



- 4-channel
- Input EEx ia IIC
- Device installation in Zone 2
- 24 V DC supply voltage
- Lead breakage (LB) monitoring and short-circuit (SC) monitoring
- Power Rail bus
- EMC acc. to NAMUR NE 21
- Will be discontinued

Function

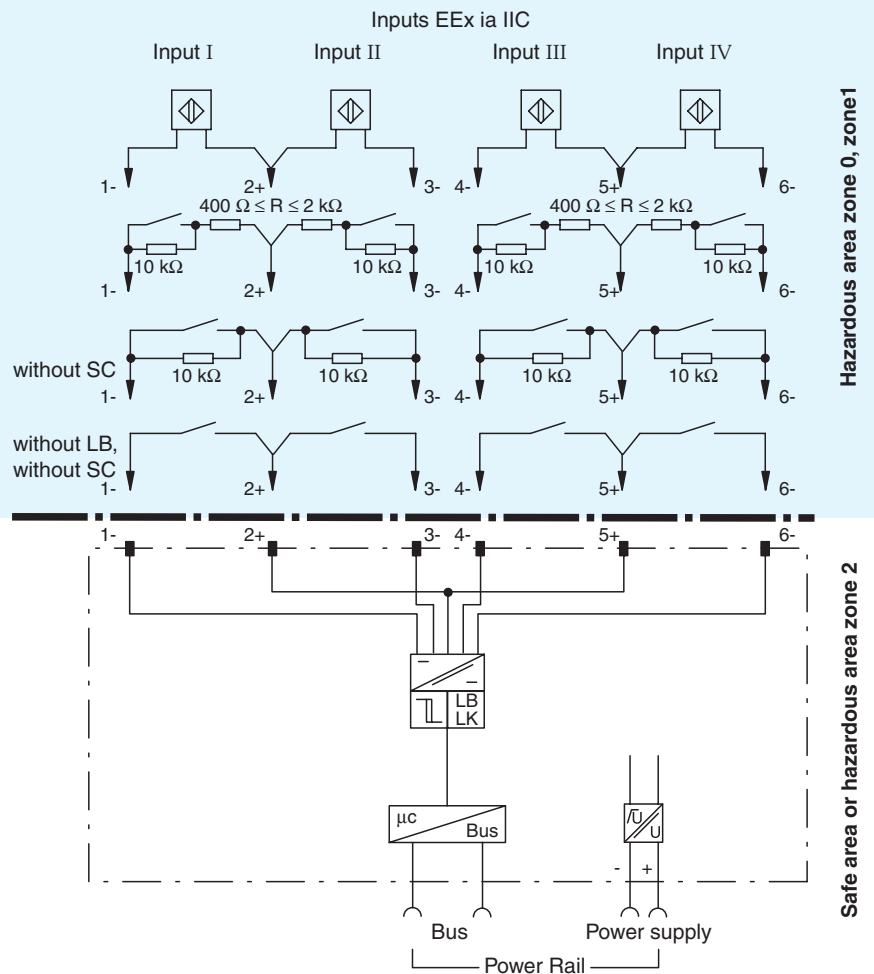
The KSD2-BI-Ex4 transmits digital input signals from the hazardous area into the safe area via the Power Rail bus. Proximity sensors in accordance with EN 60947-5-6 (NAMUR) or mechanical contacts may be used as alarms.

The inputs have a common positive reference and are galvanically isolated from output and power supply in accordance to EN 50020.

Application

The transfer of digital input signals from proximity switches or dry contacts from the hazardous area to the PLC or the DCS.

Connection



Composition

Front View

Housing type A3
(see system description)

LED yellow/red:
Input check channel III

LED yellow/red:
Input check channel I

LED yellow/red:
Input check channel II

Removable terminals
blue

LED green:
Power supply

LED red:
Fault signal

LED yellow/red:
Input check channel IV



Supply	
Connection	Power Rail
Rated voltage	20 ... 30 V DC
Ripple	< 10 %
Power loss	0.8 W , increase up to 1.0 W in the case of short-circuit on all channels
Power consumption	1 W
Input	
Connection	terminals 1-, 2+, 3-; 4-, 5+, 6-
Rated values	acc. to EN 60947-5-6 (NAMUR)
Open-circuit voltage/short-circuit current	approx. 8 V DC / approx. 8 mA
Switching point/Switching hysteresis	1.2 ... 2.1 mA / approx. 0.2 mA
Pulse/Pause ratio	≥ 20 ms / ≥ 20 ms
Lead monitoring	breakage I < 0.1 mA , short-circuit I > 6 mA
Output	
Connection	Power Rail
Interface	CAN protocol via Power Rail bus
Transfer characteristics	
Switching frequency	≤ 10 Hz
Directive conformity	
Electromagnetic compatibility	
Directive 89/336/EC	EN 61326
Conformity	
Insulation coordination	EN 50178
Electromagnetic compatibility	NE 21
Protection degree	IEC 60529
Ambient conditions	
Ambient temperature	-20 ... 60 °C (253 ... 333 K)
Damaging gas	acc. to ISA-S71.04-1985, severity level G3
Mechanical specifications	
Protection degree	IP20
Connection	terminal connection ≤ 2.5 mm ²
Mass	approx. 100 g
Dimensions	20 x 100 x 115 mm (0.8 x 3.9 x 4.5 in)
Mounting	DIN rail mounting
Data for application in conjunction with hazardous areas	
EC-Type Examination Certificate	ZELM 99 ATEX 0012 , for additional certificates see www.pepperl-fuchs.com
Group, category, type of protection	⊕ II (1)GD [Ex ia] IIC
Voltage U _o	9.6 V
Current I _o	16 mA
Power P _o	38 mW (linear characteristic)
Type of protection [Ex ia and Ex ib]	
Explosion group	IIB IIC
External capacitance	26 µF 3.6 µF
External inductance	510 mH 140 mH
Statement of conformity	TÜV 00 ATEX 1617 X , observe statement of conformity
Group, category, type of protection, temperature classification	⊕ II 3G EEx nA II T4
Electrical isolation	
Input/power supply, internal bus	safe electrical isolation acc. to EN 50020, voltage peak value 375 V
Directive conformity	
Directive 94/9 EC	EN 50014, EN 50020, EN 50021
Entity parameter	
Certification number	J.I.0D4A5.AX
FM control drawing	No. 116-0150
Suitable for installation in division 2	yes
Connection	terminals 1, 2, 3; 4, 5, 6
Input I	
Current I _t	31.9 mA
Voltage V _t	10.6 V
Explosion group	A&B C&E D, F&G
Max. external capacitance C _a	2.62 µF 7.86 µF 20.96 µF
Max. external inductance L _a	33.75 mH 101.25 mH 270 mH
General information	

Supplementary information

EC-Type Examination Certificate, Statement of Conformity, Declaration of Conformity and instructions have to be observed where applicable. For information see www.pepperl-fuchs.com.

Notes

Software functions

Adjustable by the **PACTware™** human machine interface:

- Information on devices may be saved in PC memory

The following are separately adjustable for each channel:

- TAG numbers, 28 alphanumeric characters, can be programmed into device
- Commentary, may be saved in PC memory
- Input inversion
- Lead monitoring selectable
- Separate detection and indication of lead breakage and lead short circuit
- Malfunction output status
 - downscale
 - upscale
 - hold last value
- Simulation
 - of the input value
 - of the device diagnosis
 - of the process channel diagnosis