- 1-channel
- Control circuit EEx ia IIC
- Reversible mode of operation
- Output I: signal output (changeover contact)
- Output II: optionally signal output/fault signal
- EMC acc. to NAMUR NE 21
- LB/SC monitoring
- Switch output
- Up to SIL2
  acc. to IEC 61508/IEC 61511

**100 V AC**

# KFA4-SR2-Ex1.W.LB

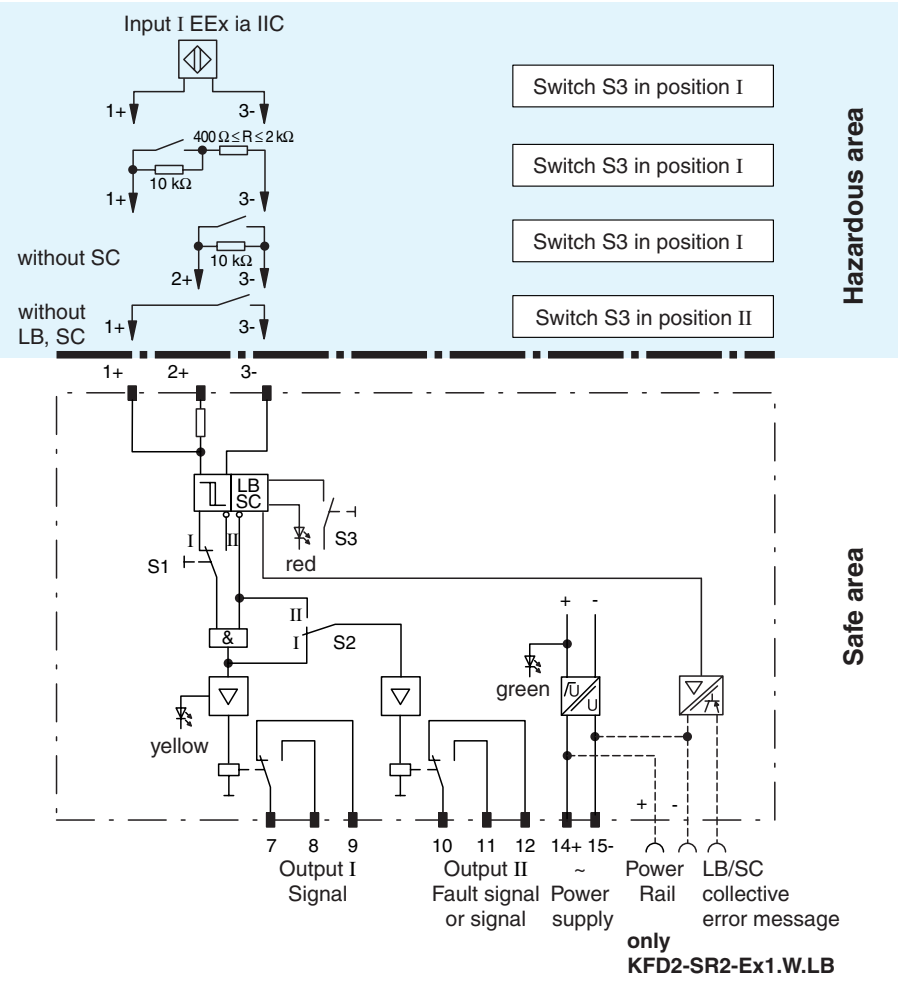
## Function

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. The control circuit is monitored for lead breakage (LB) and short circuit (SC). The external faults are indicated according to NAMUR NE44 by a red flashing LED.

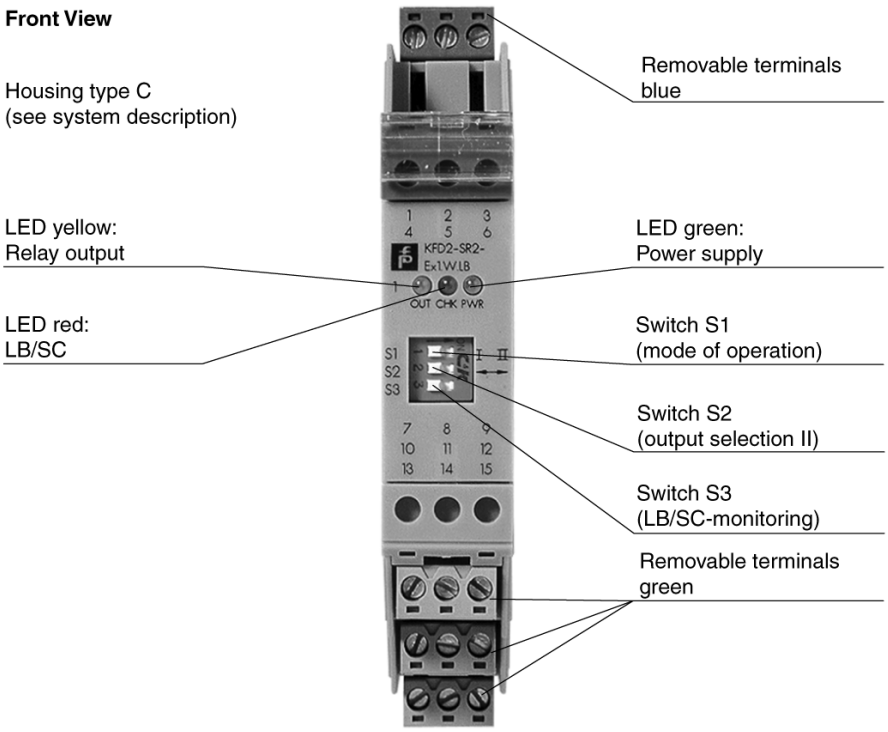
In the case of type KFD2-SR2-Ex1.W.LB, an LB/SC collevtive error message is in addition transmitted to the power feed module through the Power Rail. Relay output II can optionally be assigned to the input signal or the error message for all devices with the aid of switch S2.

The intrinsically safe input is securely separated from the output and mains power in accordance with EN 50020. Relay outputs must be securely 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




Release date 2015-02-19 11:46 Date of issue 2015-02-19 112747_eng.xml

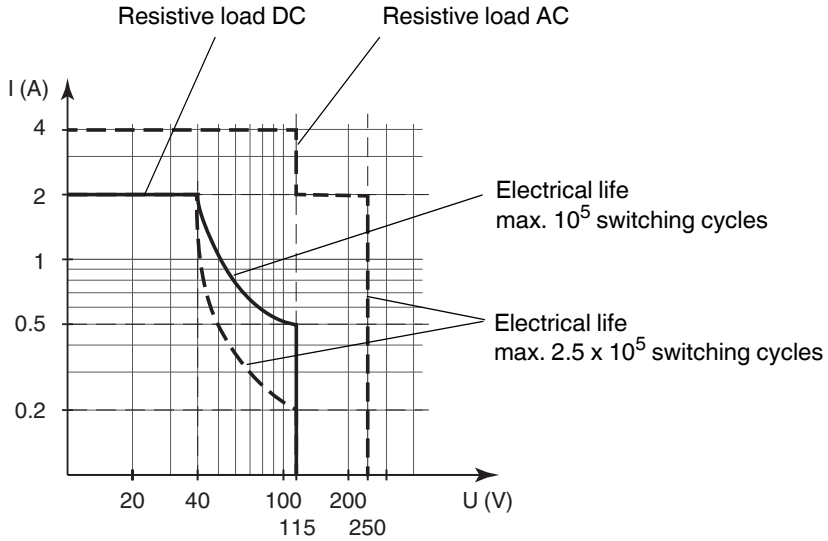
| | |
|---|---|
| **General specifications** | |
| Signal type | Digital Input |
| **Supply** | |
| Connection | terminals 14, 15 |
| Rated voltage $U_n$ | 90 ... 110 V AC , 45 ... 65 Hz |
| Ripple | - |
| Rated current $I_n$ | - |
| Power loss | 1.1 W |
| Power consumption | ≤ 1 W |
| **Input** | |
| Connection | terminals 1+, 2+, 3- |
| 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 |
| **Output** | |
| Connection | output I: terminals 7, 8, 9 ; output II: terminals 10, 11, 12 |
| Output I | signal ; relay |
| Output II | signal or error message ; 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 | $10^7$ switching cycles |
| **Transfer characteristics** | |
| Switching frequency | ≤ 10 Hz |
| **Electrical isolation** | |
| Input/Output | reinforced insulation according to IEC/EN 61010-1, rated insulation voltage 300 $V_{eff}$ |
| Input/power supply | reinforced insulation according to IEC/EN 61010-1, rated insulation voltage 300 $V_{eff}$ |
| Output/power supply | reinforced insulation according to IEC/EN 61010-1, rated insulation voltage 300 $V_{eff}$ |
| Output/Output | reinforced insulation according to IEC/EN 61010-1, rated insulation voltage 300 $V_{eff}$ |
| **Directive conformity** | |
| Electromagnetic compatibility | |
| Directive 2004/108/EC | EN 61326-1:2006 |
| Low voltage | |
| Directive 2006/95/EC | EN 61010-1:2010 |
| **Conformity** | |
| Electromagnetic compatibility | NE 21:2006 |
| Degree of protection | IEC 60529:2001 |
| Input | EN 60947-5-6:2000 |
| **Ambient conditions** | |
| Ambient temperature | -20 ... 60 °C (-4 ... 140 °F) |
| **Mechanical specifications** | |
| Degree of protection | IP20 |
| Mass | approx. 150 g |
| Dimensions | 20 x 119 x 115 mm (0.8 x 4.7 x 4.5 in) , housing type B2 |
| Mounting | on 35 mm DIN mounting rail acc. to EN 60715:2001 |
| **Data for application in connection with Ex-areas** | |
| EC-Type Examination Certificate | PTB 00 ATEX 2081 , for additional certificates see www.pepperl-fuchs.com |
| Group, category, type of protection | ⟨Ex⟩ II (1)G [Ex ia Ga] IIC<br>⟨Ex⟩ II (1)D [Ex ia Da] IIIC<br>⟨Ex⟩ I (M1) [Ex ia Ma] I |
| Input | Ex ia |
| Voltage $U_o$ | 10.6 V |
| Current $I_o$ | 19.1 mA |
| Power $P_o$ | 51 mW (linear characteristic) |
| Supply | |
| Maximum safe voltage $U_m$ | 110 V AC (Attention! $U_m$ is no rated voltage.) |
| Output | |
| 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 |
| Maximum safe voltage $U_m$ | 253 V AC (Attention! The rated voltage can be lower.) |
| Electrical isolation | |
| Input/Output | safe electrical isolation acc. to IEC/EN 60079-11, voltage peak value 375 V |
| Input/power supply | safe electrical isolation acc. to IEC/EN 60079-11, voltage peak value 375 V |
| Directive conformity | |

Release date 2015-02-19 11:46 Date of issue 2015-02-19 112747_eng.xml

| | |
|---|---|
| Directive 94/9/EC | EN 60079-0:2012 , EN 60079-11:2012 |
| **International approvals** | |
| FM approval | |
| Control drawing | 116-0035 |
| CSA approval | |
| Control drawing | 116-0047 |
| IECEx approval | IECEx PTB 11.0031 |
| Approved for | [Ex ia Ga] IIC, [Ex ia Da] IIIC, [Ex ia Ma] I |
| **General information** | |
| Supplementary information | EC-Type Examination Certificate, Statement of Conformity, Declaration of Conformity, Attestation of Conformity and instructions have to be observed where applicable. For information see www.pepperl-fuchs.com. |

Release date 2015-02-19 11:46 Date of issue 2015-02-19 112747_eng.xml

## Maximum switching power of output contacts




The maximum number of switching cycles is depending on the electrical load and may be higher when reduced currents and voltages are applied.

Release date 2015-02-19 11:46 Date of issue 2015-02-19 112747_eng.xml