



Repeater

KFD0-CS-Ex1.54

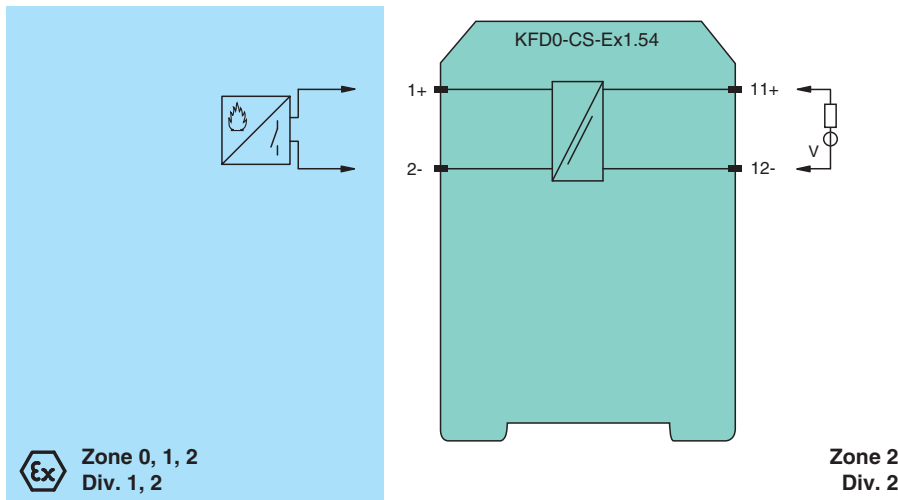
- 1-channel isolated barrier
- 24 V DC supply (loop powered)
- SMART fire alarm input
- Current input 1 mA ... 20 mA
- Up to SIL 3 acc. to IEC/EN 61508



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: 2024-03-13 Date of issue: 2024-03-13 Filename: 207802_eng.pdf

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		
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		
Height	107 mm		
Width	20 mm		
Depth	115 mm		
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)		
UL approval			
Control drawing	116-0348 (cULus)		

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Technical Data

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

Assembly

Front view

