



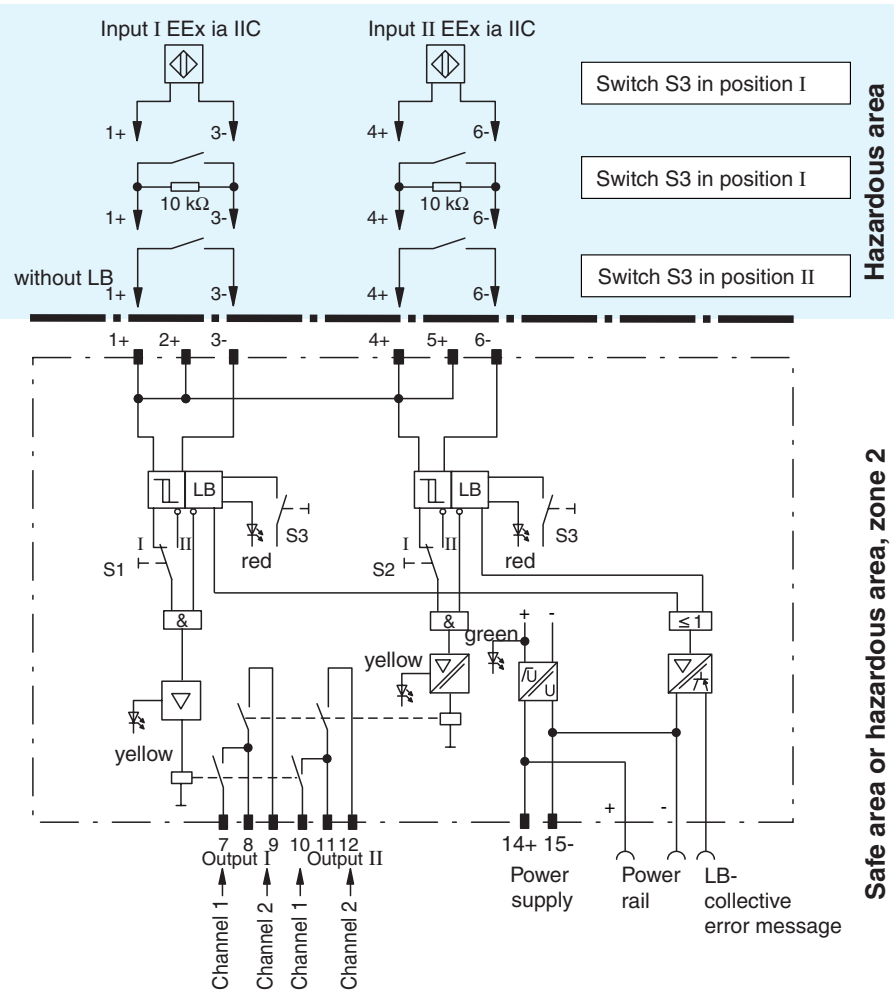
- 2-channel
- Control circuit EEx ia IIC
- Device installation in Zone 2
- 24 V DC nominal supply voltage
- Reversible mode of operation
- Lead breakage monitoring red LED, flashing, signal on Power Rail contact
- 1 relay output per channel with 2 NO contacts, switching state: LED yellow
- EMC acc. to NAMUR NE 21

24 V DC:

KFD2-SR2-Ex2.2S

Standard model, replaces models KFD2-SR-Ex2.GS and KFD2-SR-Ex2.2S.OP

Connection



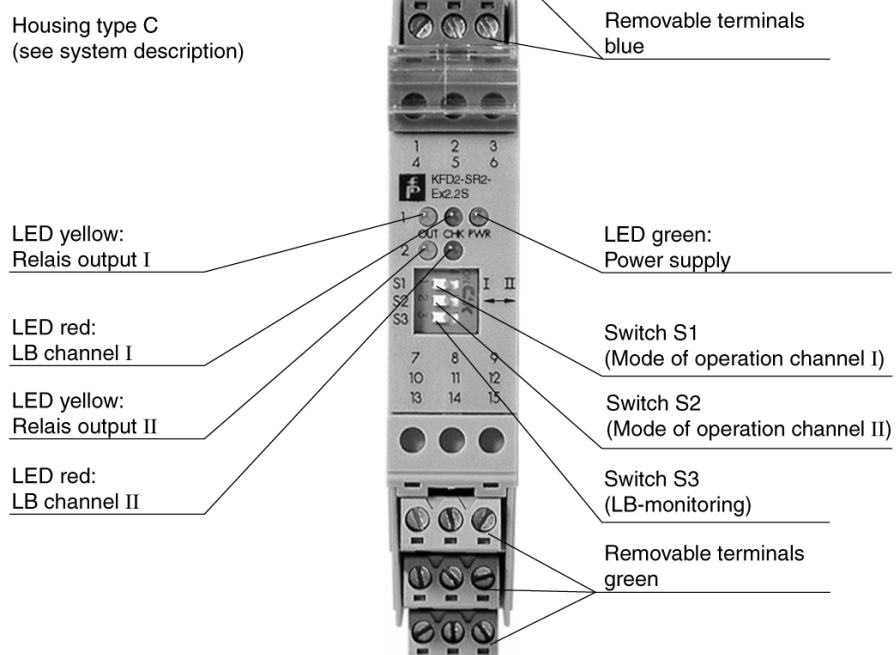
Hazardous area

Safe area or hazardous area, zone 2

Composition

Front View

Housing type C (see system description)



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General specifications	
Signal type	Digital Input
Supply	
Connection	Power Rail or terminals 14+, 15-
Rated voltage U_r	20 ... 30 V DC
Ripple	≤ 10 %
Rated current I_r	≤ 40 mA
Power dissipation	1 W
Input	
Connection	terminals 1+, 3-; 4+, 6-
Rated values	acc. to EN 60947-5-6 (NAMUR), see system description for electrical data
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
Pulse/Pause ratio	≥ 20 ms / ≥ 20 ms
Line fault detection	breakage $I \leq 0.1$ mA
Output	
Connection	output I: terminals 7, 8, 9 ; output II: terminals 10, 11, 12
Output I, II	channel 1, 2 ; relay
Contact loading	50 V AC/1 A/cos $\phi > 0.7$; 40 V DC/1 A resistive load
Minimum switch current	1 mA / 24 V DC
Energized/De-energized delay	approx. 20 ms / approx. 20 ms
Mechanical life	10 ⁸ switching cycles
Collective error message	Power Rail
Transfer characteristics	
Switching frequency	≤ 10 Hz
Galvanic isolation	
Input/Output	safe galvanic isolation acc. to EN 50020, voltage peak value 375 V
Input/power supply	safe galvanic isolation acc. to EN 50020, voltage peak value 375 V
Output/power supply	basic insulation acc. to DIN EN 50178, rated insulation voltage 50 V _{eff} AC
Output/Output	basic insulation acc. to DIN EN 50178, rated insulation voltage 50 V _{eff} AC
Directive conformity	
Electromagnetic compatibility	
Directive 2004/108/EC	EN 61326-1:2006
Low voltage	
Directive 2006/95/EC	EN 50178:1997
Standard conformity	
Insulation coordination	acc. to DIN EN 50178
Galvanic isolation	acc. to DIN EN 50178
Electromagnetic compatibility	acc. to EN 50081-2 / EN 50082-2, NAMUR NE 21
Climatic conditions	acc. to DIN IEC 721
Input	acc. to EN 60947-5-6 (NAMUR), see system description for electrical data
Ambient conditions	
Ambient temperature	-20 ... 60 °C (-4 ... 140 °F)
Mechanical specifications	
Degree of protection	IP20
Mass	approx. 150 g
Data for application in connection with hazardous areas	
EU-Type Examination Certificate	PTB 00 ATEX 2083 ; for additional certificates refer to the approval list
Marking	Ⓔ II (1)GD [EEx ia] IIC
Voltage U_o	10.5 V
Current I_o	13 mA
Power P_o	34 mW
Supply	
Maximum safe voltage U_m	40 V DC
Type of protection [EEx ia and EEx ib]	
Output	
Maximum safe voltage U_m	
Certificate	TÜV 99 ATEX 1493 X (observe statement of conformity)
Marking	Ⓔ II 3G EEx nAC IIC T4
Galvanic isolation	
Input/Output	safe galvanic isolation acc. to EN 50020, voltage peak value 375 V
Input/power supply	safe galvanic isolation acc. to EN 50020, voltage peak value 375 V
Directive conformity	
Directive 94/9/EC	Standards on request

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Function

The transformer isolated barrier transfers digital signals from the hazardous area. The inputs are designed for the connection of sensors per DIN EN 60947-5-6 (NAMUR) or mechanical contacts.
 The input, output and power supply are galvanically isolated from each other.
 The relay output and the power supply are galvanically isolated from each other per DIN EN 50178 with a design isolation voltage of AC 50 V.

Notes

Lead breakage monitoring

The output is cut-off when the current in the control circuit is $J < 0,1 \text{ mA}$ (per lead breakage monitoring). In the case of an error, a fault signal is switched on the Power Rail (UPR-03). The power feed module evaluates and passes on the fault signal by means of a potentially free contact.

Accessories

Power Rail UPR-03
 Power feed module 24 V DC KFD2-EB ...

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