

Features

- 1-channel isolated barrier
- 24 V DC supply (Power Rail)
- Input 2-wire and 3-wire transmitters and 2-wire current sources
- Output 0/4 mA ... 20 mA
- Accuracy 0.1 %
- Up to SIL2 acc. to IEC 61508

Function

This isolated barrier is used for intrinsic safety applications.

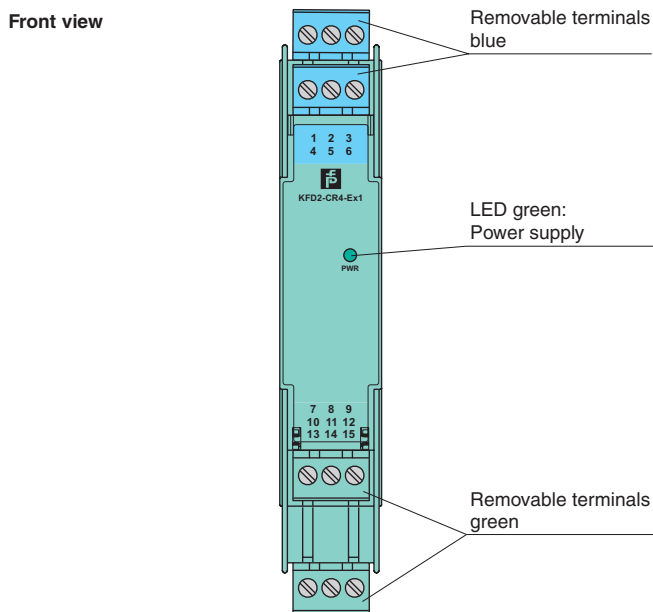
The device supplies 2-wire and 3-wire transmitters in a hazardous area, and can also be used with 2-wire current sources.

It transfers the analog input signal to the safe area as an isolated current value.

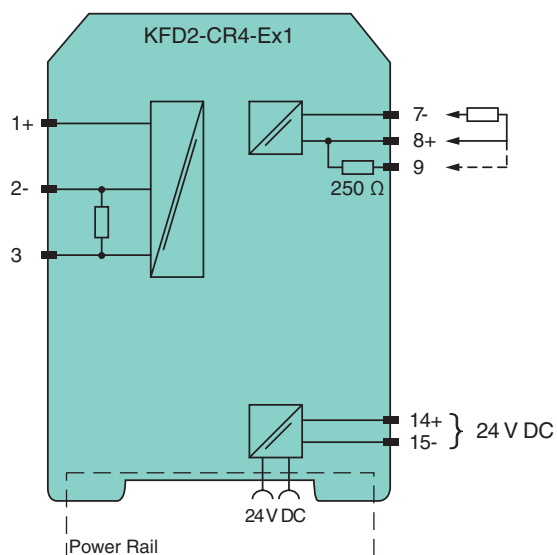
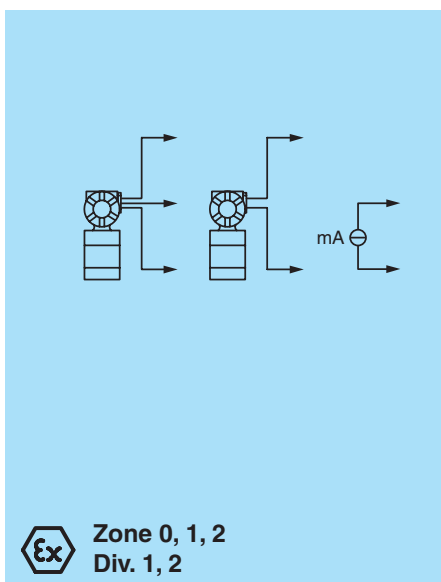
The output provides a 0/4 mA ... 20 mA current corresponding to the input signal. The minimum available field voltage is 16 V at 20 mA.

If necessary, the internal resistance of 250 Ω between terminals 8, 9 can be used for conversion into a 0 V ... 5 V voltage signal.

Assembly



Connection



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| | |
|---|---|
| General specifications | |
| Signal type | Analog input |
| Supply | |
| Connection | Power Rail or terminals 14+, 15- |
| Rated voltage | 20 ... 35 V DC |
| Ripple | within the supply tolerance |
| Power consumption | 1.6 W |
| Input | |
| Connection | terminals 1+, 2-, 3- |
| Input signal | 0/4 ... 20 mA |
| Input resistance | ≤ 64 Ω terminals 2-, 3 ; ≤ 500 Ω terminals 1+, 3 (250 Ω load) |
| Available voltage | ≥ 16 V at 20 mA terminals 1+, 3 |
| Ripple | 50 mV _{pp} at 20 mA |
| Output | |
| Connection | terminals 7-, 8+, 9 |
| Load | 0 ... 800 Ω |
| Output signal | 0/4 ... 20 mA |
| Ripple | ≤ 50 μA _{rms} |
| Transfer characteristics | |
| Deviation | at 20 °C (293 K), 4 ... 20 mA ≤ 10 μA incl. calibration, linearity, hysteresis, loads and fluctuations of supply voltage |
| Influence of ambient temperature | 0.25 μA/°C |
| Rise time | 20 μs |
| Settling time | 200 μs |
| De-energized delay | 20 μs |
| Electrical isolation | |
| Output/power supply | functional insulation, rated insulation voltage 50 V AC |
| Directive conformity | |
| Electromagnetic compatibility | |
| Directive 2004/108/EC | EN 61326-1:2006 |
| Conformity | |
| Insulation coordination | EN 50178 |
| Electrical isolation | EN 50178 |
| Electromagnetic compatibility | NE 21:2006 |
| Protection degree | IEC 60529 |
| Input | EN 60947-5-6 |
| Ambient conditions | |
| Ambient temperature | -20 ... 60 °C (253 ... 333 K) |
| 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 conjunction with hazardous areas | |
| EC-Type Examination Certificate | BAS 99 ATEX 7060 , for additional certificates see www.pepperl-fuchs.com |
| Group, category, type of protection | ⊕ II (1)GD, [Ex ia] IIC, [Ex iaD] (-20 °C ≤ T _{amb} ≤ 60 °C) [circuit(s) in zone 0/1/2] |
| Input | Ex ia IIC |
| Supply | |
| Safety maximum voltage U _m | 250 V (Attention! The rated voltage can be lower.) |
| Equipment | terminals 1+, 3- |
| Voltage U _o | 25.4 V |
| Current I _o | 86.8 mA |
| Power P _o | 551 mW |
| Equipment | terminals 2-, 3 |
| Current I _o /Current I _i | 74 mA / 115 mA |
| Current I _i | 115 mA |
| Voltage U _o | 3.5 V |
| Current I _o | 74 mA |
| Power P _o | 64 mW |
| Equipment | terminals 1+, 2 / 3- |
| Voltage U _i | 30 V |
| Current I _i | 115 mA |
| Voltage U _o | 25.4 V |
| Current I _o | 115 mA |
| Power P _o | 584 mW |

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|--------------------------------|--|
| Electrical isolation | |
| Input/output | safe electrical isolation acc. to EN 50020, voltage peak value 375 V |
| Input/power supply | safe electrical isolation acc. to EN 50020, voltage peak value 375 V |
| Directive conformity | |
| Directive 94/9/EC | EN 60079-0:2006, EN 60079-11:2007, EN 61241-11:2006 |
| International approvals | |
| UL approval | |
| Control drawing | 116-0173 (cULus) |
| 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 . |

Accessories

Power feed modules 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.

The Power Rail must not be fed via the device terminals of the individual devices!