching status is displayed by a LED.

In difference to the SF1 series (PNP signal / plus switching), the SF2 is controlled with an NPN signal (ground switching). The pull-up resistor required for this is already integrated in the module, so there is no need for the external pull-up that is otherwise often required.

Application:

Signal prolongation for precise recognition in PLC or SPS or similar.

### Order Code:

Type:	Order code	Input trigger	Output signal:
SF2	-6	falling edge	high aktiv
	-7	falling edge	low aktiv
	-8	rising edge	low aktiv
	-9	rising edge	high aktiv

### Order example

Input trigger: falling edge  
 Output signal: high aktiv  
 Type: **SF2-6**

### Einstellung:

Switch position	S1	S2	S3	S4
OFF	10...150ms*	not retriggerable*	without transparency function*	Not connected
ON	100...1500ms	retriggerable	with transparency function	Not connected

\*Delivery condition: ca. 100ms

### Hint:

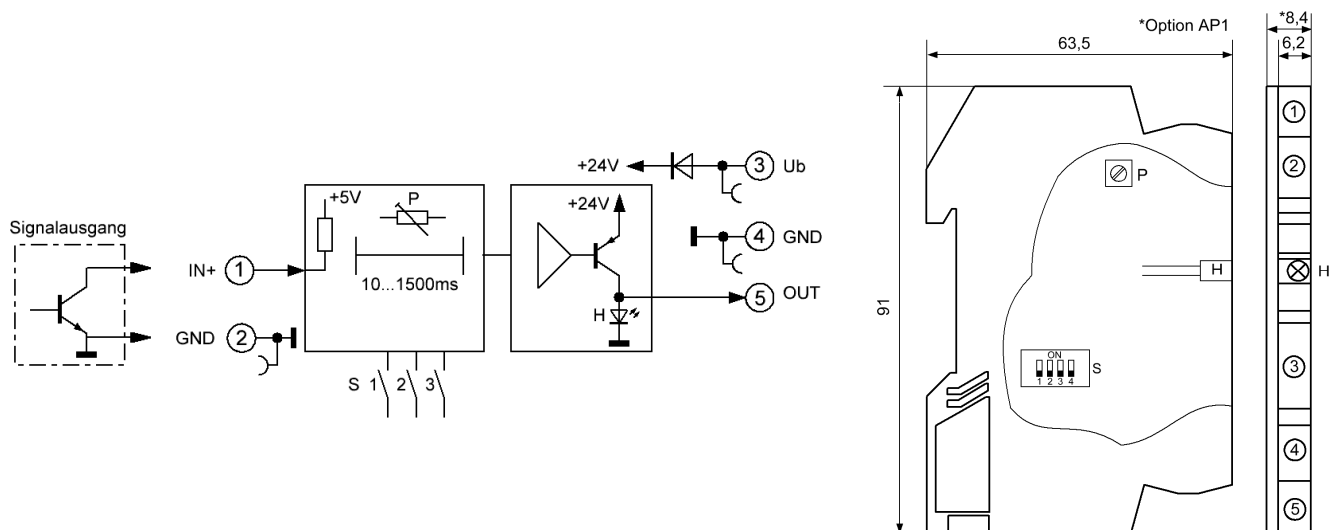
If the switches are adjusted, the module must be disconnected from the power supply. The new switch position only becomes active when the supply voltage is switched on again.

### Retrigger function:

The SF2 can be triggered again, before the output pulse is present.

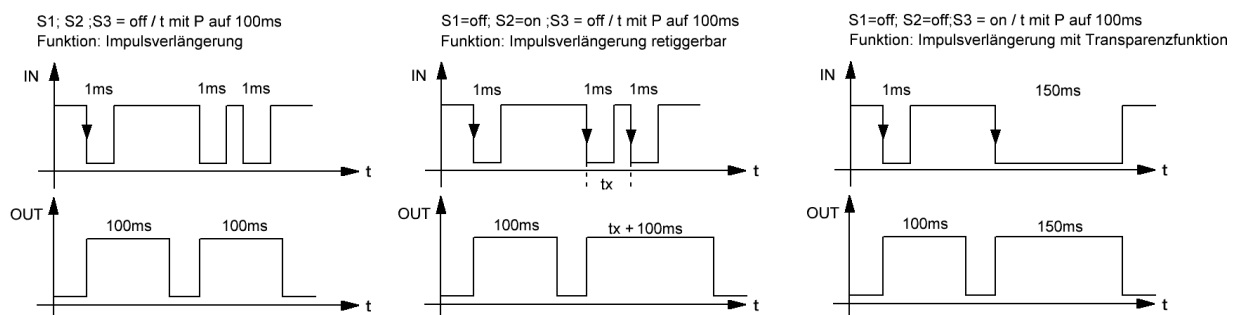
### Transparency function:

If the input pulse is longer than the adjusted time at SF1, the output pulse length extends to the length of the input pulse length.



### Pulse diagram:

Example: falling edge



## Technical data

### Supply:

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Supply voltage : 19,2...30VDC (Ucc)  
Power consumption : 20mA + Load

### Input:

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Switching level : for ground switching NPN output Low: < 0,7V High: >2,5V  
Input current : < -1,2 mA  
Pull-up resistor : internal 4,7 kOhm an 5V (external resistor not necessary)

### Output:

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Voltage output : Ucc – 1V  
Current output : Max. 100mA, short-circuit proof  
Switching time : >5µs, not retrigger-able  
>20µs, retrigger-able  
Output pulse : 10...1500ms

### General data:

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Operating temperature : 0...50°C  
Storage temperature : -25...+85°C, condensation before putting into operation is not allowed  
MTBF : 460 years mean time between failures – according to EN 61709 (SN 29500).  
Requirements: Stationary operation in clean rooms, average ambient temperature 40 ° C, no aeration, continuous operation  
CE conformity : EN 61326-1, EN 61000-4-2/3\*/4/5/6\*, EN 61000-6-4  
\* during measurements small deviations are possible

### Body:

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Dimension : See drawing, 6,2mm terminal block body, 6,2x63,5x91mm  
Material : PA 6, 6 / V2  
Protection category : IP00, IP20 with side cover/end cover plate  
Connection : Spring force connection 0, 2 - 4mm<sup>2</sup>, inflexible, 0, 2 – 2,5mm, flexible  
Contact load with link plugs max. 24A  
Fixing : Snap-on mounting for norm rail TS35  
Mounting position : As you like / Mountable side by side  
Weight : 21g

#### **Note on safety:**

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Disconnect the power supply before attempting to open the unit.

During the operation of this module it is possible that parts of the module, even there is extra-low voltage, (for example shunt measurement) are under dangerous voltage! Therefore a non-observance of this caution may cause damage of property or physical injury.

Only trained qualified personnel should install or operate the unit. Before installation the qualified personnel should read the documentation and should familiarize themselves with the unit.

If there is visible damage to the body of the unit it should be immediately replaced and not put into operation.



Please ensure that there is a sufficient prevention against electrostatic discharge during installation of the unit.

#### **Installation Information:**

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Pay attention and make sure the unit is far away from mounted sources that may disturb the device such as magnetic coils, transformers, frequency converters etc.

#### **Wiring advice:**

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Use only shielded cables. The shield is to be connected extensively to ground. Do not mix power- and signal-wires/cables in the same cable tray.

#### **Limited warranty:**

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The LEG Industrie-Elektronik GmbH warranted that the product does not have any material or processing defects in a period of 5 years after date of delivery.

It is up to the choice of LEG to repair or to exchange an inoperative unit.

Subsequent damages or any claim for indemnification above the functionality of the unit are excluded.

This limited warranty is only valid if ...

1. the product was installed and put into operation according to the LEG operation documentation;
2. the technical configuration of the power supply was abided;
3. the product was not used for unintended purposes;
4. there were no unauthorized modifications or manipulations, misuse or repairs without previous agreement from LEG .

Our Terms of Trade are based on the "General Conditions for the supply of products and services of the Electrical and Electronics Industry" including the "Complementary Clause: Extended Reservation of Property" of the ZVEI e.V. (German Association of Electrical Manufacturers).

#### **Miscellaneous:**

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We expressly reserve the right, without previous notice, to correct errors contained in any data of this information brochure, and to make alterations to the program and technical modifications.