

Features

- 1-channel signal conditioner
- 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 signal conditioner converts a 2-wire voltage or current to a 4 mA ... 20 mA signal and provides isolation for non-intrinsically safe applications.

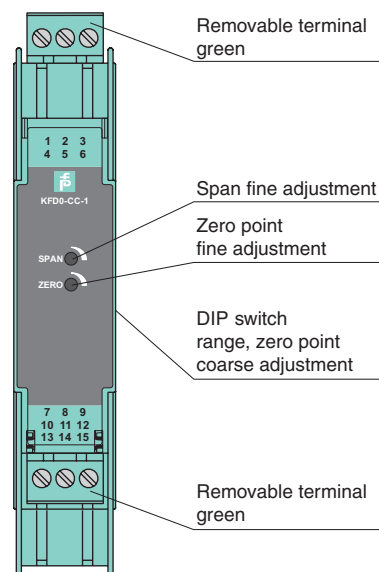
The device can be used to double signals in 20 mA measurement circuits due to the limited current signal input load of 50 Ω.

DIP switches and potentiometers make field calibration easy.

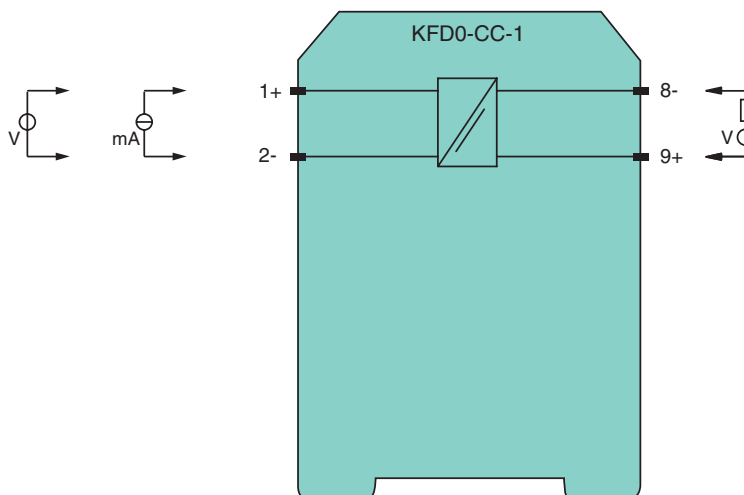
Since this isolator is loop-powered, use the technical data to verify that the proper voltage is available to the field devices.

Assembly

Front view



Connection



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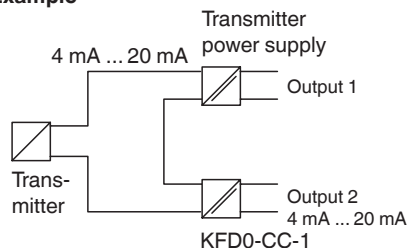
General specifications		
Signal type		Analog input
Supply		
Rated voltage	U_n	12 ... 35 V DC loop powered
Power loss		0.4 W
Input		
Connection		terminals 1+, 2-
Current range		0 ... 20 mA , load $\leq 50 \Omega$
Voltage range		0 ... 10 V , load $\geq 100 k\Omega$
Output		
Connection		terminals 9+, 8-
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
Electrical isolation		
Input/Output		safe isolation according to EN 50178, rated insulation voltage 253 V _{eff}
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
Degree of protection		IEC 60529
Ambient conditions		
Ambient temperature		-20 ... 60 °C (-4 ... 140 °F)
Mechanical specifications		
Degree of protection		IP20
Mass		approx. 100 g
Dimensions		20 x 119 x 115 mm (0.8 x 4.7 x 4.5 in) , housing type B2
General information		
Supplementary information		Statement of Conformity, Declaration of Conformity, Attestation of Conformity and instructions have to be observed where applicable. For information see www.pepperl-fuchs.com .

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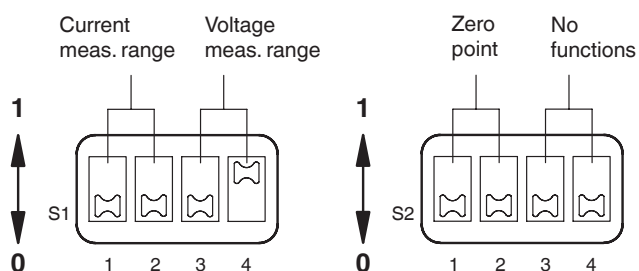
Configuration

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.