## Features

- 2-channel isolated barrier
- 24 V DC supply (Power Rail)
- Output 45 mA at 11.7 V DC
- Logic input, non-polarized
- Lead monitoring
- Up to SIL2 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.

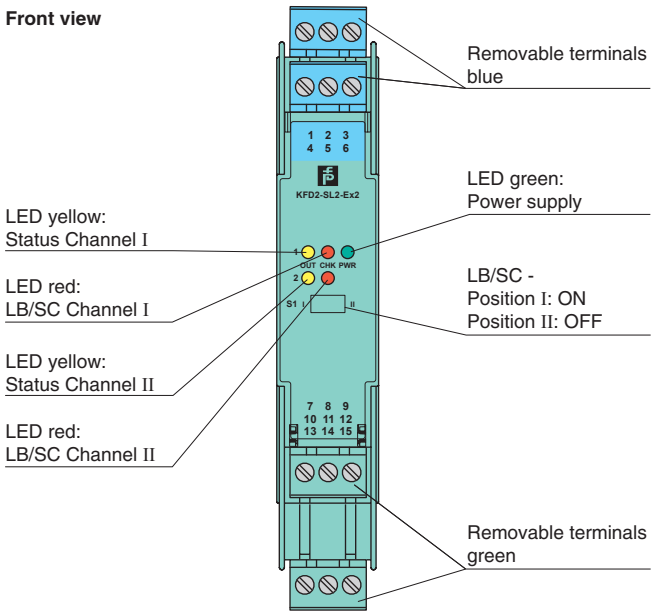
It is controlled via a logic signal. The input has two defined states: 1-Signal = 16 V DC ... 30 V DC, 0-Signal = 0 V DC ... 5 V DC. The current consumption of the input is about 3 mA.

At full load, 11.7 V at 45 mA is available for the hazardous area application.

If the field impedance is > 10 kΩ for lead breakage or < 50 Ω for short circuits a line fault is detected.

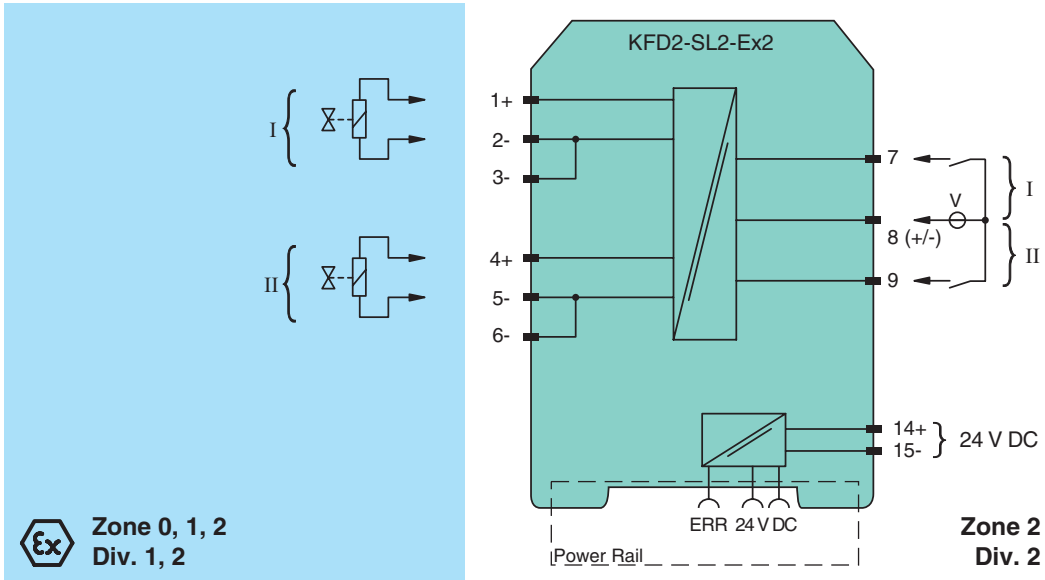
A fault is signalized by LEDs acc. to NAMUR NE44 and a separate collective error message output.

## Assembly




CE Ex SIL2

## Connection

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| | | |
|---|---|---|
| **General specifications** | | |
| Signal type | | Digital Output |
| **Supply** | | |
| Connection | | Power Rail or terminals 14+, 15- |
| Rated voltage | | 20 ... 30 V DC |
| Power consumption | | ≤ 3.3 W at 45 mA output current |
| **Input** | | |
| Connection | | terminals 7, 8, 9 |
| Input current | | approx. 3 mA at 24 V DC |
| Signal level | | 1-signal: 16 ... 30 V DC<br>0-signal: 0 ... 5 V DC |
| **Output** | | |
| Connection | | channel 1: terminals 1+, 2-, 3<br>channel 2: terminals 4+, 5-, 6- |
| Internal resistor | $R_i$ | 272 Ω |
| Current | $I_e$ | ≤ 45 mA |
| Voltage | $U_e$ | ≥ 11.7 V |
| Open loop voltage | $U_s$ | ≥ 24 V |
| Output signal | | These values are valid for the rated operational voltages from 20 ... 30 V DC. |
| Energized/De-energized delay | | ≤ 20 ms / ≤ 20 ms |
| Line fault detection | | signal at short-circuit $R_B$ < 50 Ω, lead breakage $R_B$ > 10 kΩ , test current < 650 µA |
| **Electrical isolation** | | |
| Input/power supply | | functional insulation acc. to EN 50178, rated insulation voltage 50 $V_{eff}$ |
| Input/input | | not available |
| Output/Output | | not available |
| **Directive conformity** | | |
| Electromagnetic compatibility | | |
| Directive 2004/108/EC | | EN 61326-1:2006 |
| Low voltage | | |
| Directive 2006/95/EC | | EN 50178:1997 |
| **Conformity** | | |
| Electromagnetic compatibility | | NE 21 |
| Protection degree | | IEC 60529 |
| **Ambient conditions** | | |
| Ambient temperature | | -20 ... 50 °C (-4 ... 122 °F) |
| **Mechanical specifications** | | |
| Protection degree | | IP20 |
| Mass | | approx. 150 g |
| Dimensions | | 20 x 119 x 115 mm (0.8 x 4.7 x 4.5 in) , housing type B2 |
| **Data for application in connection with Ex-areas** | | |
| EC-Type Examination Certificate | | ZELM 00 ATEX 0024 , for additional certificates see www.pepperl-fuchs.com |
| Group, category, type of protection | | ⟨Ex⟩ II (1)GD [Ex ia] IIC; [Ex iaD] [circuit(s) in zone 0/1/2/20/21/22] |
| Output | | Ex ia IIC, Ex iaD |
| Voltage | $U_o$ | 28 V |
| Current | $I_o$ | 110 mA |
| Power | $P_o$ | 770 mW (linear characteristic) |
| Supply | | |
| Maximum safe voltage | $U_m$ | 40 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 indication | | |
| Maximum safe voltage | $U_m$ | 40 V (Attention! The rated voltage can be lower.) |
| Statement of conformity | | TÜV 02 ATEX 1820 X |
| Group, category, type of protection, temperature class | | ⟨Ex⟩ II 3G Ex nA II T4 |
| Electrical isolation | | |
| Input/Output | | safe galvanic isolation acc. to EN 50020, voltage peak value 375 V |
| Output/power supply | | safe galvanic isolation acc. to EN 50020, voltage peak value 375 V |
| Directive conformity | | |
| Directive 94/9/EC | | EN 50020:2002 , EN 60079-0:2006, EN 60079-15:2005 , IEC 61241-0, IEC 61241-11 |
| **International approvals** | | |
| FM approval | | |
| Control drawing | | 16-548FM-12 |
| IECEx approval | | IECEx TUN 04.0001 |

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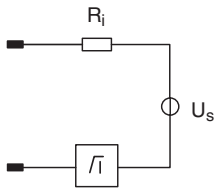
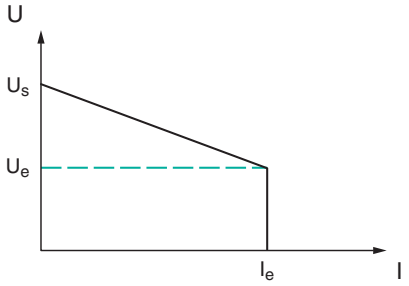
|---|---|
| Approved for | [Ex ia] IIC , [Ex iaD] |
| **General information** | |
| Supplementary information | EC-Type Examination Certificate, Statement of Conformity, Declaration of Conformity, Attestation of Conformity and instructions have to be observed where applicable. For information see www.pepperl-fuchs.com. |

## Output characteristics

### Output circuit diagram




### Output characteristic




## Accessories

**Power feed module KFD2-EB2**

The power feed module is used to supply the devices with 24 V DC via the Power Rail. The fuse-protected power feed module can supply up to 100 individual devices depending on the power consumption of the devices. A galvanically isolated mechanical contact uses the Power Rail to transmit collective error messages.

**Power Rail UPR-03**

The Power Rail UPR-03 is a complete unit consisting of the electrical inset and an aluminium profile rail 35 mm x 15 mm. To make electrical contact, the devices are simply engaged.

**Profile Rail K-DUCT with Power Rail**

The profile rail K-DUCT is an aluminum profile rail with Power Rail insert and two integral cable ducts for system and field cables. Due to this assembly no additional cable guides are necessary.

**Attention**

*Power Rail and Profile Rail must not be fed via the device terminals of the individual devices!*

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