

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



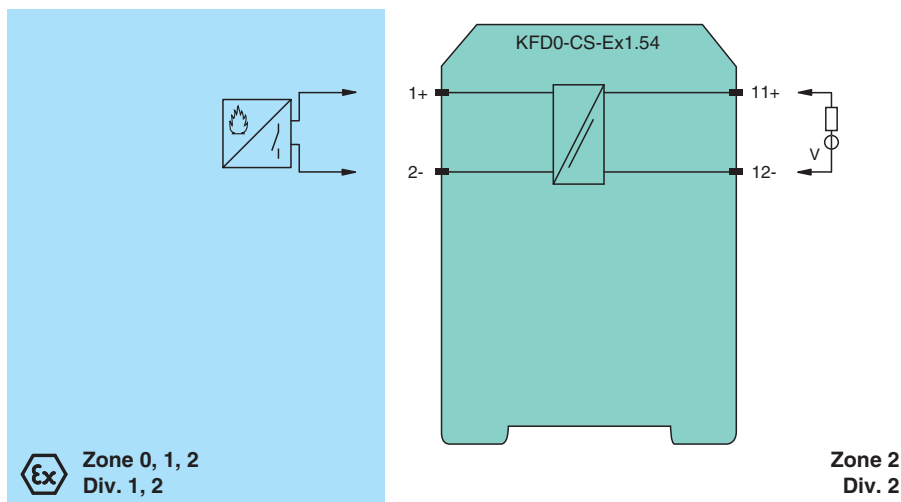
SIL 3



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 $4 \text{ V} \leq U_e \leq 24 \text{ V}$; $\geq U_e - (0.41 \times \text{input current in mA}) - 0.5$
Current $0 \dots 20$ mA

Technical Data

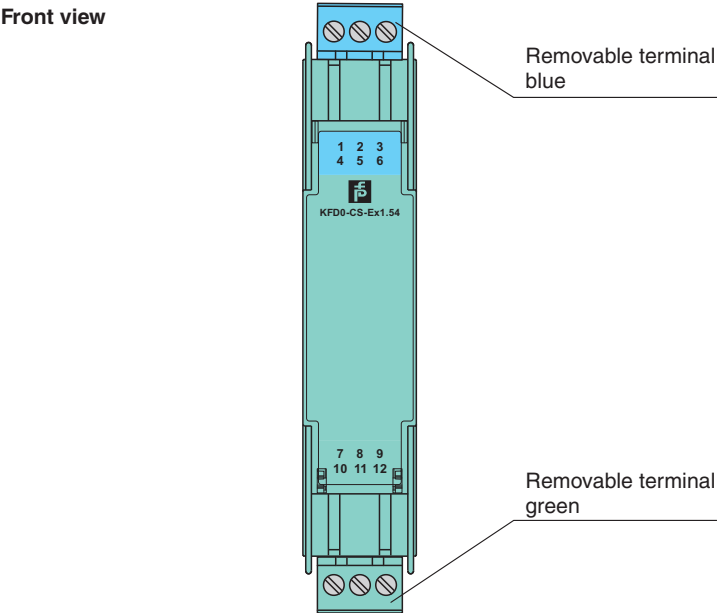
Field circuit		
Connection		terminals 1+, 2-
Short-circuit current		≤ 65 mA
Transmission range		voltage: 4 ... 20 V DC/0 ... 6 V _{pp} AC current: 1 ... 20 mA
Transfer characteristics		
Deviation		
After calibration		≤ 3.5 mA current loss at 20 mA load current
Influence of ambient temperature		± 20 µA / 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) (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		Ⓔ 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		TÜV 99 ATEX 1499 X
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 IEC 60079-0:2018 , 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 IIC T4 Gc

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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



Matching System Components

	K-DUCT-BU	Profile rail, wiring comb field side, blue
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Accessories

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

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