

Switch Amplifier

KFD2-SOT2-Ex2.IO-Y181008

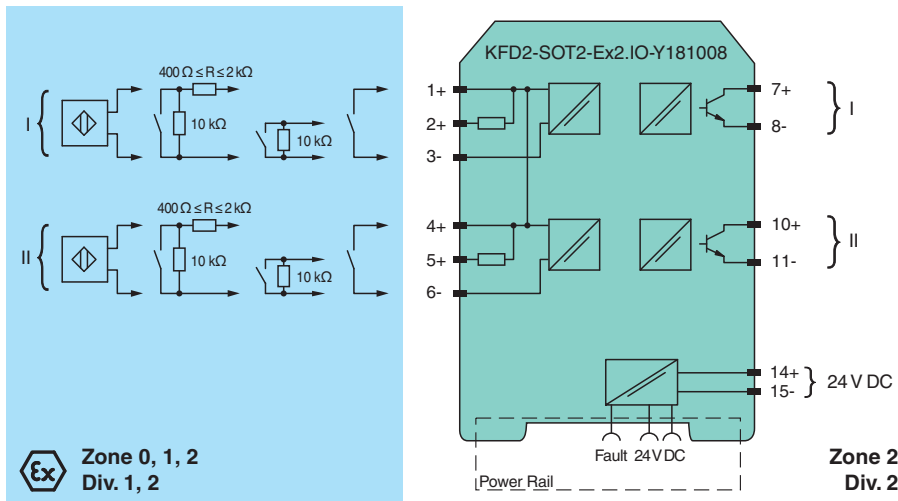
- 2-channel isolated barrier
- 24 V DC supply (Power Rail)
- Dry contact or NAMUR inputs
- Isolated passive transistor output, TTL level
- Line fault detection (LFD)
- Reversible mode of operation



Function

This isolated barrier is used for intrinsic safety applications. It transfers digital signals (NAMUR sensors/mechanical contacts) from a hazardous area to a safe area. Each proximity sensor or switch controls a passive transistor output for the safe area load. Both transistor outputs are isolated from each other and isolated from the power supply. The normal output state can be reversed using switch S1 for channel I and switch S2 for channel II. Switch S3 enables or disables line fault detection of the field circuit. During an error condition, the transistors revert to their de-energized state and LEDs indicate the fault according to NAMUR NE44. A unique collective error messaging feature is available when used with the Power Rail system.

Connection



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Technical Data

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 ≤ 50 mA
Input	
Connection side	field side
Connection	terminals 1+, 2+, 3-; 4+, 5+, 6-

Refer to "General Notes Relating to Pepperl+Fuchs Product Information".

Technical Data

Rated values	acc. to EN 60947-5-6 (NAMUR), see manual 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	
Line fault detection	breakage $I \leq 0.1$ mA , short-circuit $I > 6$ mA	
Output		
Connection side	control side	
Connection	output I: terminals 7+, 8- ; output II: terminals 10+, 11-	
Switching voltage	max. 30 V	
Switching current	max. 2 mA , short-circuit protected	
Signal level	1-signal: switching voltage - 0.85 V max. at 2 mA switching current 0-signal: switched off (off-state current ≤ 10 μ A)	
Output I, II	signal , TTL compatible	
Collective error message	Power Rail	
Transfer characteristics		
Switching frequency	≤ 5 kHz	
Galvanic isolation		
Input/Output	reinforced insulation acc. to IEC 62103, rated insulation voltage 300 V _{rms}	
Input/power supply	reinforced insulation acc. to IEC 62103, rated insulation voltage 300 V _{rms}	
Output/power supply	basic insulation according to IEC 62103, rated insulation voltage 50 V _{eff}	
Output/Output	basic insulation according to IEC 62103, rated insulation voltage 50 V _{eff}	
Indicators/settings		
Display elements	LEDs	
Control elements	DIP switch	
Configuration	via DIP switches	
Labeling	space for labeling at the front	
Directive conformity		
Electromagnetic compatibility	EN 61326-1:2013 (industrial locations)	
Directive 2014/30/EU	EN 61326-1:2013 (industrial locations)	
Conformity		
Galvanic isolation	IEC 62103:2003	
Electromagnetic compatibility	NE 21:2004	
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	
Connection	screw terminals	
Mass	approx. 150 g	
Dimensions	20 x 119 x 115 mm (0.8 x 4.7 x 4.5 inch) (W x H x D) , housing type B2	
Mounting	on 35 mm DIN mounting rail acc. to EN 60715:2001	
Data for application in connection with hazardous areas		
EU-type examination certificate	PTB 00 ATEX 2035	
Marking	⊕ II (1) G [Ex ia] IIC ⊕ II (1) D [Ex ia] IIIC	
Input	Ex ia IIC, Ex ia IIIC	
Voltage	U _o	10.5 V
Current	I _o	13 mA
Power	P _o	34 mW (linear characteristic)
Supply		
Maximum safe voltage	U _m	40 V DC (Attention! The rated voltage can be lower.)
Output		
Maximum safe voltage	U _m	40 V DC (Attention! The rated voltage can be lower.)
EU-type examination certificate	DMT 01 ATEX E 133	

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Refer to "General Notes Relating to Pepperl+Fuchs Product Information".

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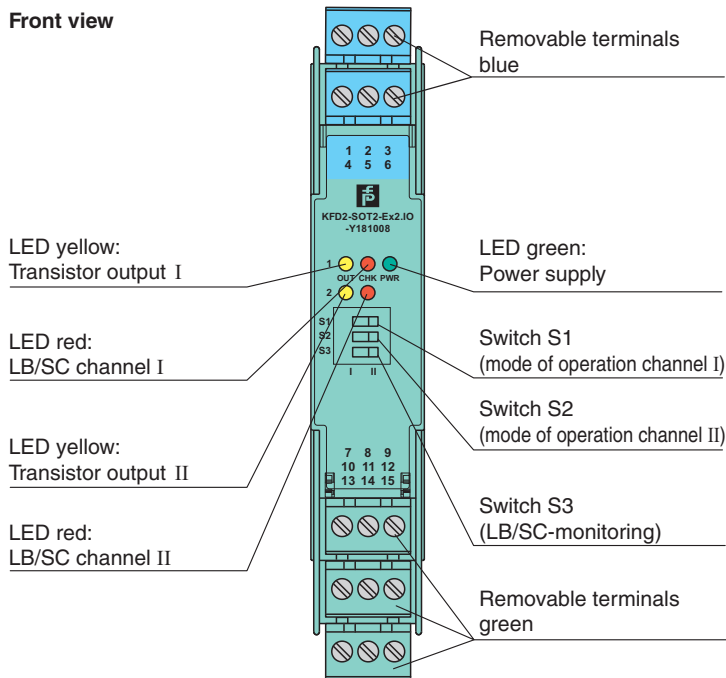
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
Technical Data

Marking	Ⓜ I (M1) [Ex ia] I
Certificate	TÜV 99 ATEX 1499 X
Marking	Ⓜ II 3G Ex nA II T4
Galvanic 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	
Directive 2014/34/EU	EN 60079-0:2012+A11:2013 , EN 60079-11:2012 , EN 60079-15:2010 , EN 50303:2000
International approvals	
FM approval	
Control drawing	116-0035
CSA approval	
Control drawing	116-0047
IECEx approval	
IECEx certificate	IECEx PTB 05.0011
IECEx marking	[Ex ia] IIC , [Ex ia] I , [Ex ia] IIIC
General information	
Supplementary information	Observe the certificates, declarations of conformity, instruction manuals, and manuals where applicable. For information see www.pepperl-fuchs.com .

Assembly







Matching System Components

	KFD2-EB2	Power Feed Module
	UPR-03	Universal Power Rail with end caps and cover, 3 conductors, length: 2 m





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Matching System Components

	UPR-03-M	Universal Power Rail with end caps and cover, 3 conductors, length: 1,6 m
	UPR-03-S	Universal Power Rail with end caps and cover, 3 conductors, length: 0.8 m
	K-DUCT-BU	Profile rail, wiring comb field side, blue
	K-DUCT-BU-UPR-03	Profile rail with UPR-03- * insert, 3 conductors, wiring comb field side, blue

Accessories

	F-NR3-Ex1	NAMUR Resistor Network
	KF-ST-5GN	Terminal block for KF modules, 3-pin screw terminal, green
	KF-ST-5BU	Terminal block for KF modules, 3-pin screw terminal, blue
	KF-CP	Red coding pins, packaging unit: 20 x 6