

**Features**

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

**Function**

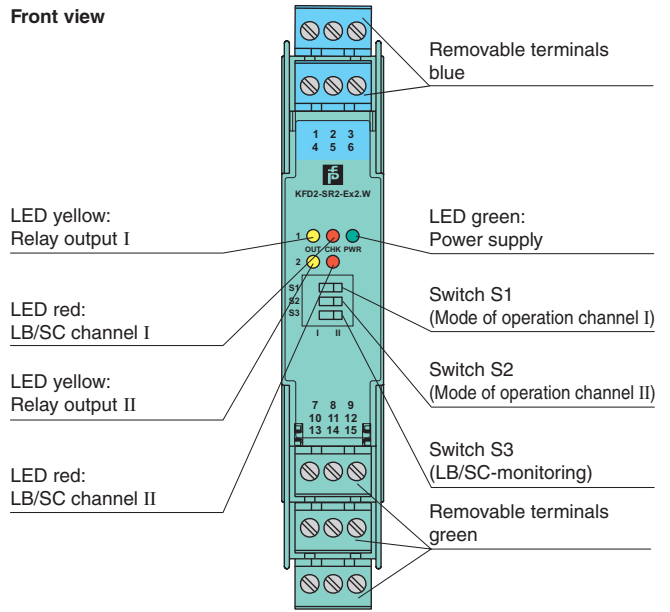
This isolated barrier is used for intrinsic safety applications. It transfers digital signals (NAMUR sensors/mechanical contacts) from a hazardous area to a safe area.

The proximity sensor or switch controls a form C changeover relay contact for the safe area load. The normal output state can be reversed using switches S1 and S2. Switch S3 is used to enable or disable line fault detection of the field circuit.

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

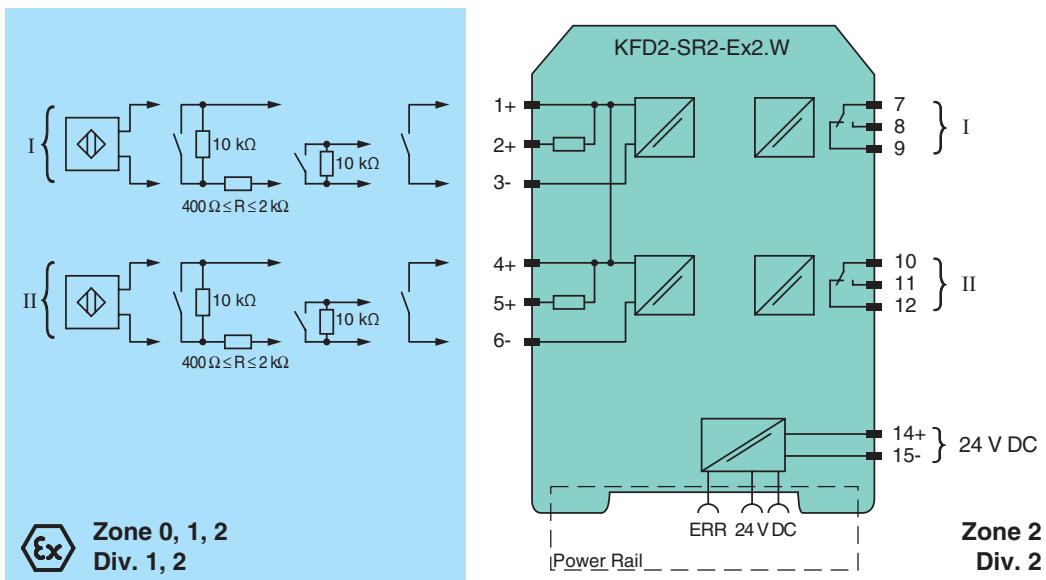
A unique collective error messaging feature is available when used with the Power Rail system.

**Assembly**






**SIL 2**

**Connection**



Release date 2016-05-18 12:47 Date of issue 2016-05-18 132960\_eng.xml

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

<b>General specifications</b>		
Signal type		Digital Input
<b>Supply</b>		
Connection		Power Rail or terminals 14+, 15-
Rated voltage	$U_n$	20 ... 30 V DC
Ripple		≤ 10 %
Rated current	$I_n$	≤ 50 mA
Power dissipation		1 W
Power consumption		< 1.3 W
<b>Input</b>		
Connection		terminals 1+, 2+, 3-; 4+, 5+, 6-
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 $I \leq 0.1$ mA , short-circuit $I > 6$ mA
Pulse/Pause ratio		≥ 20 ms / ≥ 20 ms
<b>Output</b>		
Connection		output I: terminals 7, 8, 9 ; output II: terminals 10, 11, 12
Output I, II		signal, relay
Contact loading		253 V AC/2 A/cos $\phi > 0.7$ ; 126.5 V AC/4 A/cos $\phi > 0.7$ ; 40 V DC/2 A resistive load
Minimum switch current		2 mA / 24 V DC
Energized/De-energized delay		approx. 20 ms / approx. 20 ms
Mechanical life		10 <sup>7</sup> switching cycles
<b>Transfer characteristics</b>		
Switching frequency		≤ 10 Hz
<b>Electrical isolation</b>		
Input/Output		reinforced insulation according to IEC/EN 61010-1, rated insulation voltage 300 V <sub>eff</sub>
Input/power supply		reinforced insulation according to IEC/EN 61010-1, rated insulation voltage 300 V <sub>eff</sub>
Output/power supply		reinforced insulation according to IEC/EN 61010-1, rated insulation voltage 300 V <sub>eff</sub>
Output/Output		reinforced insulation according to IEC/EN 61010-1, rated insulation voltage 300 V <sub>eff</sub>
<b>Directive conformity</b>		
Electromagnetic compatibility		
Directive 2014/30/EU		EN 61326-1:2013 (industrial locations)
Low voltage		
Directive 2014/35/EU		EN 61010-1:2010
<b>Conformity</b>		
Electromagnetic compatibility		NE 21:2006
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
Mass		approx. 150 g
Dimensions		20 x 119 x 115 mm (0.8 x 4.7 x 4.5 in) , housing type B2
Mounting		on 35 mm DIN mounting rail acc. to EN 60715:2001
<b>Data for application in connection with Ex-areas</b>		
EC-Type Examination Certificate		PTB 00 ATEX 2080
Group, category, type of protection		 II (1)G [Ex ia Ga] IIC  II (1)D [Ex ia Da] IIIC  I (M1) [Ex ia Ma] I
Input		Ex ia
Voltage	$U_o$	10.5 V
Current	$I_o$	13 mA
Power	$P_o$	34 mW (linear characteristic)
<b>Supply</b>		
Maximum safe voltage	$U_m$	253 V AC / 125 V DC (Attention! $U_m$ is no rated voltage.)
<b>Output</b>		
Contact loading		253 V AC/2 A/cos $\phi > 0.7$ ; 126.5 V AC/4 A/cos $\phi > 0.7$ ; 40 V DC/2 A resistive load
Maximum safe voltage	$U_m$	253 V AC (Attention! The rated voltage can be lower.)
<b>Error message output</b>		
Maximum safe voltage	$U_m$	40 V DC (Attention! $U_m$ is no rated voltage.)
Statement of conformity		PF 08 CERT 0803

Release date 2016-05-18 12:47 Date of issue 2016-05-18 13:2960\_eng.xml

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

Pepperl+Fuchs Group  
www.pepperl-fuchs.com

USA: +1 330 486 0002  
pa-info@us.pepperl-fuchs.com

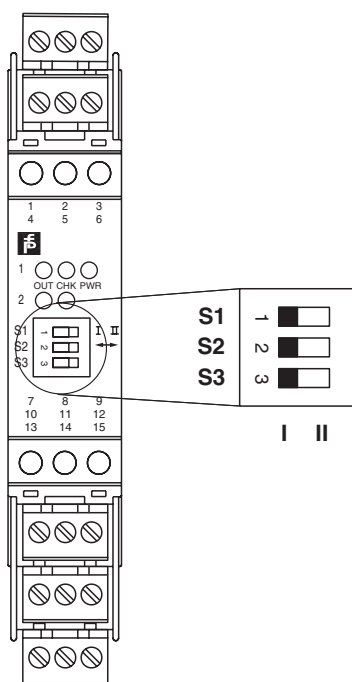
Germany: +49 621 776 2222  
pa-info@de.pepperl-fuchs.com

Singapore: +65 6779 9091  
pa-info@sg.pepperl-fuchs.com

Group, category, type of protection	⊕ II (3)G [Ex ic Gc] IIC	
Input	Ex ic	
Voltage	U <sub>o</sub>	10.5 V
Current	I <sub>o</sub>	13 mA
Power	P <sub>o</sub>	34 mW (linear characteristic)
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	
Statement of conformity	TÜV 99 ATEX 1493 X	
Group, category, type of protection, temperature class	⊕ II 3G Ex nA nC IIC T4	
Output		
Contact loading	50 V AC/4 A/cos φ > 0.7; 40 V DC/2 A resistive load	
Electrical 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	
<b>International approvals</b>		
FM approval		
Control drawing	116-0035	
CSA approval		
Control drawing	116-0047	
IECEX approval	IECEX PTB 11.0034	
Approved for	[Ex ia Ga] IIC, [Ex ia Da] IIIC, [Ex ia Ma] I	
<b>General information</b>		
Supplementary information	EC-Type Examination Certificate, Statement of Conformity, Declaration of Conformity, Attestation of Conformity and instructions have to be observed where applicable. For information see <a href="http://www.pepperl-fuchs.com">www.pepperl-fuchs.com</a> .	

Release date 2016-05-18 12:47 Date of issue 2016-05-18 132960\_eng.xml

**Configuration**



**Switch position**

S	Function		Position
1	Mode of operation Output I (relay) energized	with high input current	I
		with low input current	II
2	Mode of operation Output II (relay) energized	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

**Accessories**

**Power feed module KFD2-EB2**

The power feed module is used to supply the devices with 24 V DC via the Power Rail. The fuse-protected power feed module can supply up to 150 individual devices depending on the power consumption of the devices. Collective error messages received from the Power Rail activate a galvanically-isolated mechanical contact.

**Power Rail UPR-03**

The Power Rail UPR-03 is a complete unit consisting of the electrical insert and an aluminium profile rail 35 mm x 15 mm. To make electrical contact, the devices are simply engaged.

**Profile Rail K-DUCT with Power Rail**

The profile rail K-DUCT is an aluminum profile rail with Power Rail insert and two integral cable ducts for system and field cables. Due to this assembly no additional cable guides are necessary.



*Power Rail and Profile Rail must not be fed via the device terminals of the individual devices!*