



- 2-channel
- Control circuit EEx ia IIC
- Reversible mode of operation
- Bistable
- 1 signal output with 2 changeover contacts
- EMC acc. to NAMUR NE 21
- LB/SC monitoring

**230 V AC**  
**KFA6-SR2-Ex2.W.IR**

**Function**

The separation switching amplifier behaves in a bistable manner. It is set by an active signal on input I and is reset by an active signal on input II. The mode of operation of inputs I and II can be programmed. An active signal can be generated if the corresponding sensor is damped or if it is not damped. Both inputs are intrinsically safe, and there are two relays available on the output with one changeover contact each (the relays switch simultaneously).

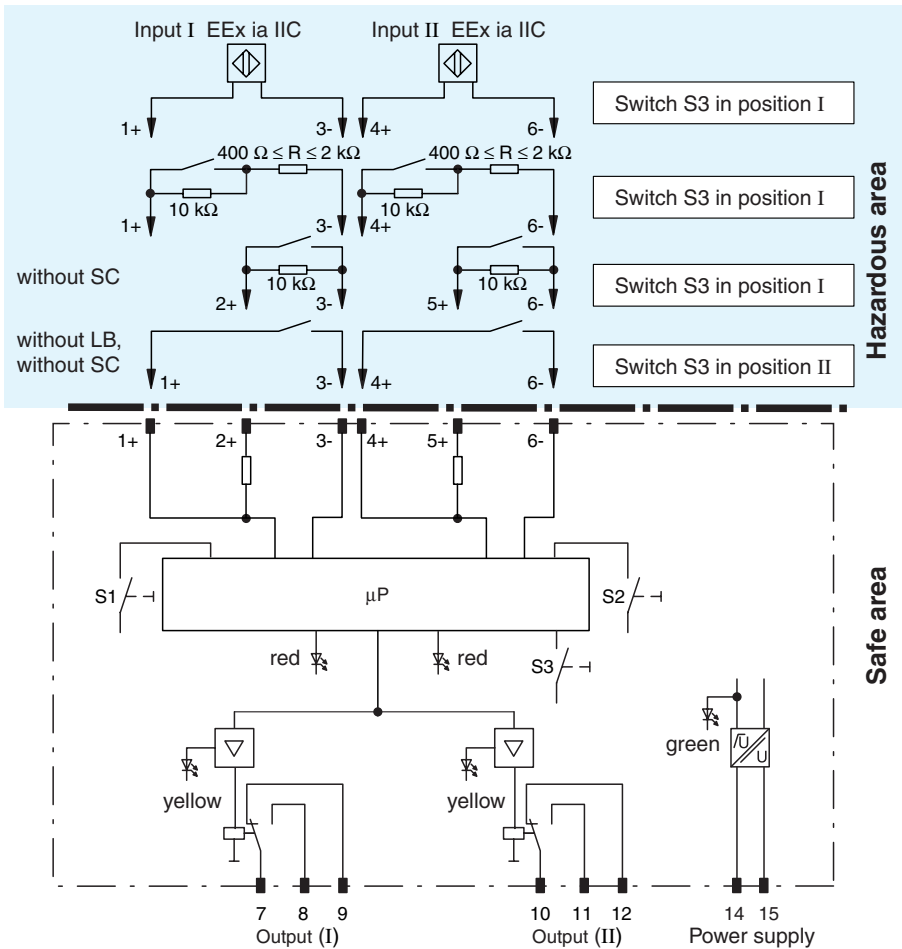
During commissioning, the output relays are switched until an active signal on input II resets them. The mode of operation for input I can be selected with switch S1, while the mode of operation for input II can be selected with switch S2.

Monitoring for a line break opens the output relay if a lead break or short circuit is detected in the control circuit. Switch S3 (de-)activates monitoring for lead break or short circuit.

**Application**

Two-point controller or filling level controller for minimum/maximum control

**Connection**



**Composition**

**Front View**

Housing type C (see system description)

- LED yellow: Relay output (I)
- LED red: LB/SC input I
- LED yellow: Relay output (II)
- LED red: LB/SC input II

Removable terminals blue

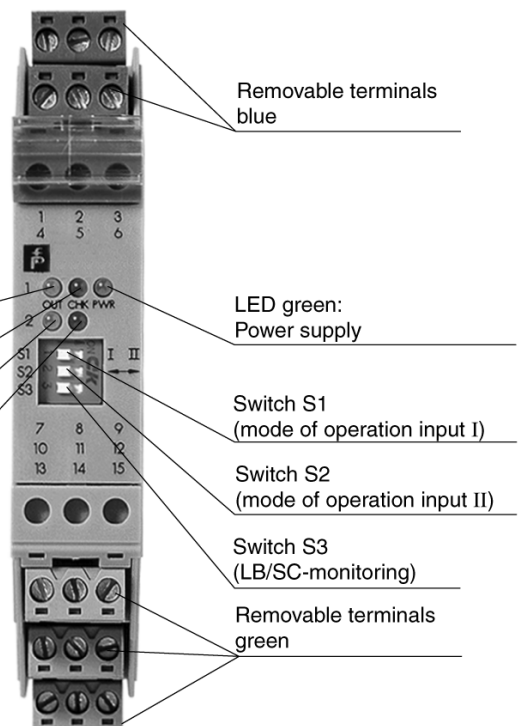
LED green: Power supply

Switch S1 (mode of operation input I)

Switch S2 (mode of operation input II)

Switch S3 (LB/SC-monitoring)

Removable terminals green



<b>Supply</b>	
Connection	terminals 14, 15
Rated voltage	207 ... 253 V AC, 45 ... 65 Hz
Ripple	-
Rated current	-
Power consumption	≤ 1.5 W
<b>Input</b>	
Connection	terminals 1+, 2+, 3-; 4+, 5+, 6-
Rated values	acc. to EN 60947-5-6 (NAMUR)
Open-circuit voltage/short-circuit current	approx. 8 V DC / approx. 8 mA
Line fault detection	breakage $I \leq 0.1 \text{ mA}$ , short-circuit $I > 6 \text{ mA}$
Pulse/Pause ratio	≥ 10 ms / ≥ 10 ms
<b>Output</b>	
Connection	output I: terminals 7, 8, 9 ; output II: terminals 10, 11, 12
Output I and II	signal ; relay
Contact loading	253 V AC / 2 A / $\cos \phi > 0.7$ ; 126.5 V AC / 4 A / $\cos \phi > 0.7$ ; 40 V DC / 2 A resistive load
Energized/de-energized delay	approx. 20 ms / approx. 20 ms
Mechanical life	10 <sup>7</sup> switching cycles
<b>Transfer characteristics</b>	
Switching frequency	≤ 10 Hz
<b>Electrical isolation</b>	
Output/power supply	safe isolation acc. to DIN VDE 0106, rated insulation voltage 253 V <sub>eff</sub>
Output/output	basic insulation acc. to EN 50178, rated insulation voltage 253 V <sub>eff</sub>
<b>Directive conformity</b>	
Electromagnetic compatibility	
Directive 89/336/EC	EN 61326, EN 50081-2
<b>Conformity</b>	
Electrical isolation	EN 50178
Electromagnetic compatibility	NE 21
Protection degree	IEC 60529
<b>Ambient conditions</b>	
Ambient temperature	-20 ... 60 °C (253 ... 333 K)
<b>Mechanical specifications</b>	
Protection degree	IP20
Mass	approx. 150 g
Dimensions	20 x 119 x 115 mm (0.8 x 4.6 x 4.5 in)
<b>Data for application in conjunction with hazardous areas</b>	
EC-Type Examination Certificate	PTB 00 ATEX 2081 , for additional certificates see <a href="http://www.pepperl-fuchs.com">www.pepperl-fuchs.com</a>
Group, category, type of protection	⊗ II (1)GD [EEx ia] IIC [circuit(s) in zone 0/1/2]
Input	EEx ia IIC
Voltage U <sub>o</sub>	10.6 V
Current I <sub>o</sub>	19.1 mA
Power P <sub>o</sub>	51 mW (linear characteristic)
Supply	
Safety maximum voltage U <sub>m</sub>	253 V AC / 126.5 V AC (Attention! U <sub>m</sub> is no rated voltage.)
Type of protection [EEx ia and EEx ib]	
Explosion group	IIA      IIB      IIC
External capacitance	72 μF      16.2 μF      2.33 μF
External inductance	780 mH      390 mH      97 mH
Output	
Contact loading	253 V AC / 2 A / $\cos \phi > 0.7$ ; 126.5 V AC / 4 A / $\cos \phi > 0.7$ ; 40 V DC / 2 A resistive load
Safety maximum voltage U <sub>m</sub>	253 V AC (Attention! The rated voltage can be lower.)
Electrical isolation	
Input/input	not available
Input/output	safe electrical isolation acc. to EN 50020, voltage peak value 375 V
Input/power supply	safe electrical isolation acc. to EN 50020, voltage peak value 375 V
Directive conformity	
Directive 94/9 EC	EN 50014, EN 50020
<b>Entity parameter</b>	
Certification number	J.I.3002773
FM control drawing	No. 116-0035
Suitable for installation in division 2	yes
Connection	terminals 1, 3; 2, 3; 4, 6; 5, 6
Input I	

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Voltage	$V_{OC}$	12.9 V		
Current	$I_t$	19.8 mA		
Explosion group		A&B	C&E	D, F&G
Max. external capacitance $C_a$		1.273 $\mu F$	3.82 $\mu F$	10.18 $\mu F$
Max. external inductance $L_a$		84.8 mH	254.4 mH	678.4 mH
<b>Safety parameter</b>				
UL control drawing		E 106378		
CSA control drawing		LR 36087-13		
Control drawing		No. 116-0047		
Connection		terminals 1, 3; 2, 3; 4, 6; 5, 6		
<b>Input I</b>				
Safety parameter		12.6 V / 650 $\Omega$		
Voltage	$V_{OC}$	12.9 V		
Current	$I_{SC}$	19.8 mA		
Explosion group		A&B	C&E	D, F&G
Max. external capacitance $C_a$		1.273 $\mu F$	3.82 $\mu F$	10.18 $\mu F$
Max. external inductance $L_a$		84.88 mH	298.7 mH	744.4 mH

Supplementary information

EC-Type Examination Certificate, Statement of Conformity, Declaration of Conformity and instructions have to be observed. For information see [www.pepperl-fuchs.com](http://www.pepperl-fuchs.com).

Notes

Function of the DIP switches

Switch	Position	Function
S1: Mode of operation Input I	I	Input I active, whenever connected sensor damped
	II	Input I active, whenever connected sensor undamped
S2: Mode of operation Input II	I	Input II active, whenever connected sensor damped
	II	Input II active, whenever connected sensor undamped
S3: LB/SC control	I	LB/SC monitoring active
	II	No LB/SC monitoring