

## KCD2-SOT-Ex1.LB

- 1-channel isolated barrier
- 24 V DC supply (Power Rail)
- Dry contact or NAMUR input
- 2 passive transistor outputs
- Usable as signal splitter (1 input and 2 outputs)
- Reversible mode of operation
- Line fault detection (LFD)
- Housing width 12.5 mm
- Up to SIL 2 (SC 3) acc. to IEC/EN 61508






### Function

- This isolated barrier is used for intrinsic safety applications.
- The device transfers digital signals (NAMUR sensors or dry contacts) from a hazardous area to a safe area.
- The input controls two passive transistor outputs.
- Via switches the mode of operation can be reversed and the line fault detection can be switched off
- Via switch the function of the second output can be defined as a signal output or an error output.
- A fault is signaled by LEDs acc. to NAMUR NE44 and a separate collective error message output.

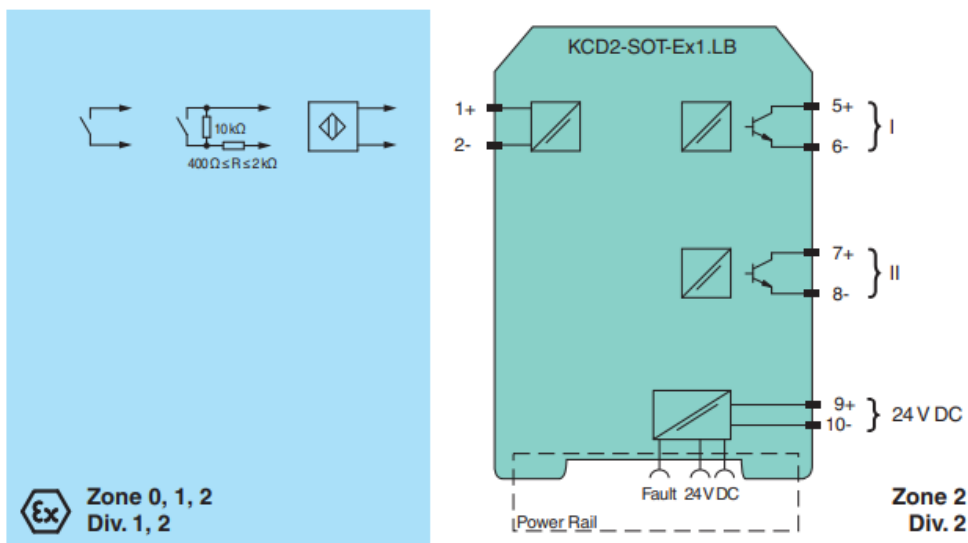
## Technical Data

General specifications	
Signal type	Digital Input
Functional safety related parameters	
Safety Integrity Level (SIL)	SIL 2
Systematic capability (SC)	SC 3
Supply	
Connection	Power Rail or terminals 9+, 10-
Rated voltage $U_r$ 19 ... 30 V DC	$U_r$ 19 ... 30 V DC
Ripple	$\leq 10\%$
Rated current	$I_r$ 20 ... 15 mA
Power dissipation	$\leq 700$ mW including maximum power dissipation in the output
Input	
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	min. 100 $\mu$ s / min. 100 $\mu$ s
Output	
Connection side	Control side
Connection	Output I: terminals 5, 6 ; output II: terminals 7, 8
Rated voltage	$U_r$ 30 V DC
Rated current	$I_r$ 50 mA
Response time	$\leq 200$ $\mu$ s
Signal level	1-signal: (external voltage) - 3 V max. for 50 mA 0-signal: blocked output (off-state current $\leq 10$ $\mu$ A)
Output I	signal ; Transistor
Output II	signal or fault message ; Transistor
Collective error message	Power Rail

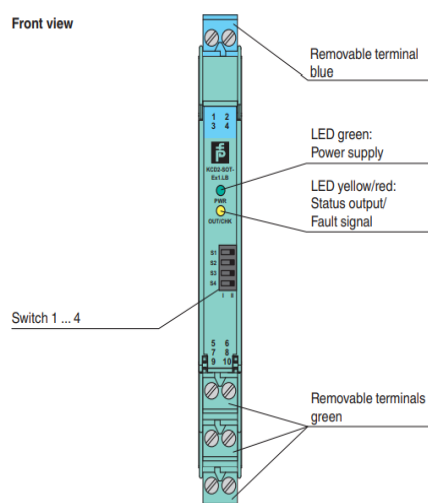
<b>Transfer characteristics</b>	
Switching frequency	≤ 5 kHz
<b>Galvanic isolation</b>	
Input/Output	reinforced insulation acc. to EN 50178, rated insulation voltage 300 V <sub>eff</sub>
Input/power supply	reinforced insulation acc. to EN 50178, rated insulation voltage 300 V <sub>eff</sub>
Output/power 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>	
<b>Electromagnetic compatibility</b>	
Directive 2014/30/EU	EN 61326-1:2013 (industrial locations)
<b>Conformity</b>	
Electromagnetic compatibility	NE 21:2011
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) extended ambient temperature range up to 70 °C (158 °F), refer to manual for necessary mounting conditions
<b>Mechanical specifications</b>	
Degree of protection	IP20
Connection	Screw terminals
Mass	approx. 100 g
Dimensions	12.5 x 119 x 114 mm (0.5 x 4.7 x 4.5 inch) (W x H x D) , 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	 1 II (1)G [Ex ia Ga] IIC  1 II (1)D [Ex ia Da] IIIC  1 I (M1) [Ex ia Ma] I

Technical Data		
Voltage	U <sub>o</sub>	10.5 V
Current	I <sub>o</sub>	17.1 mA
Power		
Supply		
Maximum safe voltage	U <sub>m</sub>	253 V AC (Attention! U <sub>m</sub> is no rated voltage.)
Output		
Maximum safe voltage	U <sub>m</sub>	253 V AC (Attention! The rated voltage can be lower.)
Certificate		
		CML 19 ATEX 4410 X
		1 II 3G Ex ec IIC T4 Gc
Galvanic 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 IEC 60079-0:2018 , EN 60079-7:2015+A1:2018 , EN 60079-11:2012	
International approvals		
UL approval		
Control drawing	116-0374 (cULus)	
IECEx approval		
IECEx approval	IECEx BAS 13.0046 IECEx CML 19.0147X	
IECEx marking	[Ex ia Ga] IIC , [Ex ia Da] IIIC , [Ex ia Ma] I Ex ec IIC T4 Gc	

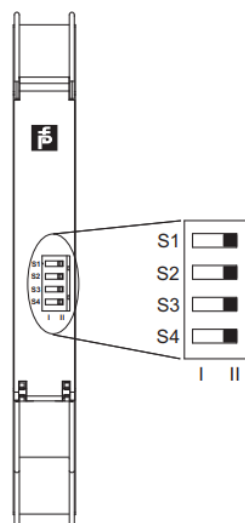
## Connection



## Assembly



## Configuration



## Switch Settings

S	Function	Position
1	Mode of operation output I (active)	with high input current
		with low input current
2	Assignment output II	Switching state like output I
		Fault indication output (passive if fault)
3	Line fault detection of the input	ON
		OFF
4	No function	

## Operating States

Control circuit Input signal	Input signal
Initiator high impedance/contact opened low input current	Low input current
Initiator low impedance/contact closed high input current	High input current
Lead breakage, lead short circuit Line fault	Line fault

Factory setting: switch 1, 2, 3 and 4 in position I

### CAUTION

Do not exceed maximum ratings and ensure sensor(s) are operated in accordance with their requirements. Carefully follow all wiring instructions. Incorrect wiring can cause permanent damage to the device. Do **NOT** use chemical cleaning agents.

**Failure to comply with these instructions may result in product damage.**

### INFORMATION

As customer applications are outside of PST Sensing Ltd.'s control, the information provided is given without legal responsibility. Customers should test under their own conditions to ensure that the equipment is suitable for their intended application.

### GENERAL NOTE

SST Sensing Ltd. reserves the right to make changes to product specifications without notice or liability. All information is subject to SST Sensing Ltd.'s own data and considered accurate at time of going to print.

For technical assistance or enquiries about other options, please contact:

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