



Repeater

KFD0-CS-Ex1.54

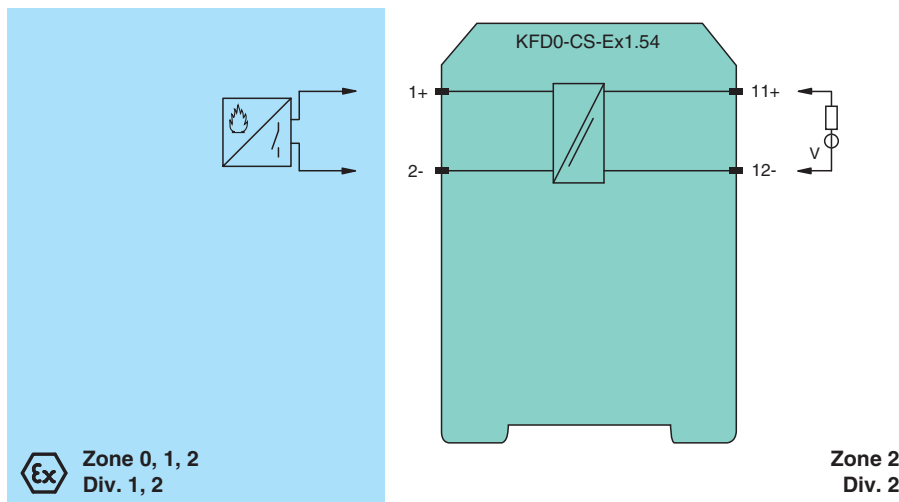
- 1-channel isolated barrier
- 24 V DC supply (loop powered)
- SMART fire alarm input
- Current input 1 mA ... 20 mA
- Up to SIL 3 acc. to IEC/EN 61508



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 μ 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

General specifications

Signal type Analog input

Functional safety related parameters

Safety Integrity Level (SIL) SIL 3

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

Release date: 2024-09-30 Date of issue: 2024-09-30 Filename: 70185883_eng.pdf

Technical Data

Current limit	max. 35 mA , limited by control sided current source	
Field circuit		
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 _{pp} AC current: 1 ... 20 mA	
Transfer characteristics		
Deviation		
After calibration	$\leq 3.5\text{ mA}$ current loss at 20 mA load current	
Influence of ambient temperature	$\pm 20\ \mu\text{A} / \text{K}$	
Rise time/fall time	$\leq 50\ \mu\text{s}$ (load current $\geq 1\text{ mA}$)	
Galvanic isolation		
Input/Output	safe electrical isolation acc. to IEC/EN 60079-11, voltage peak value 375 V	
Indicators/settings		
Labeling	space for labeling at the front	
Directive conformity		
Electromagnetic compatibility		
Directive 2014/30/EU	EN 61326-1:2013 (industrial locations)	
Conformity		
Electromagnetic compatibility	NE 21:2006	
Degree of protection	IEC 60529:2001	
Protection against electrical shock	UL 61010-1	
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 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	
Data for application in connection with hazardous areas		
EU-type examination certificate	BAS 00 ATEX 7087	
Marking	$\text{Ⓢ II (1)G [Ex ia Ga] IIC}$ $\text{Ⓢ II (1)D [Ex ia Da] IIIC}$ $\text{Ⓢ I (M1) [Ex ia Ma] I}$	
Voltage	U_o	28 V
Current	I_o	93 mA
Power	P_o	653 mW
Supply		
Maximum safe voltage	U_m	253 V (Attention! The rated voltage can be lower.)
Certificate	TÜV 99 ATEX 1499 X	
Marking	$\text{Ⓢ II 3G Ex nA II T4}$	
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	
International approvals		
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	
General information		

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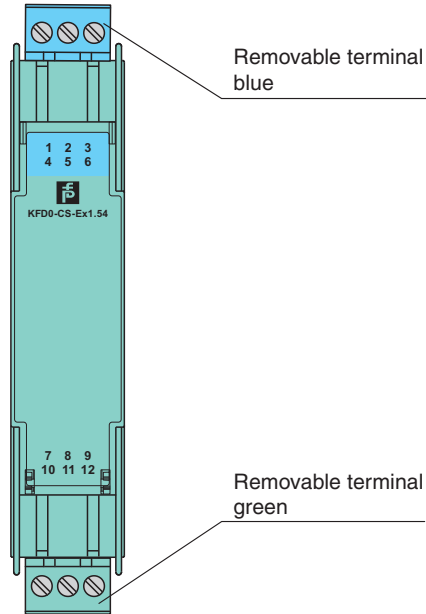
Technical Data

Supplementary information

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

Assembly

Front view



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