## Features

- 1-channel isolated barrier
- 24 V DC supply (loop powered)
- Current or voltage input
- Output: 4 ... 20 mA
- Potentiometer or DIP switch selectable ranges
- Line fault detection (LFD)

## Function

This isolated barrier is used for intrinsic safety applications. It converts a 2-wire voltage or current in the hazardous area to a 4 mA ... 20 mA signal in the safe area.

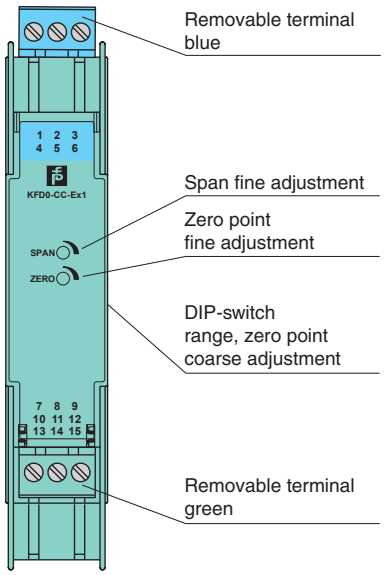
The device can be used to double signals in 20 mA measurement circuits due to the limited current signal input load of 50 Ω.

DIP switches and potentiometers make field calibration easy.

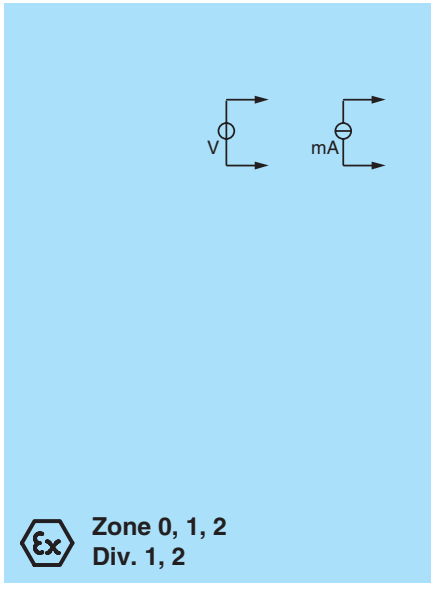
Since this isolator is loop-powered, use the technical data to verify that the proper voltage is available to the field devices.

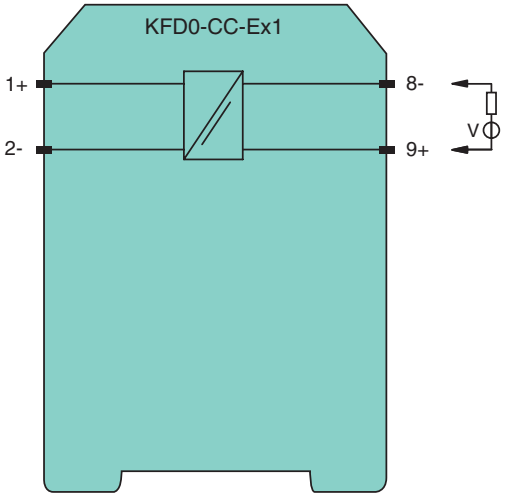
## Assembly

**Front view**




## Connection

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| | | |
|---|---|---|
| **General specifications** | | |
| Signal type | | Analog input |
| **Supply** | | |
| Rated voltage | $U_r$ | 12 ... 35 V DC loop powered |
| Power dissipation | | 0.4 W |
| **Input** | | |
| Connection side | | field side |
| Connection | | terminals 1+, 2- |
| Current range | | 0 ... 20 mA , load ≤ 50 Ω |
| Voltage range | | 0 ... 10 V , load ≥ 100 kΩ |
| **Output** | | |
| Connection side | | control side |
| Connection | | terminals 9+, 8- |
| Load | | (U -12 V) / 0.02 A |
| Current output | | 4 ... 20 mA , limited to ≤ 35 mA |
| Fault signal | | downscaling ≤ 3 mA |
| **Transfer characteristics** | | |
| Deviation | | |
| After calibration | | 0.1 % of full-scale value |
| Temperature effect | | span: 0.050 % of span /K ; zero point: 0.060 % of span /K |
| Linearization | | ≤ 0.04 % of full-scale value |
| Influence of supply voltage | | 6.5 ppm/V |
| Rise time | | 250 ms |
| **Galvanic isolation** | | |
| Input/Output | | safe isolation according to EN 50178, rated insulation voltage 253 $V_{eff}$ |
| **Indicators/settings** | | |
| Control elements | | DIP-switch<br>potentiometer |
| Configuration | | via DIP switches<br>via potentiometer |
| Labeling | | space for labeling at the front |
| **Directive conformity** | | |
| Electromagnetic compatibility | | |
| Directive 2014/30/EU | | EN 61326-1:2013 (industrial locations) |
| **Conformity** | | |
| Galvanic isolation | | EN 50178:1997 |
| Degree of protection | | IEC 60529:2001 |
| **Ambient conditions** | | |
| Ambient temperature | | -20 ... 60 °C (-4 ... 140 °F) |
| **Mechanical specifications** | | |
| Degree of protection | | IP20 |
| Connection | | screw terminals |
| Mass | | approx. 100 g |
| Dimensions | | 20 x 119 x 115 mm (0.8 x 4.7 x 4.5 inch) , housing type B2 |
| Mounting | | on 35 mm DIN mounting rail acc. to EN 60715:2001 |
| **Data for application in connection with hazardous areas** | | |
| EU-Type Examination Certificate | | ZELM 00 ATEX 0034 |
| Marking | | ⟨Ex⟩ II (1)GD [EEx ia] IIC |
| Input | | EEx ia IIC |
| Voltage | $U_o$ | 9.6 V |
| Current | $I_o$ | 0.5 mA |
| Power | $P_o$ | 1.1 mW linear characteristic |
| Type of protection [EEx ia and EEx ib] | | |
| Output | | |
| Maximum safe voltage | $U_m$ | 60 V (Attention! The rated voltage can be lower.) |
| Certificate | | TÜV 01 ATEX 1777 X |
| Marking | | ⟨Ex⟩ II 3G Ex nA II T4 |
| Galvanic isolation | | |
| Input/Output | | safe electrical isolation acc. to IEC/EN 60079-11, voltage peak value 375 V |
| Directive conformity | | |
| Directive 2014/34/EU | | EN 60079-0:2012+A11:2013 , EN 60079-11:2012 , EN 60079-15:2010 |
| **International approvals** | | |
| CSA approval | | |
| Control drawing | | 116-0132 |

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| General information | |
|---|---|
| Supplementary information | Observe the certificates, declarations of conformity, instruction manuals, and manuals where applicable. For information see www.pepperl-fuchs.com. |

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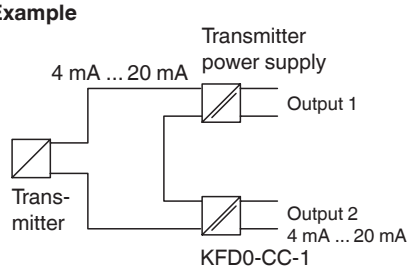
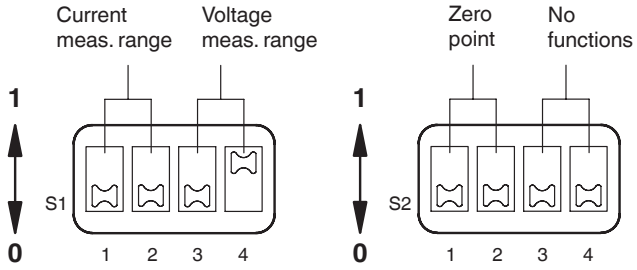
## Configuration

The device is delivered with the input signal set of 4 mA ... 20 mA.

**Example**




### DIP switches function




| Measurement range | Switch S1 (range) | | | | Switch S2 (zero point) | | | |
|---|---|---|---|---|---|---|---|---|
| | S1.1 | S1.2 | S1.3 | S1.4 | S2.1 | S2.2 | S2.3 | S2.4 |
| 0 mA ... 20 mA | 1 | 1 | - | - | - | - | - | - |
| 4 mA ... 20 mA | 1 | 1 | - | - | 1 | 1 | - | - |
| 0 V ... 5 V | - | - | 1 | - | - | - | - | - |
| 1 V ... 5 V | - | - | 1 | - | 1 | 1 | - | - |
| 0 V ... 10 V | - | - | - | 1 | - | - | - | - |
| 2 V ... 10 V | - | - | - | 1 | 1 | 1 | - | - |

### Adjustment instruction (example):

Input signal 0 mA ... 20 mA
Output signal 4 mA ... 20 mA

1. Set DIP switches S1.1 and S1.2 to the position 1. Set all other DIP switches to the position 0.
2. Set input to minimum value of 0 mA.
3. Adjust output, minimum zero point (4 mA).
4. Add maximum value of 20 mA.
5. Adjust output, range maximum value (20 mA)

Repeat steps 2. ... 5., until stable.

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