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.

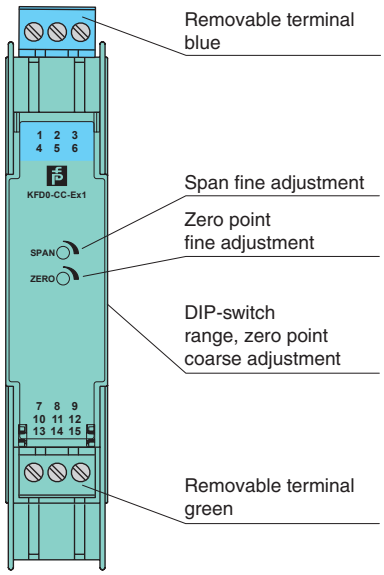
The device can be used to double signals in 20 mA measurement circuits due to the limited current signal input load of 50 Ω.

DIP switches and potentiometers make field calibration easy.

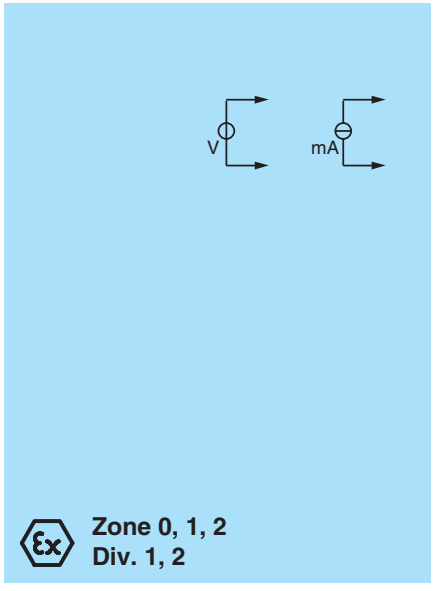
Since this isolator is loop-powered, use the technical data to verify that the proper voltage is available to the field devices.

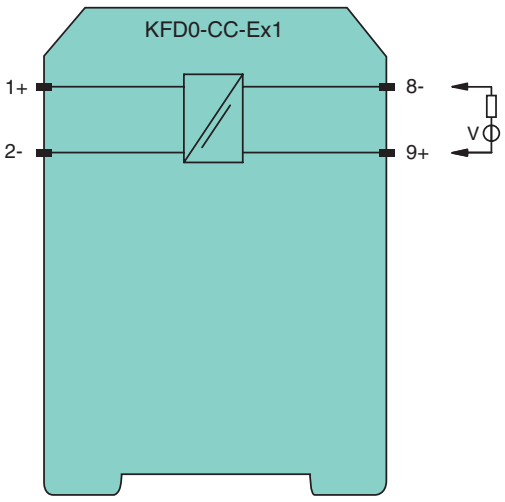
Assembly

Front view



Connection





Release date 2017-08-09 14:54 Date of issue 2017-08-10 043690_eng.xml

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 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		
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
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
General information		

Release date 2017-08-09 14:54 Date of issue 2017-08-10 043690_eng.xml

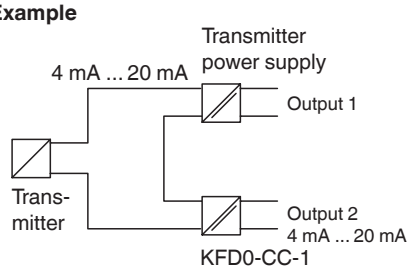
Supplementary information	Observe the certificates, declarations of conformity, instruction manuals, and manuals where applicable. For information see www.pepperl-fuchs.com.

Release date 2017-08-09 14:54 Date of issue 2017-08-10 043690_eng.xml

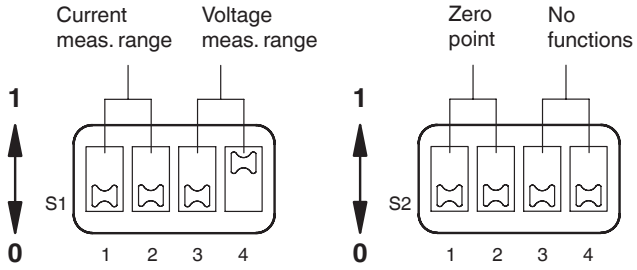
Configuration

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.

Release date 2017-08-09 14:54 Date of issue 2017-08-10 043690_eng.xml