

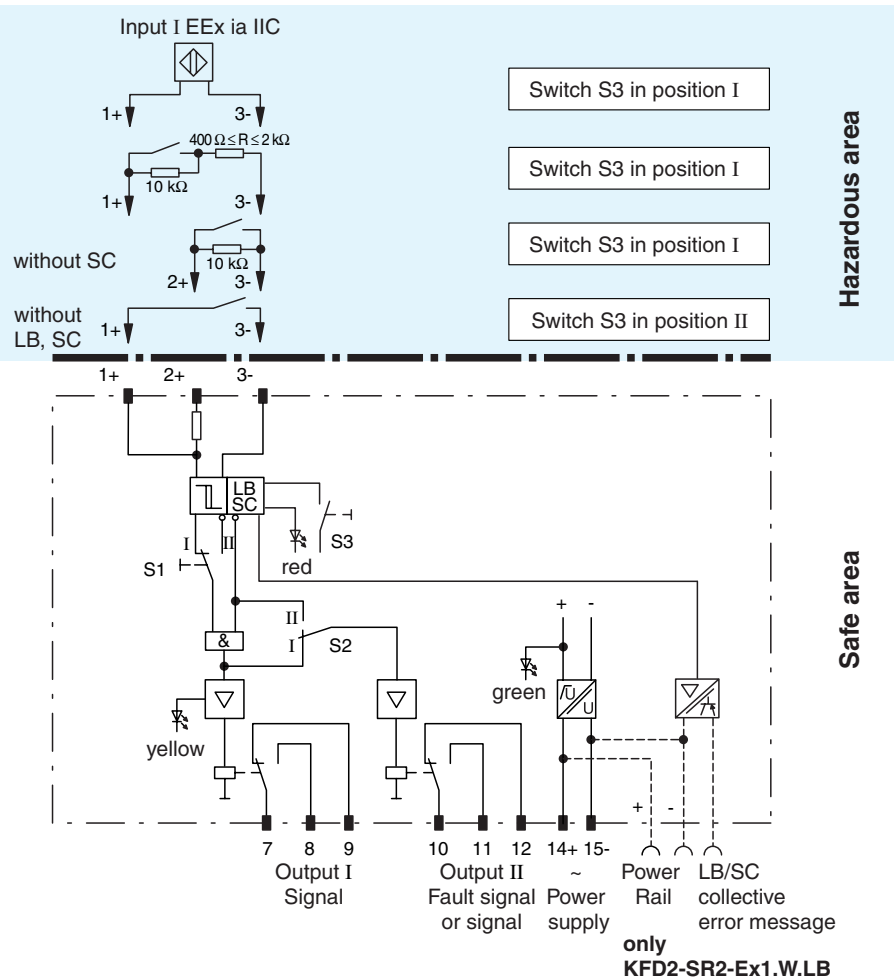


- 1-channel
- Control circuit EEx ia IIC
- Reversible mode of operation
- Output I: signal output (changeover contact)
- Output II: optionally signal output/fault signal
- EMC acc. to NAMUR NE 21
- LB/SC monitoring
- Switch output
- Usable up to SIL2 acc. to IEC 61508

100 V AC

KFA4-SR2-Ex1.W.LB

Connection



Composition

Front View

Housing type C (see system description)

LED yellow: Relay output

LED red: LB/SC

Removable terminals blue

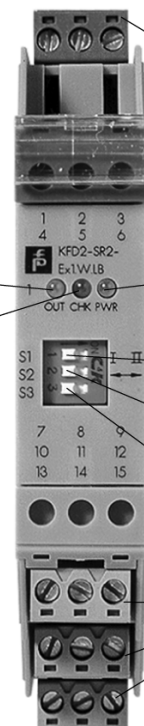
LED green: Power supply

Switch S1 (mode of operation)

Switch S2 (output selection II)

Switch S3 (LB/SC-monitoring)

Removable terminals green



General specifications	
Signal type	Digital input
Supply	
Connection	terminals 14, 15
Rated voltage	90 ... 110 V AC , 45 ... 65 Hz
Ripple	-
Rated current	-
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	
Output/power supply	reinforced insulation acc. to IEC 61140, rated insulation voltage 300 V _{rms}
Output/output	basic insulation according to IEC 61140, rated insulation voltage 300 V _{rms}
Directive conformity	
Electromagnetic compatibility	
Directive 2004/108/EC	EN 61326-1:2006
Low voltage	
Directive 2006/95/EC	EN 50178:1997
Conformity	
Electromagnetic compatibility	NE 21
Protection degree	IEC 60529
Ambient conditions	
Ambient temperature	-20 ... 60 °C (253 ... 333 K)
Mechanical specifications	
Protection degree	IP20
Mass	approx. 150 g
Data for application in conjunction with hazardous areas	
EC-Type Examination Certificate	PTB 00 ATEX 2081 , for additional certificates see www.pepperl-fuchs.com
Group, category, type of protection	⊕ II (1)GD [EEx ia] IIC [circuit(s) in zone 0/1/2]
Input	EEx ia IIC
Voltage U _o	10.6 V
Current I _o	19.1 mA
Power P _o	51 mW (linear characteristic)
Supply	
Safety maximum voltage U _m	253 V AC / 126.5 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
Safety maximum voltage U _m	253 V AC (Attention! The rated voltage can be lower.)
Electrical isolation	
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	standards EN 50014, EN 50020

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.

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In the case of type KFD2-SR2-Ex1.W.LB, an LB/SC collective 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.

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.