



# Repeater

## KFD0-CS-Ex1.54

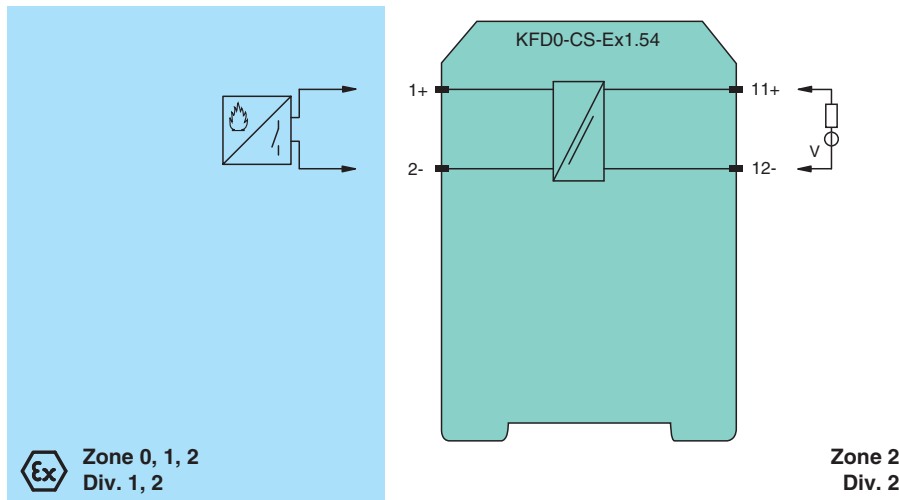
- 1-channel isolated barrier
- 24 V DC supply (loop powered)
- SMART fire alarm input
- Current input 1 mA ... 20 mA
- Up to SIL 2 acc. to IEC/EN 61508



### 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.

### Wiring Diagram



### Technical Data

#### General specifications

Signal type Analog input

#### Functional safety related parameters

Safety Integrity Level (SIL) SIL 2

#### Supply

Rated voltage  $U_r$  0 ... 24 V DC , loop powered

Power dissipation < 0.2 W for  $U_{in} = 24$  V,  $I_{out} = 20$  mA

#### Control circuit

Connection terminals 11+, 12-

Voltage 0 ... 24 V

Current 0 ... 20 mA

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

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## Technical Data

Current limit	max. 35 mA , limited by control sided current source	
<b>Field circuit</b>		
Connection	terminals 1+, 2-	
Voltage	for $4\text{ V} \leq U_{in} \leq 24\text{ V}$ : $U_{out} \geq U_{in} - (0.41 \times I_{in} \text{ in mA}) - 0.5$	
Transmission range	voltage: 4 ... 20 V DC/0 ... 6 V <sub>pp</sub> AC current: 1 ... 20 mA	
<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)G [Ex ia Ga] IIC Ⓢ II (1)D [Ex ia Da] IIIC Ⓢ I (M1) [Ex ia Ma] I	
Voltage	U <sub>o</sub>	28 V
Current	I <sub>o</sub>	93 mA
Power	P <sub>o</sub>	653 mW
Supply		
Maximum safe voltage	U <sub>m</sub>	253 V (Attention! The rated voltage can be lower.)
Certificate		
Marking	Ⓢ 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 IEC 60079-0:2018+AC:2020 , EN 60079-11:2012 , EN 60079-15:2010	
<b>International approvals</b>		
FM approval		
Control drawing	116-0129 (cFMus)	
IECEx approval		
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	
<b>General information</b>		

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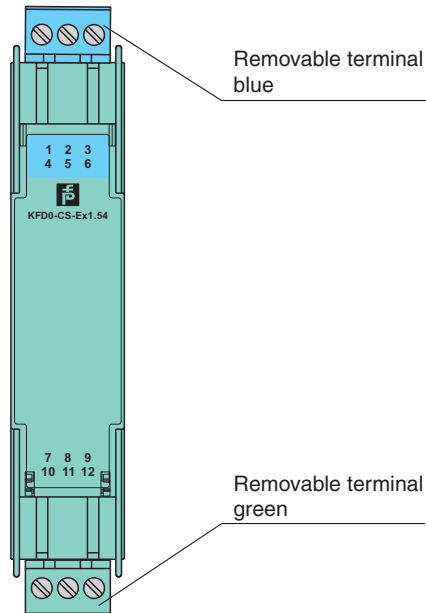
### Technical Data

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



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