

**Features**

- 2-channel isolated barrier
- 24 V DC supply (Power Rail)
- Dry contact or NAMUR inputs
- Passive transistor output, non-polarized
- Line fault detection (LFD)
- Reversible mode of operation
- Up to SIL 2 acc. to IEC 61508

**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.

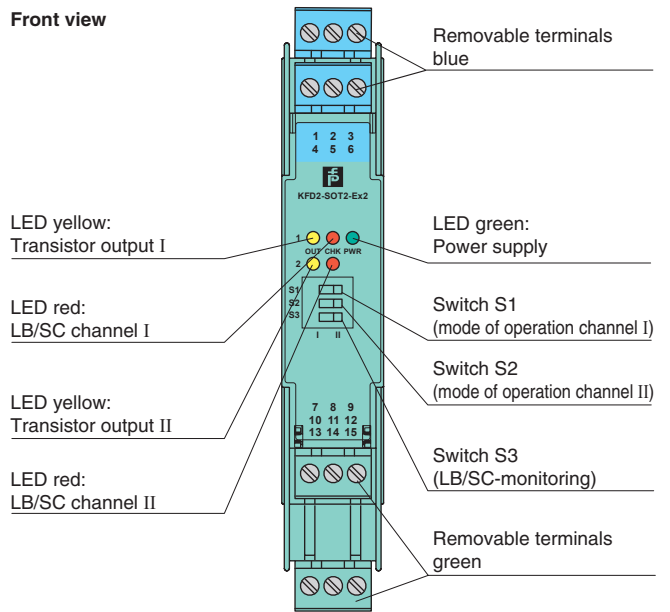
Each proximity sensor or switch controls a passive transistor output for the safe area load. The normal output state can be reversed using switch S1 for channel I and switch S2 for channel II.

Switch S3 enables or disables line fault detection of the field circuit.

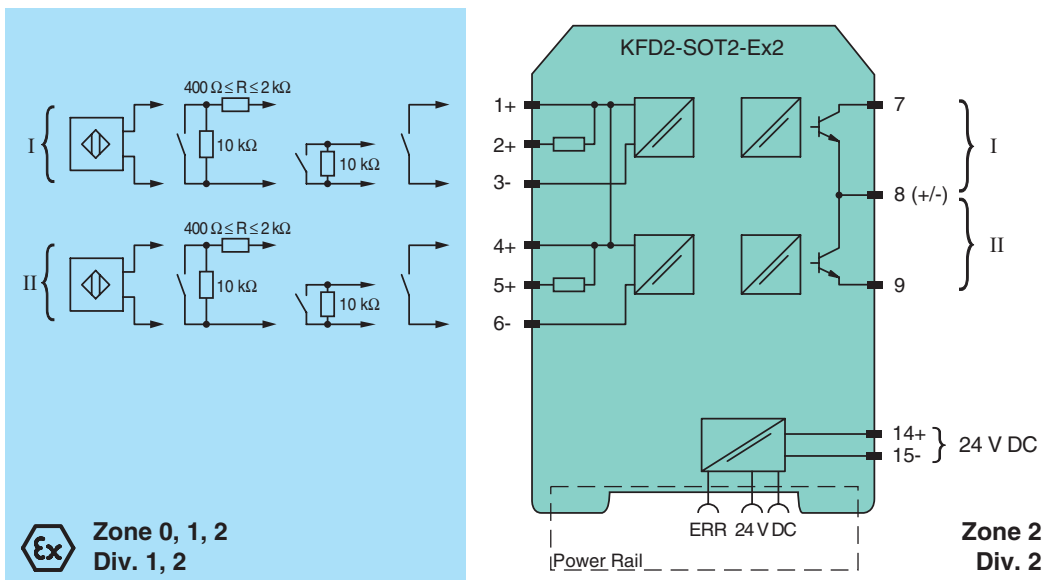
During an error condition, the transistors revert to their de-energized state and LEDs indicate the fault according to NAMUR NE44.

A unique collective error messaging feature is available when used with the Power Rail system.

**Assembly**



**Connection**



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

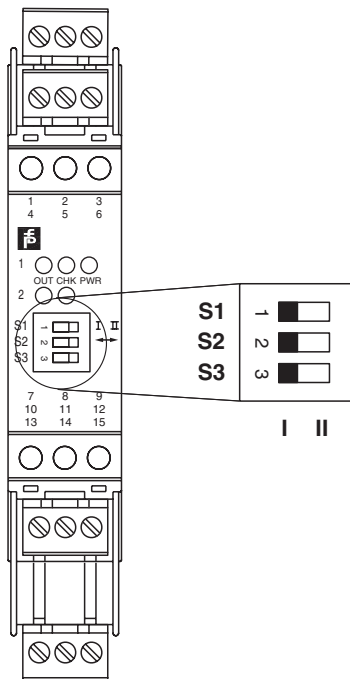
<b>General specifications</b>		
Signal type		Digital Input
<b>Functional safety related parameters</b>		
Safety Integrity Level (SIL)		SIL 2
<b>Supply</b>		
Connection		Power Rail or terminals 14+, 15-
Rated voltage	$U_r$	20 ... 30 V DC
Ripple		≤ 10 %
Rated current	$I_r$	≤ 50 mA
<b>Input</b>		
Connection side		field side
Connection		terminals 1+, 2+, 3-; 4+, 5+, 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
Line fault detection		breakage $I \leq 0.1$ mA , short-circuit $I > 6$ mA
<b>Output</b>		
Connection side		control side
Connection		output I: terminals 7, 8 ; output II: terminals 8, 9
Switching voltage		≤ 30 V
Switching current		≤ 100 mA , short-circuit protected
Signal level		1-signal: switching voltage - 2.5 V max. at 10 mA switching current or 3 V max. at 100 mA switching current 0-signal: switched off (off-state current ≤ 10 μA)
Output I, II		signal ; electronic output, passive
Collective error message		Power Rail
<b>Transfer characteristics</b>		
Switching frequency		≤ 5 kHz
<b>Galvanic isolation</b>		
Input/Output		reinforced insulation acc. to IEC 62103, rated insulation voltage 300 V <sub>rms</sub>
Input/power supply		reinforced insulation acc. to IEC 62103, rated insulation voltage 300 V <sub>rms</sub>
Output/power supply		basic insulation according to IEC 62103, rated insulation voltage 50 V <sub>eff</sub>
Input/input		not available
Output/output		not available
<b>Indicators/settings</b>		
Display elements		LEDs
Control elements		DIP-switch
Configuration		via DIP switches
Labeling		space for labeling at the front
<b>Directive conformity</b>		
Electromagnetic compatibility		
Directive 2014/30/EU		EN 61326-1:2013 (industrial locations)
<b>Conformity</b>		
Galvanic isolation		IEC 62103:2003
Electromagnetic compatibility		NE 21:2004
Degree of protection		IEC 60529:2001
Input		EN 60947-5-6:2000
<b>Ambient conditions</b>		
Ambient temperature		-20 ... 60 °C (-4 ... 140 °F)
<b>Mechanical specifications</b>		
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) , housing type B2
Mounting		on 35 mm DIN mounting rail acc. to EN 60715:2001
<b>Data for application in connection with hazardous areas</b>		
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)
<b>Supply</b>		
Maximum safe voltage	$U_m$	40 V DC (Attention! The rated voltage can be lower.)

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

Type of protection [EEx ia and EEx ib]	
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
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
<b>International approvals</b>	
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] IIC
<b>General information</b>	
Supplementary information	Observe the certificates, declarations of conformity, instruction manuals, and manuals where applicable. For information see <a href="http://www.pepperl-fuchs.com">www.pepperl-fuchs.com</a> .
<b>Accessories</b>	
Optional accessories	- power feed module KFD2-EB2(.R4A.B)(.SP) - universal power rail UPR-03(-M)(-S) - profile rail K-DUCT-BU(-UPR-03)

Configuration



Switch position

S	Function		Position
1	Mode of operation Output I active	with high input current	I
		with low input current	II
2	Mode of operation Output II active	with high input current	I
		with low input current	II
3	Line fault detection	ON	I
		OFF	II

Operating status

Control circuit	Input signal
Initiator high impedance/ contact opened	low input current
Initiator low impedance/ contact closed	high input current
Lead breakage, lead short-circuit	Line fault

Factory settings: switch 1, 2 and 3 in position I



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