

**Features**

- 1-channel isolated barrier
- 24 V DC supply (Power Rail)
- Dry contact or NAMUR inputs
- Relay contact output
- Fault relay contact output
- Line fault detection (LFD)
- Housing width 12.5 mm
- Up to SIL2 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.

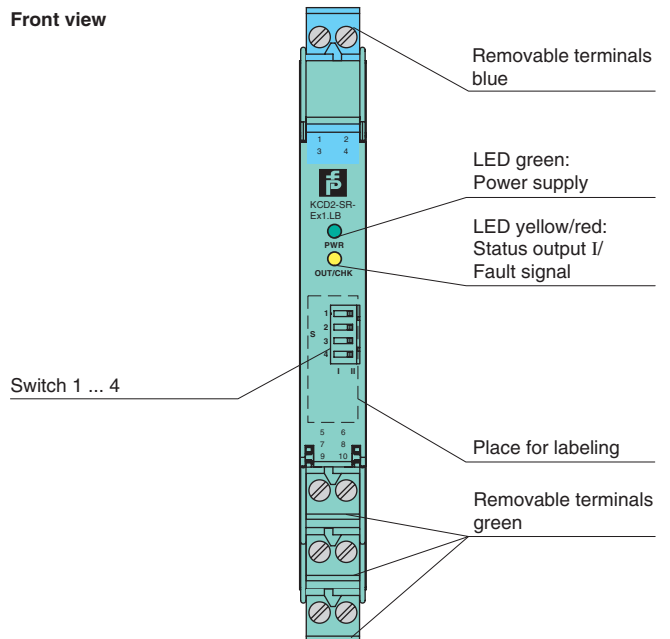
The proximity sensor or switch controls a form A normally open relay contact for the safe area load. The normal output state can be reversed using switch S1. Switch S2 allows output II to be switched between a signal output and an error message output. Switch S3 enables or disables line fault detection of the field circuit.

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

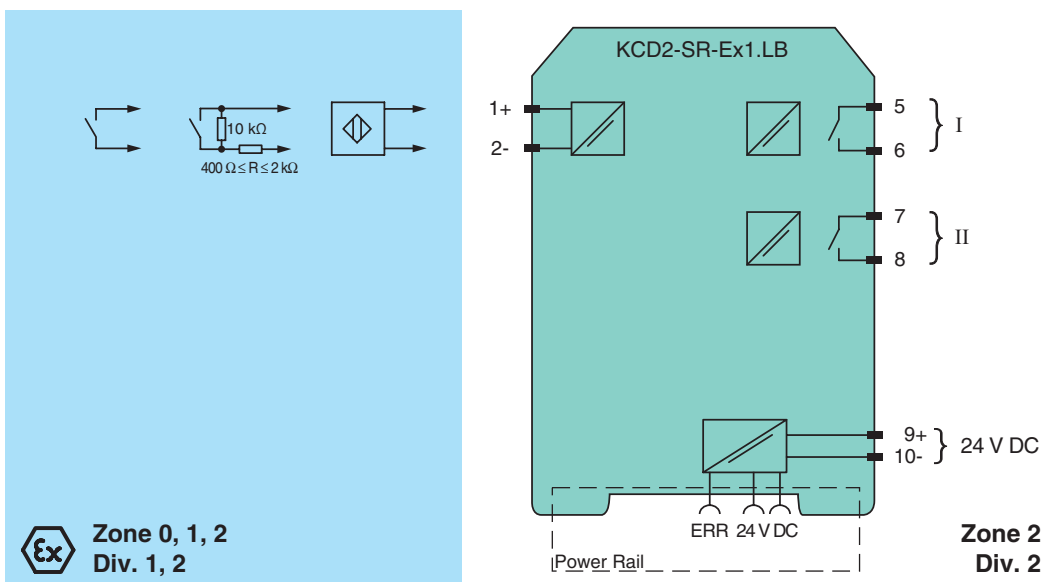
A unique collective error messaging feature is available when used with the Power Rail system.

Due to its compact housing design and low heat dissipation, this device is useful for detecting positions, end stops, and switching states in space-critical applications.

**Assembly**



**Connection**



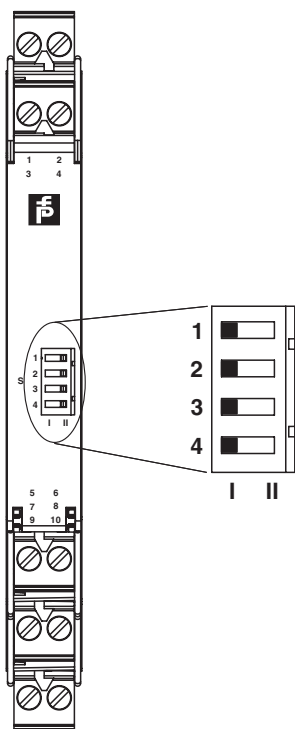
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<b>General specifications</b>	
Signal type	Digital input
<b>Supply</b>	
Connection	Power Rail or terminals 9+, 10-
Rated voltage	19 ... 30 V DC
Ripple	≤ 10 %
Rated current	≤ 30 mA
Power loss	≤ 500 mW
Power consumption	≤ 500 mW
<b>Input</b>	
Connection	terminals 1+, 2-
Rated values	acc. to EN 60947-5-6 (NAMUR)
Open circuit voltage/short-circuit current	approx. 10 V DC / approx. 8 mA
Switching point/switching hysteresis	1.2 ... 2.1 mA / approx. 0.2 mA
Line fault detection	breakage I ≤ 0.1 mA , short-circuit I ≥ 6.5 mA
Pulse/Pause ratio	≥ 20 ms / ≥ 20 ms
<b>Output</b>	
Connection	output I: terminals 5, 6 ; output II: terminals 7, 8
Output I	signal ; relay
Output II	signal or error message ; relay
Contact loading	253 V AC/2 A/cos φ > 0.7; 126.5 V AC/4 A/cos φ > 0.7; 30 V DC/2 A resistive load
Minimum switch current	2 mA / 24 V DC
Energized/de-energized delay	≤ 20 ms / ≤ 20 ms
Mechanical life	10 <sup>7</sup> switching cycles
<b>Transfer characteristics</b>	
Switching frequency	≤ 10 Hz
<b>Electrical isolation</b>	
Output/power supply	reinforced insulation acc. to IEC 61140, rated insulation voltage 300 V <sub>rms</sub>
Output/output	reinforced insulation acc. to IEC 61140, rated insulation voltage 300 V <sub>rms</sub>
<b>Indicators/settings</b>	
Labeling	space for labeling at the front
<b>Directive conformity</b>	
Electromagnetic compatibility	
Directive 2004/108/EC	EN 61326-1:2006
Low voltage	
Directive 2006/95/EC	EN 50178:1997
<b>Conformity</b>	
Electromagnetic compatibility	NE 21
Protection degree	IEC 60529
Protection against electric shock	IEC 61140
<b>Ambient conditions</b>	
Ambient temperature	-20 ... 60 °C (253 ... 333 K)
<b>Mechanical specifications</b>	
Protection degree	IP20
Mass	approx. 100 g
Dimensions	12.5 x 114 x 119 mm (0.5 x 4.5 x 4.7 in) , housing type A2
<b>Data for application in conjunction with hazardous areas</b>	
EC-Type Examination Certificate	BASEEFA 06 ATEX 0092 , for additional certificates see <a href="http://www.pepperl-fuchs.com">www.pepperl-fuchs.com</a>
Group, category, type of protection	⊕ II (1)GD [Ex ia] IIC; [Ex ia D] [circuit(s) in zone 0/1/2/20/21/22] ⊕ I (M1) [Ex ia] I
Input	Ex ia/Ex ia D
Voltage U <sub>o</sub>	10.5 V
Current I <sub>o</sub>	17.1 mA
Power P <sub>o</sub>	45 mW (linear characteristic)
<b>Supply</b>	
Safety maximum voltage U <sub>m</sub>	253 V AC (Attention! U <sub>m</sub> is no rated voltage.)
<b>Output I, II</b>	
Safety maximum voltage U <sub>m</sub>	253 V AC (Attention! U <sub>m</sub> is no rated voltage.)
Contact loading	253 V AC/2 A/cos φ > 0.7; 126.5 V AC/4 A/cos φ > 0.7; 30 V DC/2 A resistive load
<b>Statement of conformity</b>	
Pepperl+Fuchs	
Group, category, type of protection, temperature classification	⊕ II 3G Ex nA nC IIC T4 X
<b>Output I, II</b>	
Contact loading	50 V AC/2 A/cos φ > 0.7; 30 V DC/2 A resistive load

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<b>Electrical isolation</b>	
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
<b>Directive conformity</b>	
Directive 94/9/EC	EN 60079-0, EN 50020, IEC 61241-11, IEC 61241-0, EN 60079-26, EN 60079-15
<b>International approvals</b>	
FM approval	
Control drawing	116-533FM-12 (cFMus)
<b>General information</b>	
Supplementary information	EC-Type Examination Certificate, Statement of Conformity, Declaration 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> .

**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	Assignment Output II (relay)	switching state like relay I	I
		fault signal output (de-energized if fault)	II
3	Line fault detection	ON	I
		OFF	II
4	no function		

**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, 3 and 4 in position I

**Accessories**

**Power feed modules 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 100 individual devices depending on the power consumption of the devices. A galvanically isolated mechanical contact uses the Power Rail to transmit collective error messages.

**Power Rail UPR-03**

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

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