

Features

- 1-channel isolated barrier
- 24 V DC supply (loop powered)
- Resistance input 0.5 k Ω ... 11 k Ω
- Output 4 mA ... 20 mA
- Rotary switch selectable ranges
- Line fault detection (LFD)

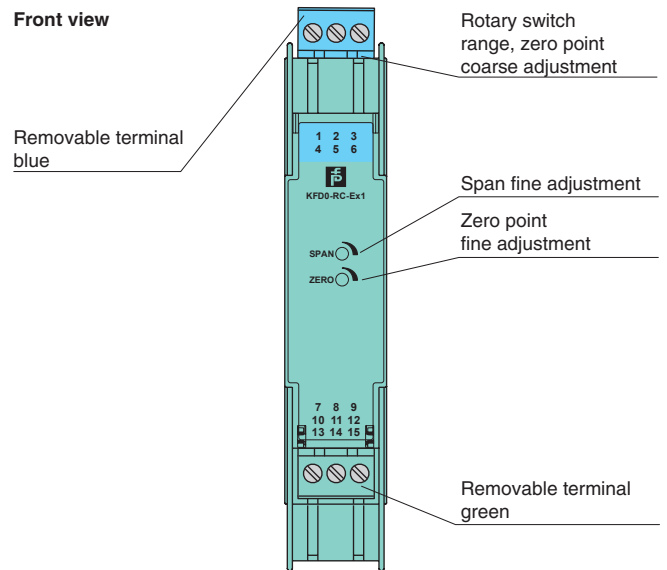
Function

This isolated barrier is used for intrinsic safety applications. It converts a 500 Ω ... 11 k Ω resistance in the hazardous area to a 4 mA ... 20 mA signal in the safe area.

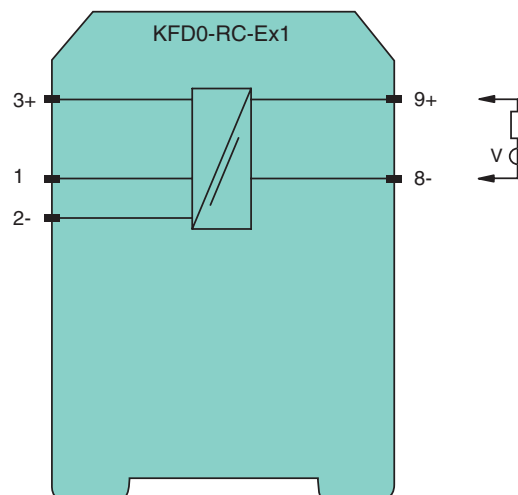
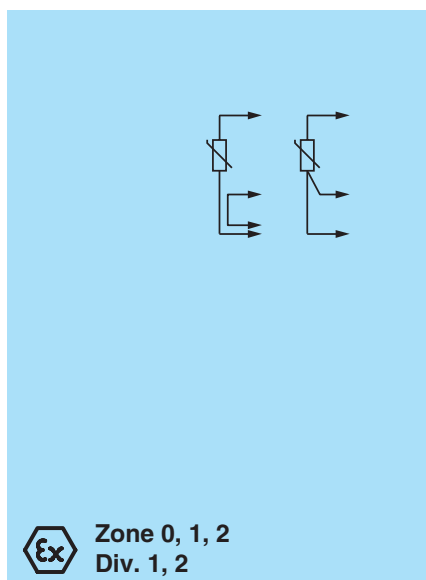
A 3-wire connection is possible to compensate for lead resistance. If only 2-wire connection is desired, a jumper between terminal 1 and 2 must be connected.

Additional features include rotary switches and potentiometers for easy field calibration.



Assembly



Connection



Zone 2
Div. 2

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-, 3+ ; loop powered ; suitable for resistors from 0.5 ... 11 k Ω , 3-wire connection for lead compensation
Lead resistance		$\leq 100 \Omega$ per lead
Measuring current		approx. 1 mA
Output		
Connection		terminals 9+, 8-
Load		(U -12 V) / 0.02 A
Current output		4 ... 20 mA , limited to ≤ 35 mA
Fault signal		lead breakage: upscaling ≥ 22 mA , limited to ≤ 35 mA
Transfer characteristics		
Measurement range	f_n	(adjustable) 0.5 ... 11 k Ω ; final value: 0.45 ... 11 k Ω ; zero point: 0 ... 10 % of full-scale value
Deviation		
After calibration		0.1 % of full-scale value
Temperature effect		Span 5 μ A/K; zero point 5 μ A/K
Linearization		≤ 0.04 % of full-scale value
Influence of supply voltage		6.5 ppm/V
Rise time		700 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. 150 g
Dimensions		20 x 119 x 115 mm (0.8 x 4.7 x 4.5 in) , housing type B2
Data for application in connection with Ex-areas		
EC-Type Examination Certificate		TÜV 98 ATEX 1381 , for additional certificates see www.pepperl-fuchs.com
Group, category, type of protection		 II (1)GD [Ex ia] IIC [Ex iaD]
Input		Ex ia IIC, Ex iaD
Voltage	U_o	16.2 V
Current	I_o	13.1 mA
Power	P_o	53 mW
Type of protection [EEx ia and EEx ib]		
Output		
Maximum safe voltage	U_m	60 V (Attention! The rated voltage can be lower.)
Statement of conformity		TÜV 01 ATEX 1777X , observe statement of conformity
Group, category, type of protection, temperature class		 II 3G Ex nA II T4
Electrical isolation		
Input/Output		safe electrical isolation acc. to IEC/EN 60079-11, voltage peak value 375 V
Directive conformity		
Directive 94/9/EC		EN 60079-0:2006, EN 60079-11:2007, EN 60079-15:2005, EN 60079-26:2007, EN 61241-0:2006, EN 61241-11:2006
General information		
Supplementary information		EC-Type Examination Certificate, 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

Rotary switch function



Switch SPAN coarse adjustment	Measurement range end value (Ω)	
	0	500
1	700	1110
2	1110	1700
3	1500	2100
4	2100	3100
5	2400	3400
6	2800	4100
7	3100	4700
8	4700	7400
9	5000	7700
A	5400	8500
B	5800	8900
C	6400	9900
D	6700	10400
E	7000	10900
F	7400	11000

Adjustment instruction (example):

Input 0 Ω ... 1.5 kΩ
 Output signal 4 mA ... 20 mA

1. Enter resistance 0 Ω at the input (short circuit the input)
2. Span coarse adjustment (switch SPAN position 2)
3. Adjust output: zero point fine adjustment (4 mA)
4. 1.5 kΩ enter at the input
5. Span fine adjustment (20 mA)

If necessary repeat steps 3. ... 5.