

Repeater

KFD0-CS-Ex1.54

SIL 3

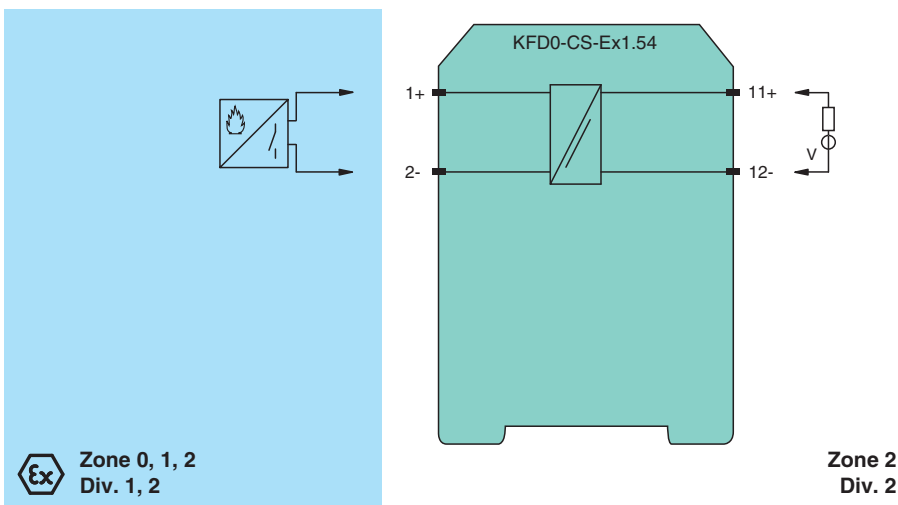
- 1-channel isolated barrier
- 24 V DC supply (loop powered)
- SMART fire alarm input
- Current input 1 mA ... 20 mA
- Up to SIL 3 acc. to IEC 61508



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 loop powered
Power dissipation	< 0.2 W for $U_{in} = 24$ V, $I_o = 20$ mA
Control circuit	
Connection	terminals 11+, 12-
Voltage	$0 \dots 24$ V for 4 V $\leq U_e \leq 24$ V: $\geq U_e - (0.41 \times \text{input current in mA}) - 0.5$
Current	$0 \dots 20$ mA

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

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Technical Data

Field circuit			
Connection		terminals 1+, 2-	
Short-circuit current		≤ 65 mA	
Transmission range		voltage: 4 ... 20 V DC/0 ... 6 V _{pp} AC current: 1 ... 20 mA	
Transfer characteristics			
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)	
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) , 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		Ⓜ II (1)GD, I (M1) [Ex ia Ga] IIC, [Ex ia Da] IIIC, [Ex ia Ma] I (-20 °C ≤ T _{amb} ≤ 60 °C) [circuit(s) in zone 0/1/2]	
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			
Marking		Ⓜ II 3G Ex nA II T4 Gc [device in zone 2]	
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			
FM approval			
Control drawing		116-0129 (cFMus)	
UL approval			
Control drawing		116-0348 (cULus)	
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 II T4 Gc	

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PEPPERL+FUCHS

Technical Data

General information

Supplementary information

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

Assembly

Front view

