

**Features**

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

**Function**

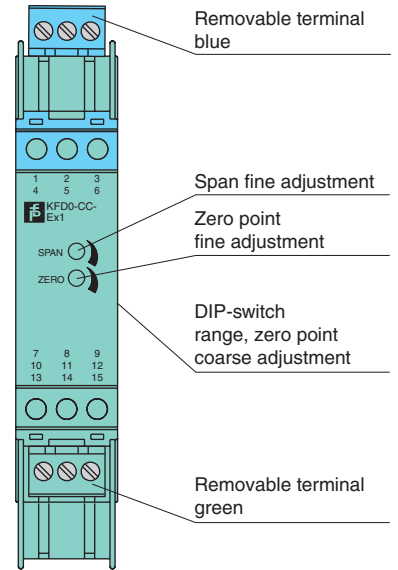
This isolated barrier is used for intrinsic safety applications. It converts a 2-wire voltage or current in the hazardous area to a 4 mA ... 20 mA signal in the safe area.

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

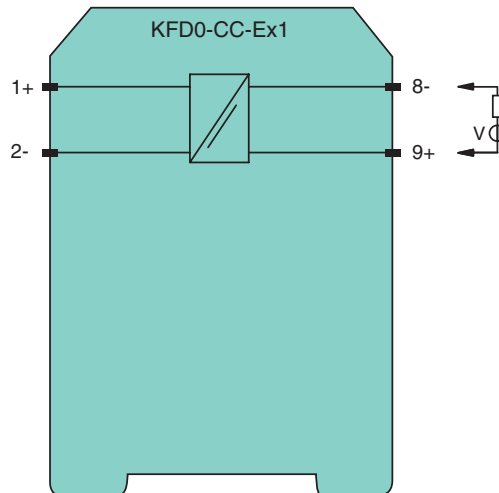
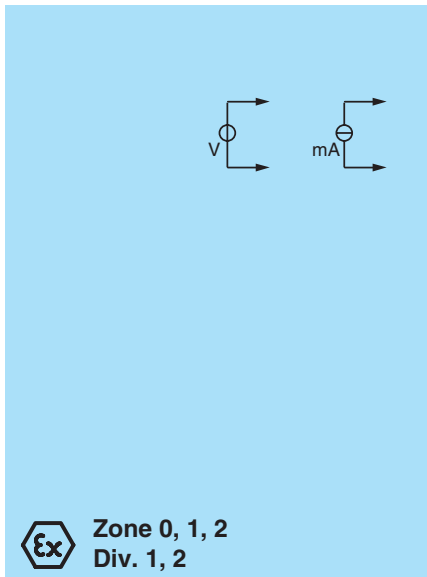
DIP switches and potentiometers make field calibration easy. Since this isolator is loop-powered, use the technical data to verify that the proper voltage is available to the field devices.

**Assembly**

Front view



**Connection**



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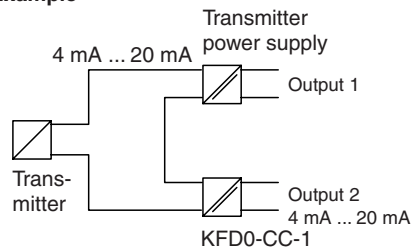
|   |   |
|---|---|
| <b>General specifications</b>                                   |   |
| Signal type   | Analog input  |
| <b>Supply</b>   |   |
| Rated voltage   | 12 ... 35 V DC loop powered   |
| Power loss  | 0.4 W   |
| <b>Input</b>  |   |
| Connection  | terminals 1+, 2-  |
| Current range   | 0 ... 20 mA , load $\leq 50 \Omega$   |
| Voltage range   | 0 ... 10 V , load $\geq 100 \text{ k}\Omega$  |
| <b>Output</b>   |   |
| Connection  | terminals 9+, 8-  |
| Load  | (U -12 V) / 0.02 A  |
| Current output  | 4 ... 20 mA , limited to $\leq 35 \text{ mA}$   |
| Fault signal  | downscale $\leq 3 \text{ mA}$   |
| <b>Transfer characteristics</b>                                 |   |
| Deviation   |   |
| After calibration   | 0.1 % of full-scale value   |
| Temperature effect  | span: 0.050 % of span /K ; zero point: 0.060 % of span /K   |
| Linearisation   | $\leq 0.04 \%$ of full-scale value  |
| Influence of supply voltage                                     | 6.5 ppm/V   |
| Rise time   | 250 ms  |
| <b>Electrical isolation</b>                                     |   |
| Input/output  | safe isolation according to EN 50178, rated insulation voltage 253 V <sub>eff</sub>   |
| <b>Directive conformity</b>                                     |   |
| Electromagnetic compatibility                                   |   |
| Directive 89/336/EC   | EN 61326, EN 50081-2  |
| <b>Conformity</b>   |   |
| Insulation coordination   | EN 50178  |
| Electrical isolation  | EN 50178  |
| Electromagnetic compatibility                                   | NE 21   |
| Protection degree   | IEC 60529   |
| <b>Ambient conditions</b>                                       |   |
| Ambient temperature   | -20 ... 60 °C (253 ... 333 K)   |
| <b>Mechanical specifications</b>                                |   |
| Protection degree   | IP20  |
| Mass  | approx. 100 g   |
| Dimensions  | 20 x 119 x 115 mm (0.8 x 4.7 x 4.5 in) , housing type B2  |
| <b>Data for application in conjunction with hazardous areas</b> |   |
| EC-Type Examination Certificate                                 |   |
| Group, category, type of protection                             | ZELM 00 ATEX 0034 , for additional certificates see <a href="http://www.pepperl-fuchs.com">www.pepperl-fuchs.com</a>  |
| Input   |  II (1)GD [EEx ia] IIC   |
| Voltage U <sub>o</sub>  | EEx ia IIC  |
| Current I <sub>o</sub>  | 9.6 V   |
| Power P <sub>o</sub>  | 0.5 mA  |
| Output  | 1.1 mW linear characteristic  |
| Safety maximum voltage U <sub>m</sub>                           | 60 V (Attention! The rated voltage can be lower.)   |
| Statement of conformity   |   |
| Group, category, type of protection, temperature classification | TÜV 01 ATEX 1777X , observe statement of conformity   |
| Electrical isolation  |  II 3G EEx nA II T4  |
| Input/output  | 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>International approvals</b>                                  |   |
| CSA approval  |   |
| Control drawing   | 116-0132  |
| <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> . |

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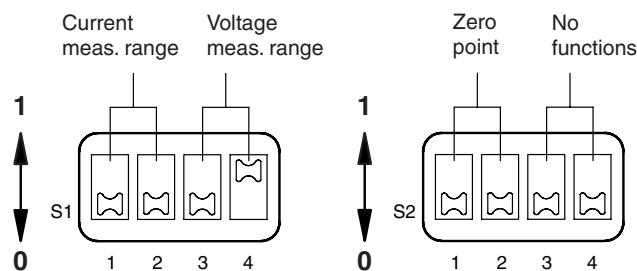
**Configuration**

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.