



- 2-channel
- Control circuit EEx ia IIC
- Reversible mode of operation
- 1 relay output with 1 changeover contact per channel
- EMC acc. to NAMUR NE 21
- LB/SC monitoring
- Usable up to SIL2 acc. to IEC 61508

**100 V AC**  
**KFA4-SR2-Ex2.W**

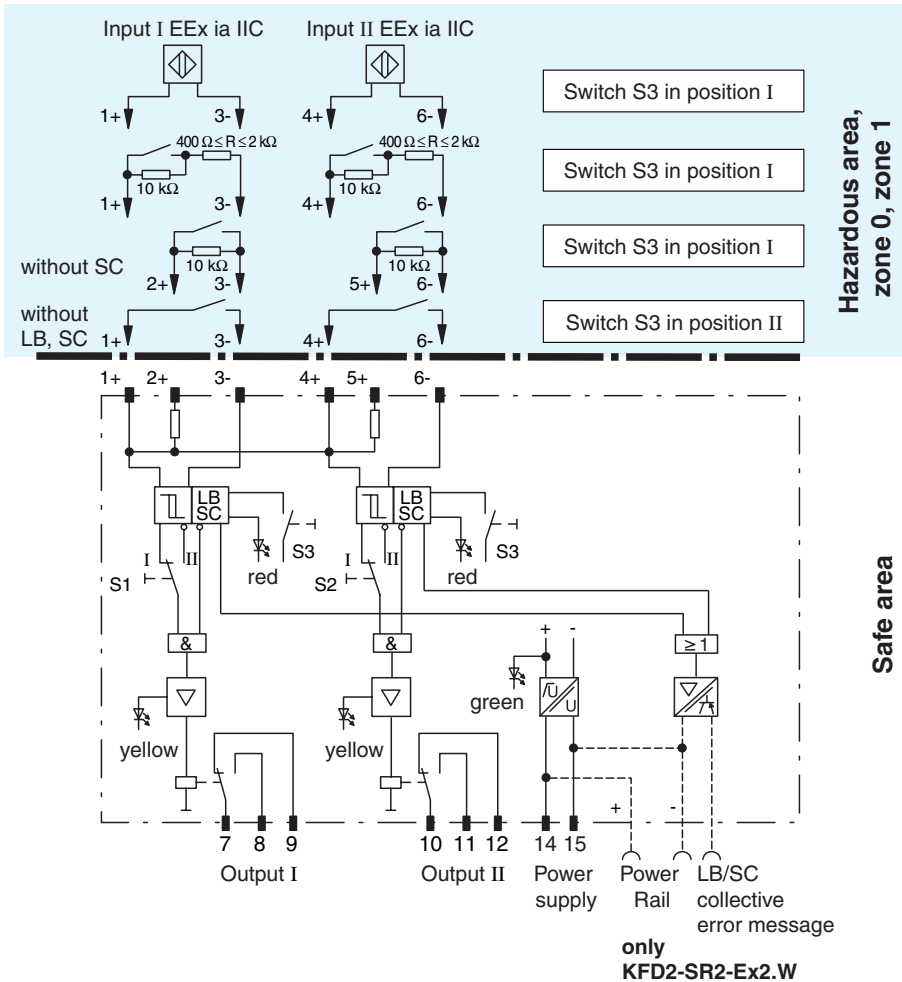
**Function**

The transformer isolated barrier transfers digital signals from the hazardous area. Sensors per EN 60947-5-6 (NAMUR) and mechanical contacts may be used as alarms. Control circuits are monitored for lead breakage (LB) and short circuit (SC). The external faults are indicated according to NAMUR NE44 by a red flashing LED.

For type KFD2-SR2-Ex2.W, an LB/SC collective error message is in addition transferred through the Power Rail to the power feed module.

The intrinsically safe inputs per EN 50020 are safely isolated from the output and the power supply. Relay outputs are galvanically separated from the mains power in accordance with IEC 61140. Relay outputs are galvanically separated from each other in accordance with IEC 61140.

**Connection**



**Composition**

**Front View**

Housing type C (see system description)

LED yellow:  
Relay output I

LED red:  
LB/SC channel I

LED yellow:  
Relay output II

LED red:  
LB/SC channel II

Removable terminals  
blue

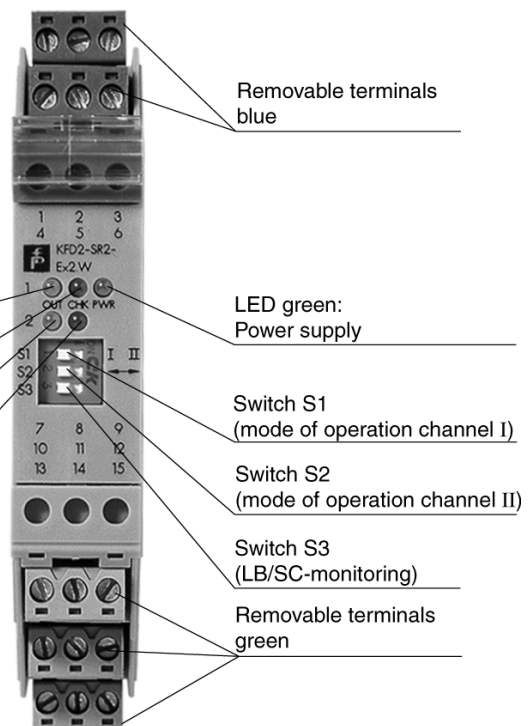
LED green:  
Power supply

Switch S1  
(mode of operation channel I)

Switch S2  
(mode of operation channel II)

Switch S3  
(LB/SC-monitoring)

Removable terminals  
green



|   |   |
|---|---|
| <b>General specifications</b>                                   |   |
| Signal type   | Digital input   |
| <b>Supply</b>   |   |
| Connection  | terminals 14, 15  |
| Rated voltage   | 90 ... 110 V AC , 45 ... 65 Hz  |
| Ripple  | -   |
| Rated current   | -   |
| Power loss  | 1.2 W   |
| Power consumption   | ≤ 1.3 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   |
| Switching point/switching hysteresis                            | 1.2 ... 2.1 mA / approx. 0.2 mA   |
| Line fault detection  | breakage I ≤ 0.1 mA , short-circuit I > 6 mA  |
| Pulse/Pause ratio   | ≥ 20 ms / ≥ 20 ms   |
| <b>Output</b>   |   |
| Connection  | output I: terminals 7, 8, 9 ; output II: terminals 10, 11, 12   |
| Output I, II  | signal ; relay  |
| Contact loading   | 253 V AC/2 A/cos φ > 0.7; 126.5 V AC/4 A/cos φ > 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   | reinforced insulation acc. to IEC 61140, rated insulation voltage 300 V <sub>rms</sub>                              |
| Output/output   | basic insulation according to IEC 61140, rated insulation voltage 300 V <sub>rms</sub>                              |
| <b>Directive conformity</b>                                     |   |
| Electromagnetic compatibility                                   |   |
| Directive 2004/108/EC   | EN 61326-1:2006   |
| Low voltage   |   |
| Directive 2006/95/EC  | EN 50178:1997   |
| <b>Conformity</b>   |   |
| 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   |
| <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)   |
| <b>Supply</b>   |   |
| Safety maximum voltage U <sub>m</sub>                           | 253 V AC / 126.5 V AC (Attention! U <sub>m</sub> is no rated voltage.)  |
| <b>Output</b>   |   |
| Contact loading   | 253 V AC/2 A/cos φ > 0.7; 126.5 V AC/4 A/cos φ > 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.)   |
| <b>Electrical isolation</b>                                     |   |
| 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  |
| <b>Directive conformity</b>                                     |   |
| Directive 94/9/EC   | standards<br>EN 50014, EN 50020   |

**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).

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