

# Repeater

## KFD0-CS-Ex2.54

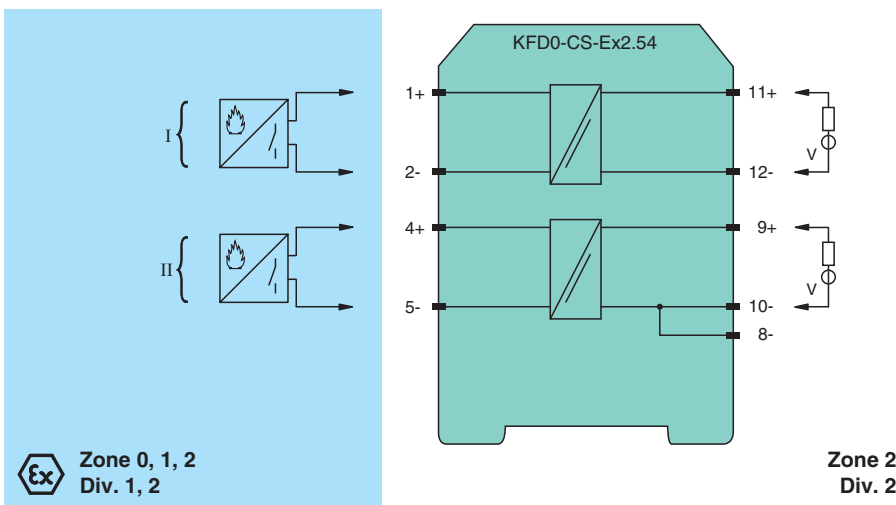
- 2-channel isolated barrier
- 24 V DC supply (loop powered)
- SMART fire alarm input
- Current input 1 mA ... 20 mA
- Up to SIL 3 acc. to IEC/EN 61508



### Function

This isolated barrier is used for intrinsic safety applications. It provides control and signal transfer for SMART compatible fire and smoke alarm transmitters inside hazardous areas. Digital signals may be superimposed on the analog values in the hazardous or safe area and are transferred bidirectionally. The fall time of the digital signal must be less than 50  $\mu$ s, the current in the hazardous area must be bigger than 1 mA. Since this isolator is loop-powered, use the technical data to verify that proper voltage is available to the field devices.

### Connection



### Technical Data

<b>General specifications</b>	
Signal type	Analog input
<b>Functional safety related parameters</b>	
Safety Integrity Level (SIL)	SIL 3
<b>Supply</b>	
Rated voltage	$U_r$ loop powered
Power dissipation	< 0.2 W for $U_{in} = 24$ V, $I_o = 20$ mA
<b>Control circuit</b>	
Connection	terminals 11+, 12-; 9+, 10-, 8-
Voltage	0 ... 24 V for $4$ V $\leq U_e \leq 24$ V: $\geq U_e - (0.41 \times \text{input current in mA}) - 0.5$
Current	0 ... 20 mA

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

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## Technical Data

<b>Field circuit</b>			
Connection		terminals 1+, 2-; 4+, 5-	
Short-circuit current		≤ 65 mA	
Transmission range		current: 1 ... 20 mA voltage: 4 ... 20 V DC / 0 ... 6 V <sub>SS</sub> AC	
<b>Transfer characteristics</b>			
Deviation			
After calibration		≤ 3.5 mA current loss at 20 mA load current	
Influence of ambient temperature		± 20 µA / K	
Rise time/fall time		≤ 50 µs (load current ≥ 1 mA)	
<b>Galvanic isolation</b>			
Input/Output		safe electrical isolation acc. to IEC/EN 60079-11, voltage peak value 375 V	
<b>Indicators/settings</b>			
Labeling		space for labeling at the front	
<b>Directive conformity</b>			
Electromagnetic compatibility			
Directive 2014/30/EU		EN 61326-1:2013 (industrial locations)	
<b>Conformity</b>			
Electromagnetic compatibility		NE 21:2006	
Degree of protection		IEC 60529:2001	
Protection against electrical shock		UL 61010-1	
<b>Ambient conditions</b>			
Ambient temperature		-20 ... 60 °C (-4 ... 140 °F)	
<b>Mechanical specifications</b>			
Degree of protection		IP20	
Connection		screw terminals	
Mass		approx. 100 g	
Dimensions		20 x 107 x 115 mm (0.8 x 4.2 x 4.5 inch) (W x H x D) , housing type B1	
Mounting		on 35 mm DIN mounting rail acc. to EN 60715:2001	
<b>Data for application in connection with hazardous areas</b>			
EU-type examination certificate		BAS 00 ATEX 7087	
Marking		⊕ II (1)GD, I (M1) [Ex ia Ga] IIC, [Ex ia Da] IIIC, [Ex ia Ma] I (-20 °C ≤ T <sub>amb</sub> ≤ 60 °C) [circuit(s) in zone 0/1/2]	
Voltage	U <sub>o</sub>	28 V	
Current	I <sub>o</sub>	93 mA	
Power	P <sub>o</sub>	653 mW	
<b>Supply</b>			
Maximum safe voltage	U <sub>m</sub>	253 V (Attention! The rated voltage can be lower.)	
Certificate		TÜV 99 ATEX 1499 X	
Marking		⊕ II 3G Ex nA II T4 Gc [device in zone 2]	
<b>Galvanic isolation</b>			
Input/Output		safe electrical isolation acc. to IEC/EN 60079-11, voltage peak value 375 V	
<b>Directive conformity</b>			
Directive 2014/34/EU		EN IEC 60079-0:2018 , EN 60079-11:2012 , EN 60079-15:2010	
<b>International approvals</b>			
<b>FM approval</b>			
Control drawing		116-0129 (cFMus)	
<b>UL approval</b>			
Control drawing		116-0348 (cULus)	
<b>IECEx approval</b>			
IECEx certificate		IECEx BAS 08.0079 IECEx BAS 10.0007X	
IECEx marking		[Ex ia Ga] IIC , [Ex ia Da] IIIC , [Ex ia Ma] I Ex nA IIC T4 Gc	

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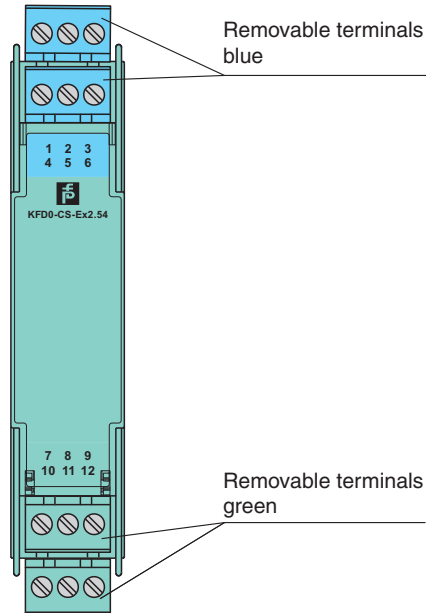
### General information

Supplementary information


Observe the certificates, declarations of conformity, instruction manuals, and manuals where applicable. For information see [www.pepperl-fuchs.com](http://www.pepperl-fuchs.com).

## Assembly




Front view



## Matching System Components

	<b>K-DUCT-BU</b>	Profile rail, wiring comb field side, blue
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## Accessories

	<b>KF-ST-5GN</b>	Terminal block for KF modules, 3-pin screw terminal, green
	<b>KF-ST-5BU</b>	Terminal block for KF modules, 3-pin screw terminal, blue
	<b>KF-CP</b>	Red coding pins, packaging unit: 20 x 6

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