

**Features**

- 1-channel isolated barrier
- 24 V DC supply (Power Rail)
- Dry contact or NAMUR input
- Application-specific outputs
- Usable as signal splitter (1 input and 2 outputs)
- 2 passive transistor outputs (resistive)
- Line fault transparency (LFT)
- Housing width 12.5 mm
- Up to SIL 2 acc. to IEC 61508

**Function**

This isolated barrier is used for intrinsic safety applications. The device transfers digital signals from NAMUR sensors or dry contacts from the hazardous area to the non-hazardous area.

The input controls two passive transistor outputs with a resistive output characteristic.

The outputs have three defined states: 1-signal = 5 kΩ, 0-signal = 15 kΩ and fault > 100 kΩ.

This output characteristic offers line fault transparency on the signal lines.

Via switches the mode of operation can be reversed and the line fault detection can be switched off.

A fault is signaled by LEDs and a separate collective error message output.

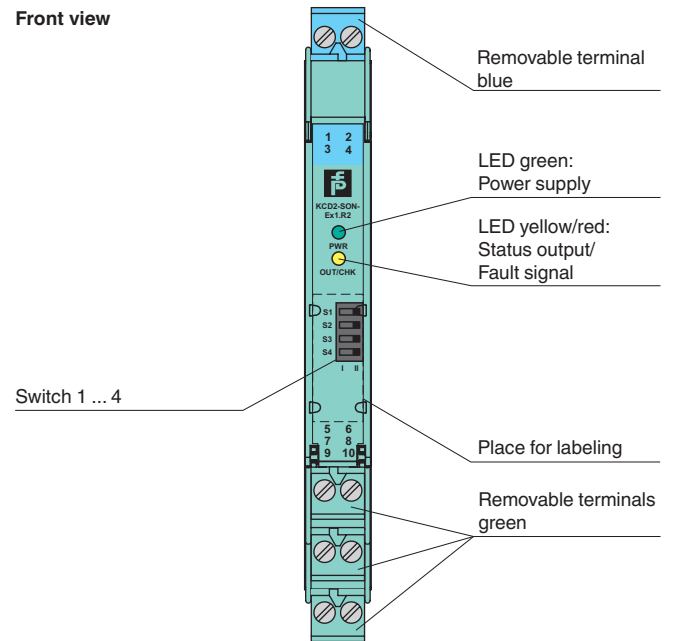
**Application**

This device is compatible to the control:

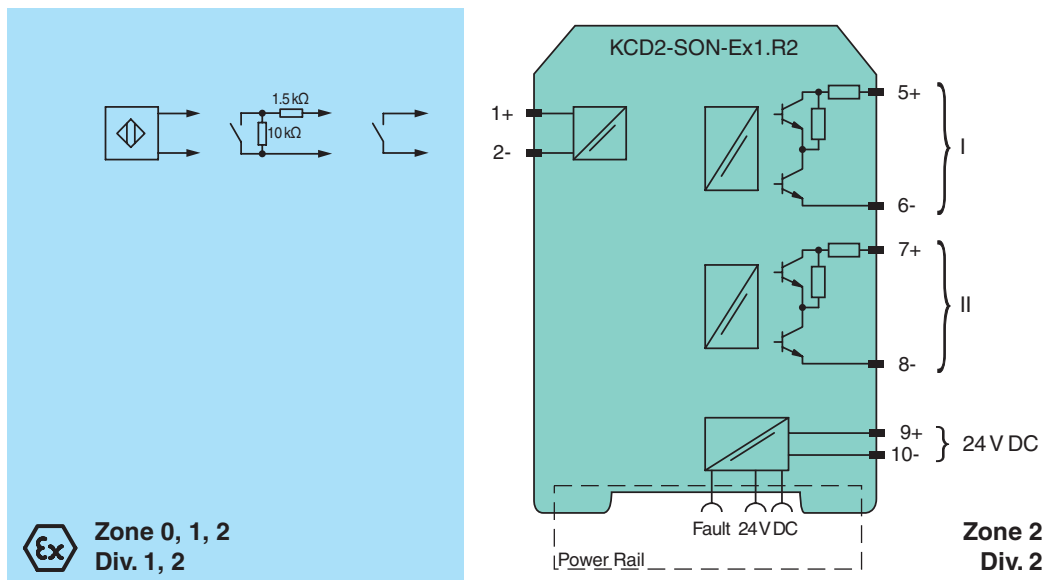
- Honeywell Safety Manager RIO I.S.

Compatibility check to other ESD/DCS systems on request.

**Assembly**



**Connection**



Release date 2018-09-05 12:32 Date of issue 2018-09-05 320086\_eng.xml

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 9+, 10-
Rated voltage	$U_r$	19 ... 30 V DC
Ripple		≤ 10 %
Rated current	$I_r$	18 ... 14 mA
Power dissipation		≤ 500 mW
<b>Input</b>		
Connection side		field side
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 $I \leq 0.1$ mA , short-circuit $I \geq 6.5$ mA
Pulse/Pause ratio		≥ 100 μs / ≥ 100 μs
<b>Output</b>		
Connection side		control side
Connection		output I: terminals 5, 6 ; output II: terminals 7, 8
Rated voltage	$U_n$	19 ... 30 V DC
Response time		≤ 200 μs
Output I, II		signal or error message, passive transistor output (resistive) 0-signal: 15 kΩ ± 5 % 1-signal: 5 kΩ ± 5 % fault: > 100 kΩ
Collective error message		Power Rail
<b>Transfer characteristics</b>		
Switching frequency		≤ 5 kHz
<b>Galvanic isolation</b>		
Input/Output		reinforced insulation acc. to EN 50178, rated insulation voltage 300 V <sub>eff</sub>
Input/power supply		reinforced insulation acc. to EN 50178, rated insulation voltage 300 V <sub>eff</sub>
Output/power supply		basic insulation according to EN 50178, rated insulation voltage 50 V <sub>eff</sub>
Output/Output		basic insulation according to EN 50178, rated insulation voltage 50 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 21:2011 , EN 61326-3-2:2008
Degree of protection		IEC 60529:2001
Protection against electrical shock		IEC 61010-1:2010
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. 100 g
Dimensions		12.5 x 114 x 119 mm (0.5 x 4.5 x 4.7 inch) , housing type A2
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		BASEEFA 13 ATEX 0080
Marking		  
Input		Ex ia
Voltage	$U_o$	10.5 V
Current	$I_o$	17.1 mA

Release date 2018-09-05 12:32 Date of issue 2018-09-05 320086\_eng.xml

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

Power	P <sub>o</sub>	45 mW (linear characteristic)
<b>Supply</b>		
Maximum safe voltage	U <sub>m</sub>	253 V AC (Attention! U <sub>m</sub> is no rated voltage.)
<b>Output</b>		
Maximum safe voltage	U <sub>m</sub>	253 V AC (Attention! The rated voltage can be lower.)
Certificate		PF 13 CERT 2760 X
Marking		⊕ II 3G Ex nA IIC T4 Gc
<b>Galvanic isolation</b>		
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
<b>Directive conformity</b>		
Directive 2014/34/EU		EN 60079-0:2012+A11:2013 , EN 60079-11:2012 , EN 60079-15:2010
<b>International approvals</b>		
<b>UL approval</b>		
Control drawing		116-0374 (cULus)
<b>IECEX approval</b>		
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> .
<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)

Release date 2018-09-05 12:32 Date of issue 2018-09-05 320086\_eng.xml

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

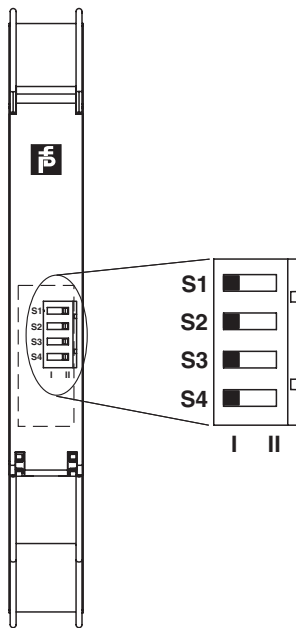
Pepperl+Fuchs Group  
www.pepperl-fuchs.com

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

Configuration



Switch settings

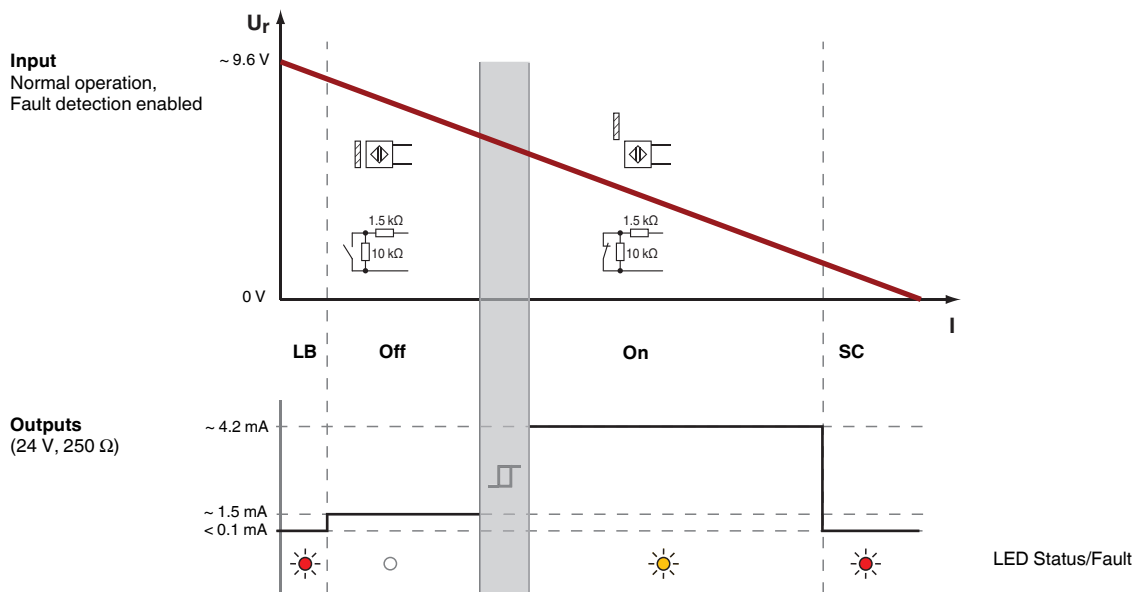
S	Function	Position	
1	Mode of operation output I, II (active)	with high input current	I
		with low input current	II
2	no function		
3	Line fault detection of the input	ON	I
		OFF	II
4	no function		

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

Switching points



Release date 2018-09-05 12:32 Date of issue 2018-09-05 320086\_eng.xml