

Current/Voltage Converter

KFD0-CC-1

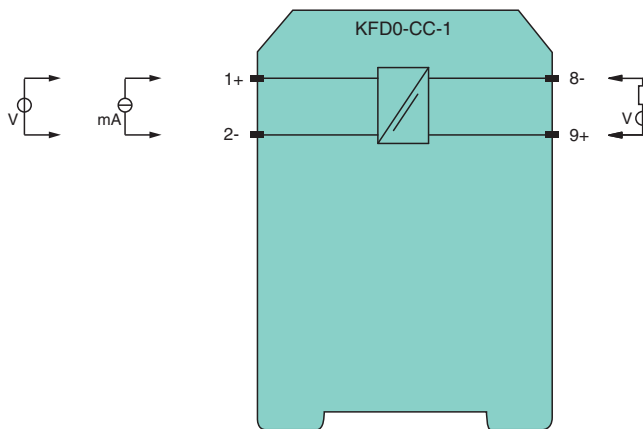
- 1-channel signal conditioner
- 24 V DC supply (loop powered)
- Current or voltage input
- Output: 4 ... 20 mA
- Potentiometer or DIP switch selectable ranges
- Line fault detection (LFD)



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.

Connection



Technical Data

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 \leq 50 Ω	
Voltage range		0 ... 10 V , load \geq 100 kΩ	
Output			
Connection side		control side	

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Refer to "General Notes Relating to Pepperl+Fuchs Product Information".

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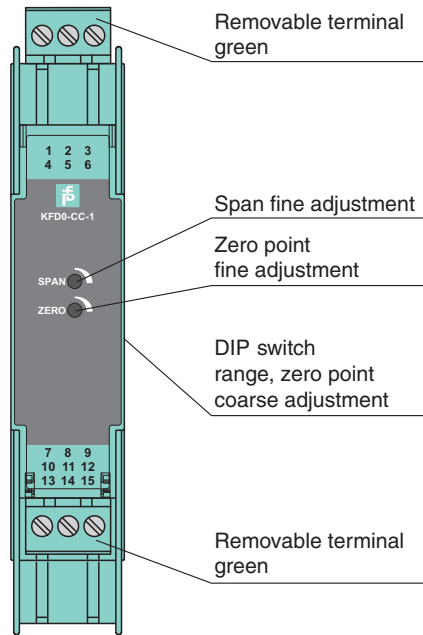
 **PEPPERL+FUCHS**

Technical Data

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 potentiometer
Configuration	via DIP switches via potentiometer
Labeling	space for labeling at the front
Directive conformity	
Electromagnetic compatibility	
Directive 2014/30/EU	EN 61326-1:2013 (industrial locations)
Conformity	
Insulation coordination	EN 50178
Galvanic isolation	EN 50178
Degree of protection	IEC 60529
Ambient conditions	
Ambient temperature	-20 ... 70 °C (-4 ... 158 °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
General information	
Supplementary information	Observe the certificates, declarations of conformity, instruction manuals, and manuals where applicable. For information see www.pepperl-fuchs.com .

Assembly

Front view



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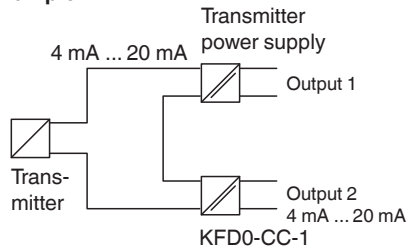
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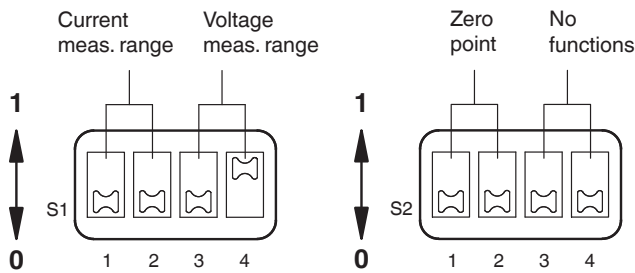
Configuration

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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