

Features

- 1-channel isolated barrier
- 24 V DC supply (bus or loop powered)
- Output 45 mA at 10 V DC
- Line fault transparency (LFT)
- Test pulse immunity
- Housing width 12.5 mm
- Up to SIL 3 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.

The device is controlled with a loop powered signal or a bus powered logic signal.

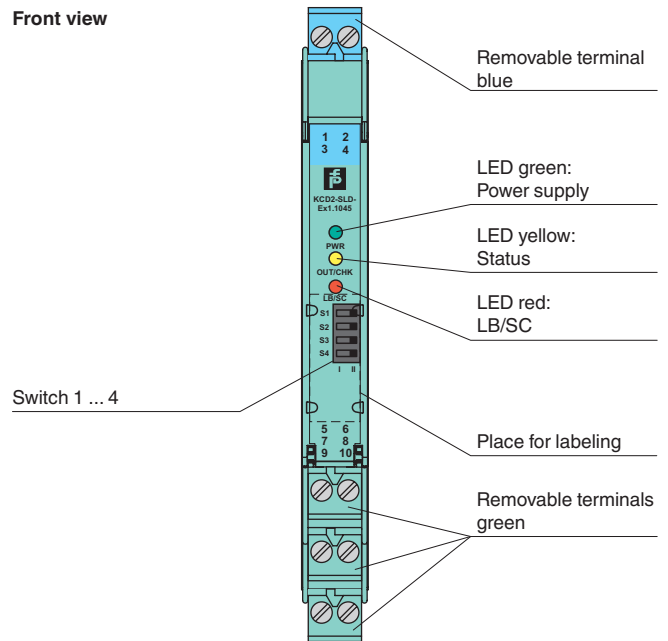
The device is immune to the test pulses of various control systems.

The device simulates a minimum load at the input. The minimum load can be activated and de-activated.

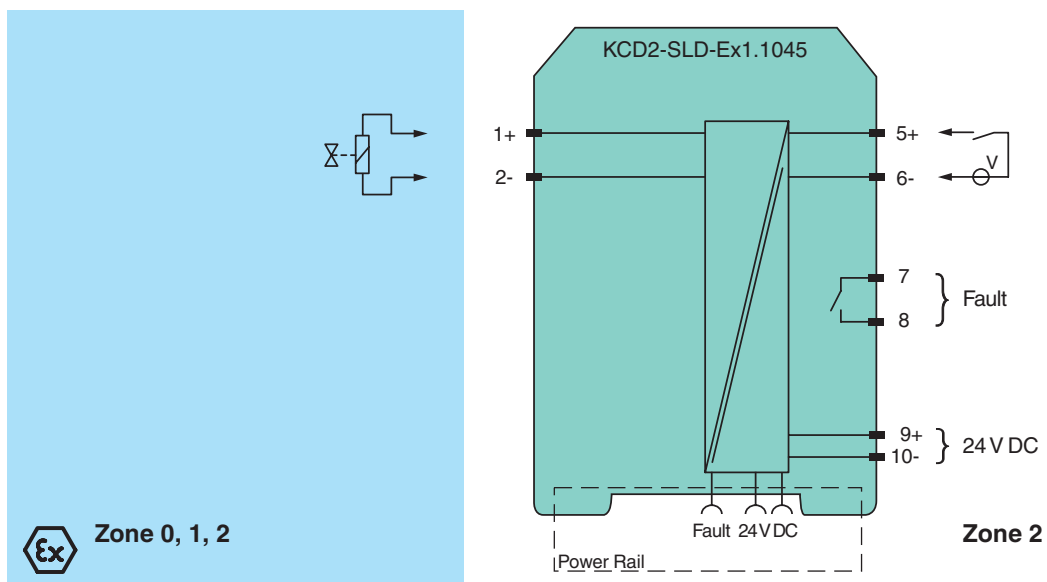
The line fault transparency function can display a line fault in the field by a change in impedance at the switching input of the solenoid driver.

A line fault is indicated by a red LED and output via the fault indication output or a switch contact.

Assembly



Connection



Release date 2019-04-17 21:13 Date of issue 2019-04-17 243732_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

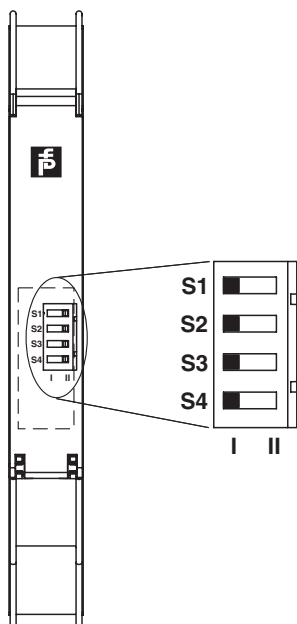
General specifications		
Signal type		Digital Output
Functional safety related parameters		
Safety Integrity Level (SIL)		SIL 3
Supply		
Connection		terminals 5+, 6- loop powered Power Rail or terminals 9+, 10- bus powered
Rated voltage	U_r	19 ... 30 V DC loop powered
Input current		75 mA at 24 V, 220 Ω load
Power dissipation		1.4 W at 24 V, 220 Ω load
Input		
Connection side		control side
Connection		terminals 5+, 6-
Test pulse length		≤ 2 ms from DO card
Signal level		loop powered 1-signal: 19 ... 30 V DC 0-signal: 0 ... 5 V DC bus powered 1-signal: 15 ... 30 V DC (current limited at 5 mA) 0-signal: 0 ... 5 V DC
Rated current	I_r	0-signal: typ. 1.6 mA at 1.5 V DC; typ. 8 mA at 3 V DC (maximum leakage current DO card) 1-signal: ≥ 36 mA (minimum load current DO card)
Inrush current		< 200 mA , 10 ms loop powered
Output		
Connection side		field side
Connection		terminals 1+, 2-
Internal resistor	R_i	285 Ω
Current	I_e	typ. 45 mA
Voltage	U_e	typ. 10 V
Current limit	I_{max}	45 mA
Open loop voltage	U_s	typ. 24.6 V
Load		nominal 0.05 ... 18 k Ω
Output II		fault signal
Connection		terminals 7, 8 , non-intrinsically safe
Contact loading		30 V DC/ 0.5 A resistive load
Mechanical life		10 ⁵ switching cycles
Energized/De-energized delay		≤ 20 ms / ≤ 20 ms
Line fault detection		signal at short-circuit $R_B < 25 \Omega$, lead breakage $R_B > 50 \text{ k}\Omega$; test current $< 500 \mu\text{A}$
Galvanic isolation		
Output/other circuits		basic insulation according to IEC/EN 61010-1, rated insulation voltage 300 V_{eff}
Output III/power supply		basic insulation according to IEC/EN 61010-1, rated insulation voltage 32 V_{eff}
Indicators/settings		
Display elements		LEDs
Control elements		DIP-switch
Configuration		via DIP switches
Labeling		space for labeling at the front
Directive conformity		
Electromagnetic compatibility		
Directive 2014/30/EU		EN 61326-1:2013 (industrial locations)
Conformity		
Electromagnetic compatibility		NE 21:2012 , EN 61326-3-2:2008 For further information see system description.
Degree of protection		IEC 60529:2013
Protection against electrical shock		EN 61010-1:2010
Ambient conditions		
Ambient temperature		-20 ... 60 $^{\circ}\text{C}$ (-4 ... 140 $^{\circ}\text{F}$)
Mechanical specifications		
Degree of protection		IP20
Connection		screw terminals
Mass		approx. 150 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
Data for application in connection with hazardous areas		
EU-Type Examination Certificate		EXA 17 ATEX 0002 X

Release date 2019-04-17 21:13 Date of issue 2019-04-17 243732_eng.xml

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

Marking		
Output I		Ex ia
Voltage	U _o	26 V
Current	I _o	93 mA
Power	P _o	605 mW
Supply		
Maximum safe voltage	U _m	60 V (Attention! The rated voltage can be lower.)
Input		
Maximum safe voltage	U _m	60 V (Attention! The rated voltage can be lower.)
Collective error message		
Maximum safe voltage	U _m	60 V (Attention! The rated voltage can be lower.)
Galvanic isolation		
Output I/other circuits		safe electrical isolation acc. to IEC/EN 60079-11, rated insulation voltage 300 V _{rms}
Directive conformity		
Directive 2014/34/EU		EN 60079-0:2012+A11:2013 , EN 60079-7:2015 , EN 60079-11:2012 , EN 60079-15:2010
International approvals		
UL approval		E106378
Control drawing		116-0448 (cULus)
IECEX approval		
IECEX certificate		IECEX EXA 17.0001X
IECEX marking		Ex nC ec [ia Ga] IIC T4 Gc [Ex ia Da] IIIC [Ex ia Ma] I
General information		
Supplementary information		Observe the certificates, declarations of conformity, instruction manuals, and manuals where applicable. For information see www.pepperl-fuchs.com .
Accessories		
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 settings

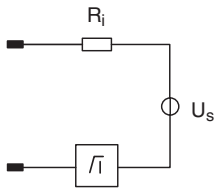
Switch	Function		Position
S1	Line fault detection	enabled	I
		disabled	II
S2	Operating mode	loop powered	I
		bus powered with logic input	II
S3	Minimum load	enabled	I
		disabled	II
S4	No function		

Factory settings: line fault detection enabled, operating mode loop powered, minimum load enabled

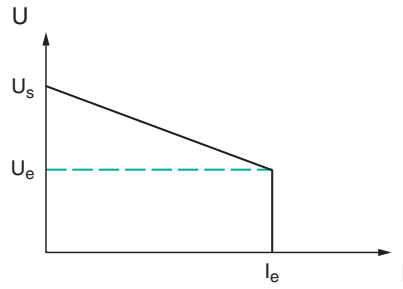


Output characteristics

Output circuit diagram



Output characteristic



Release date 2019-04-17 21:13 Date of issue 2019-04-17 243732_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



SCATTERGOOD & JOHNSON LTD

ELECTRICAL ENGINEERING & FLUID CONTROL DISTRIBUTORS

Est.1899

At Scattergood & Johnson Ltd, we pride ourselves on being a technical distributor to specialist industries.

Working with a range of quality product suppliers across a number of specialist markets, we are not your average 'box shifter' - we are your technical and supply chain partner.

We fully support every product we sell - for free! Our internal team and external sales engineers can answer any product or application question, no matter the complexity.

Backing up this technical ability is a range of 50,000+ products available from stock for nationwide next day delivery (same day if required!), or you can collect what you need from any of our trade counters around the UK.

Select your specialist interest below to learn more about how we can help.



Online, In Branch and On the Road - Scattergood & Johnson Ltd, there when you need us.

www.scatts.co.uk