



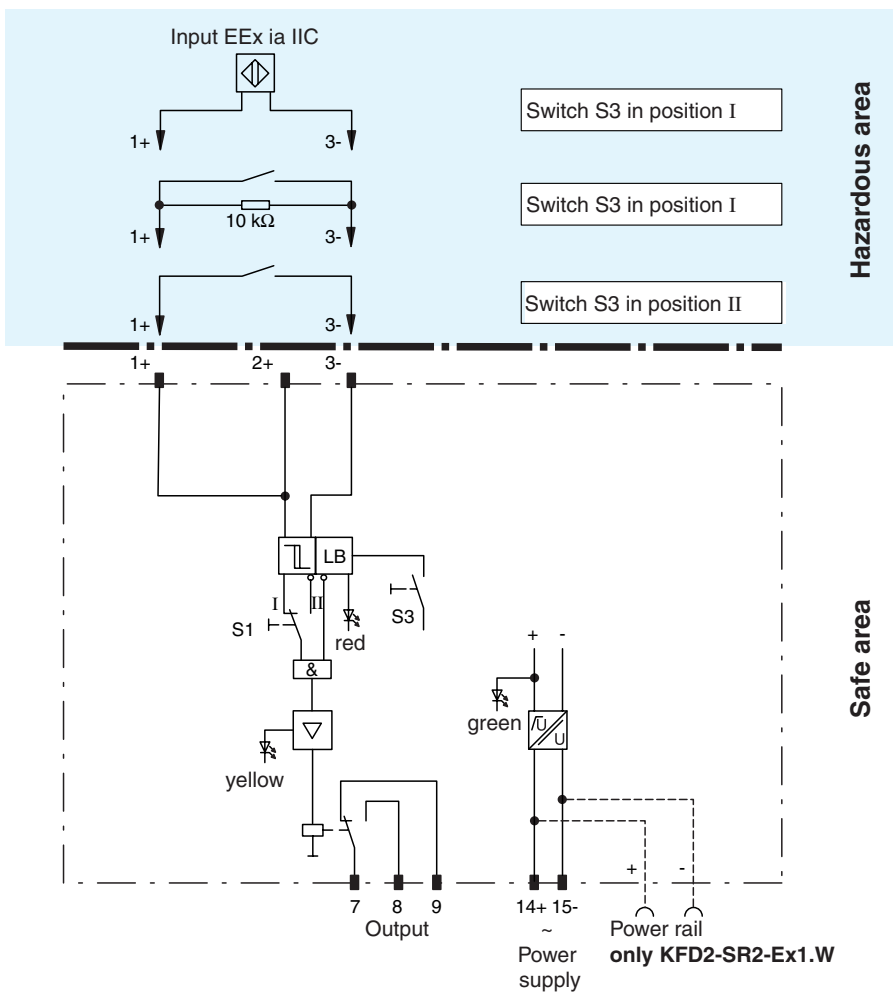
- 1-channel
- Control circuit EEx ia IIC
- Reversible mode of operation
- 1 signal output with 1 changeover contact
- EMC acc. to NAMUR NE 21

24 V DC:

KFD2-SR2-Ex1.W

Replaces model KFD2-SR-Ex1

Connection



Composition

Supply		
Connection		Power Rail or terminals 14+, 15-
Rated voltage		20 ... 30 V DC
Ripple		≤ 10 %
Rated current		20 ... 23 mA
Power loss		0.4 W
Power consumption		< 1 W
Input		
Connection		terminals 1+, 3-
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
Lead monitoring		breakage I ≤ 0.1 mA
Output		
Connection		terminals 7, 8, 9
Output		signal ; Relay
Contact loading		253 V AC / 2 A / cos φ > 0.7; 40 V DC / 2 A resistive load;
Energised/De-energised delay		approx. 20 ms / approx. 20 ms
Mechanical life		10 ⁷ switching cycles
Transfer characteristics		
Switching frequency		< 10 Hz
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
Output/power supply		safe isolation acc. to DIN VDE 0106, rated insulation voltage 253 V _{eff}
Directive conformity		
Electromagnetic compatibility		standards
Directive 89/336/EC		acc. to EN 50081-2 / EN 50082-2
Standard conformity		
Insulation coordination		acc. to DIN EN 50178
Electrical 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 (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 2080 ; for additional certificates see www.pepperl-fuchs.com
Group, category, type of protection		Ⓔ II (1) G D [Ex ia] IIC [circuit(s) in zone 0/1/2]
Voltage U ₀		10.5 V
Current I ₀		13 mA
Power P ₀		34 mW
Supply		
Safety maximum voltage U _m		253 V AC / 125 V DC (Attention! U _m is no rated voltage.)
Type of protection [Ex ia and Ex ib]		
Explosion group	IIA	IIB IIC
External capacitance	75 µF	16.8 µF 2.41 µF
External inductance	1000 mH	840 mH 210 mH
Electrical isolation		
Input/Output		safe electrical isolation acc. to EN 50020, voltage peak value 375 V
Directive conformity		
Directive 94/9 EC		EN 50014, EN 50020
Entity parameter		
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		
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 μF	3.82 μF	10.18 μF
Max. external inductance L _a	84.8 mH	254.4 mH	678.4 mH
Safety parameter			
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		
Input I			
Safety parameter	12.6 V / 650 Ohm		
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 μF	3.82 μF	10.18 μF
Max. external inductance L _a	84.88 mH	298.7 mH	744.4 mH

Function

The transformer isolated barrier transfers digital signals from the hazardous area. Sensors per DIN EN 60947-5-6 (NAMUR) and mechanical contacts may be used as alarms. The control circuit is monitored for lead breakage (LB). AC units have a low heat build-up due to voltage peak value generation. This switching technique has been patented. The input is safely isolated from the output and the power supply in accordance with DIN EN 50020. The output and power supply are safely isolated from each other in accordance with DIN VDE 106 Section 101.