



- 2-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**

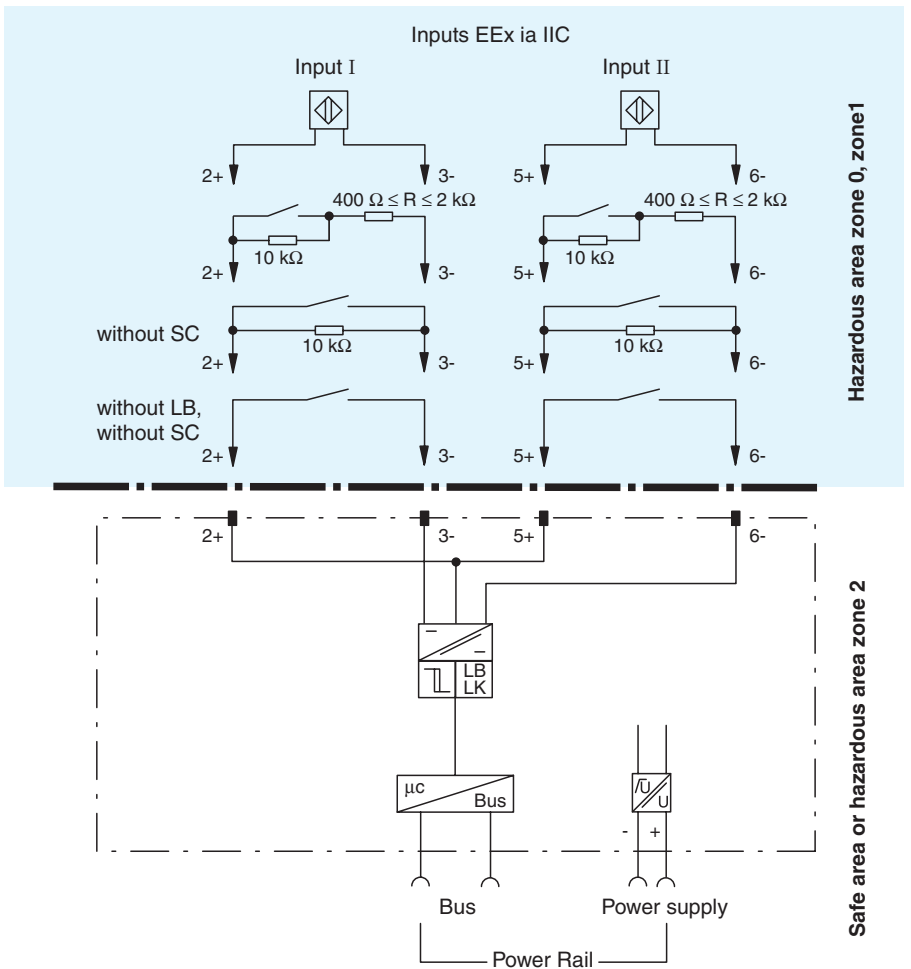
The KSD2-BI-Ex2 transfers digital input signals from the hazardous area into the safe area via the Power Rail bus. Proximity sensors in accordance to EN 60947-5-6 (NAMUR) or mechanical contacts may be used as alarms.

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 I  
 LED yellow/red: Input check channel II

Removable terminals blue

LED green: Power supply

LED red: Fault signal



|   |   |
|---|---|
| <b>Supply</b>   |   |
| Connection  | Power Rail  |
| Rated voltage   | 20 ... 30 V DC  |
| Ripple  | < 10 %  |
| Power consumption   | 1 W   |
| <b>Input</b>  |   |
| Connection  | terminals 2+, 3-; 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  |
| <b>Output</b>   |   |
| Connection  | Power Rail  |
| Interface   | CAN protocol via Power Rail bus   |
| <b>Transfer characteristics</b>                                 |   |
| Switching frequency   | ≤ 10 Hz   |
| <b>Directive conformity</b>                                     |   |
| Electromagnetic compatibility                                   |   |
| Directive 89/336/EC   | EN 61326  |
| <b>Conformity</b>   |   |
| Insulation coordination   | EN 50178  |
| Electromagnetic compatibility                                   | NE 21   |
| Protection degree   | IEC 60529   |
| <b>Ambient conditions</b>                                       |   |
| Ambient temperature   | -20 ... 60 °C (253 ... 333 K)   |
| Damaging gas  | acc. to ISA-S71.04-1985, severity level G3  |
| <b>Mechanical specifications</b>                                |   |
| Protection degree   | IP20  |
| Connection  | terminal connection ≤ 2.5 mm <sup>2</sup>   |
| Mass  | approx. 100 g   |
| Dimensions  | 20 x 100 x 115 mm (0.8 x 3.9 x 4.5 in)  |
| Mounting  | DIN rail mounting   |
| <b>Data for application in conjunction with hazardous areas</b> |   |
| EC-Type Examination Certificate                                 | ZELM 99 ATEX 0012 , 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  |
| Voltage U <sub>o</sub>  | 9.6 V   |
| Current I <sub>o</sub>  | 16 mA   |
| Power P <sub>o</sub>  | 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  |
| <b>Entity parameter</b>   |   |
| Certification number  | J.I.0D4A5.AX  |
| FM control drawing  | No. 116-0150  |
| Suitable for installation in division 2                         | yes   |
| Connection  | terminals 1, 2, 3   |
| <b>Input I</b>  |   |
| Current I <sub>t</sub>  | 31.9 mA   |
| Voltage V <sub>t</sub>  | 10.6 V  |
| Explosion group   | A&B      C&E      D, F&G  |
| Max. external capacitance C <sub>a</sub>                        | 2.62 μF    7.86 μF    20.96 μF  |
| Max. external inductance L <sub>a</sub>                         | 33.75 mH    101.25 mH    270 mH   |
| <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> . |

Release date 2008-03-27 12:02 Date of issue 2008-03-27 053726\_ENG.xml

## 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