

**Features**

- 2-channel isolated barrier
- 24 V DC supply (Power Rail)
- Output 45 mA at 11.7 V DC
- Logic input, non-polarized
- Line fault detection (LFD)
- Up to SIL 2 acc. to IEC 61508

**Function**

This isolated barrier is used for intrinsic safety applications. It supplies power to solenoids, LEDs, and audible alarms, located in a hazardous area.

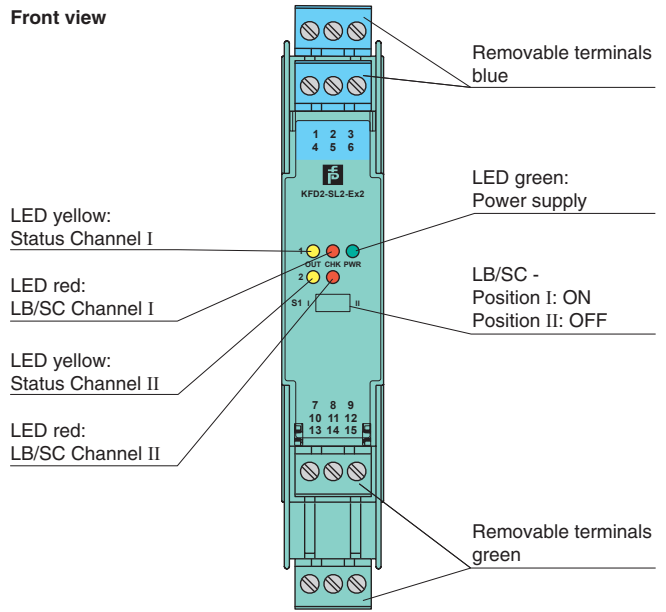
It is controlled via a logic signal. The input has two defined states: 1-Signal = 16 V DC ... 30 V DC, 0-Signal = 0 V DC ... 5 V DC. The current consumption of the input is about 3 mA.

At full load, 11.7 V at 45 mA is available for the hazardous area application.

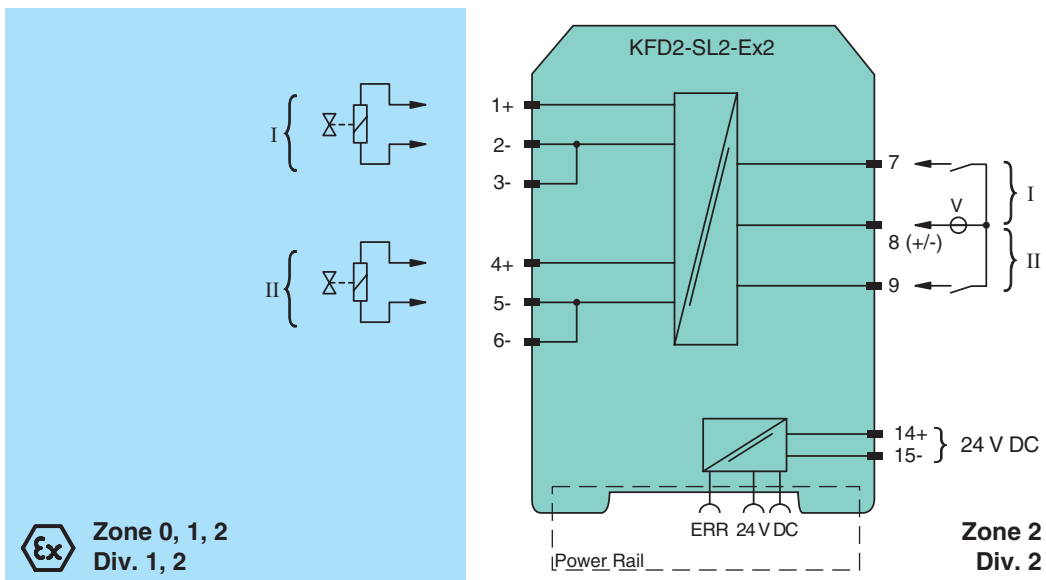
If the field impedance is > 10 kΩ for lead breakage or < 50 Ω for short circuits a line fault is detected.

A fault is signaled by LEDs acc. to NAMUR NE44 and a separate collective error message output.

**Assembly**

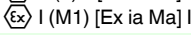


**Connection**



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

<b>General specifications</b>		
Signal type		Digital Output
<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
Power consumption		≤ 3.3 W at 45 mA output current
<b>Input</b>		
Connection side		control side
Connection		terminals 7, 8, 9
Input current		approx. 3 mA at 24 V DC
Signal level		1-signal: 16 ... 30 V DC 0-signal: 0 ... 5 V DC
<b>Output</b>		
Connection side		field side
Connection		channel 1: terminals 1+, 2-, 3 channel 2: terminals 4+, 5-, 6-
Internal resistor	$R_i$	272 Ω
Current	$I_e$	≤ 45 mA
Voltage	$U_e$	≥ 11.7 V
Open loop voltage	$U_s$	≥ 24 V
Output signal		These values are valid for the rated operating voltages from 20 ... 30 V DC.
Energized/De-energized delay		≤ 20 ms / ≤ 20 ms
Line fault detection		signal at short-circuit $R_B < 50 \Omega$ , lead breakage $R_B > 10 \text{ k}\Omega$ , test current < 650 μA
<b>Galvanic 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>
Power supply/Output		reinforced insulation according to IEC/EN 61010-1, rated insulation voltage 300 V <sub>eff</sub>
<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>		
Electromagnetic compatibility		NE 21:2006
Degree of protection		IEC 60529:2001
Protection against electrical shock		EN 61010-1:2010
<b>Ambient conditions</b>		
Ambient temperature		-20 ... 50 °C (-4 ... 122 °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		ZELM 00 ATEX 0024
Marking		  
Output		Ex ia
Voltage	$U_o$	28 V
Current	$I_o$	110 mA
Power	$P_o$	770 mW (linear characteristic)
<b>Supply</b>		
Maximum safe voltage	$U_m$	40 V (Attention! The rated voltage can be lower.)
<b>Input</b>		
Maximum safe voltage	$U_m$	60 V (Attention! The rated voltage can be lower.)
<b>Collective error message</b>		
Maximum safe voltage	$U_m$	40 V (Attention! The rated voltage can be lower.)

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

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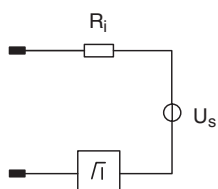
Germany: +49 621 776 2222  
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Singapore: +65 6779 9091  
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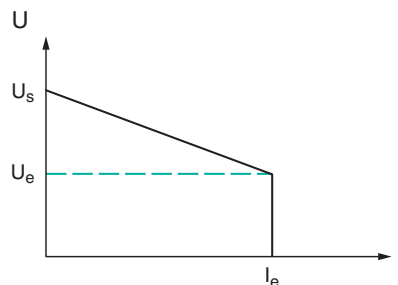
Certificate	TÜV 02 ATEX 1820 X
Marking	Ⓔ II 3G Ex nA IIC T4 Gc
Galvanic isolation	
Input/Output	safe electrical isolation acc. to IEC/EN 60079-11, voltage peak value 375 V
Output/power supply	safe electrical isolation acc. to IEC/EN 60079-11, voltage peak value 375 V
Directive conformity	
Directive 2014/34/EU	EN 60079-0:2012+A11:2013 , EN 60079-11:2012 , EN 60079-15:2010 , EN 60079-26:2007 , EN 50303:2000
<b>International approvals</b>	
CSA approval	
Control drawing	116-0304
IECEX approval	IECEX TUN 04.0001
Approved for	[Ex ia Ga] IIC, [Ex ia Da] IIIC, [Ex ia Ma] I
<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> .

## Output characteristics

Output circuit diagram



Output characteristic



## 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!*

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