



Repeater KFD0-CS-Ex2.50P

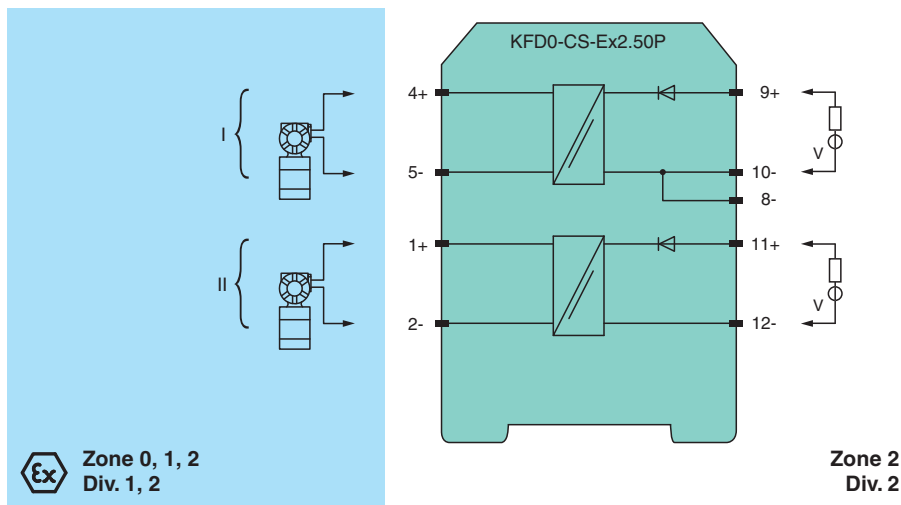
- 2-channel isolated barrier
- 24 V DC supply (loop powered)
- Current input/output 4 mA ... 20 mA
- transmitter power supply
- Accuracy 0.1 %
- Reverse polarity protection
- Up to SIL 2 (SC 3) acc. to IEC/EN 61508



Function

This isolated barrier is used for intrinsic safety applications.
The device can be used as a repeater or transmitter power supply for 2-wire transmitters.
This device is loop powered. No additional power supply has to be connected.
Use the technical data to verify that proper voltage is available to the field devices.

Connection



Technical Data

General specifications			
Signal type		Analog input/analog output	
Functional safety related parameters			
Safety Integrity Level (SIL)		SIL 2	
Systematic capability (SC)			SC 3
Supply			
Rated voltage		U _r	5 ... 35 V DC , loop powered
Control circuit			
Connection			terminals 12-, 11+; 8-, 10-, 9+
Voltage		5 ... 35 V DC	
Current		4 ... 20 mA	

Technical Data

Power dissipation		at 20 mA and $U_{in} < 24.3 \text{ V}$: < 250 mW per channel at 20 mA and $U_{in} > 24.3 \text{ V}$: < 500 mW per channel
Field circuit		
Connection		terminals 1+, 2-; 4+, 5-
Voltage		for $5 \text{ V} < U_{in} < 24.3 \text{ V}$: $\geq 0.9 \times U_{in} - (0.37 \times \text{current in mA}) - 1.0$ for $U_{in} > 24.3 \text{ V}$: $\geq 21 \text{ V} - (0.36 \times \text{current in mA})$
Short-circuit current		at $U_{in} > 24.3 \text{ V}$: $\leq 65 \text{ mA}$
Transfer current		$\leq 40 \text{ mA}$
Transfer characteristics		
Accuracy		0.1 %
Deviation		
After calibration		$\leq \pm 20 \mu\text{A}$; incl. calibration, linearity, hysteresis and load fluctuations at the field side up to a load of $1 \text{ k}\Omega$ at 20°C (68°F)
Influence of ambient temperature		$\leq \pm 2 \mu\text{A/K}$ at $U_{in} \leq 20 \text{ V}$; $\leq \pm 5 \mu\text{A/K}$ at $U_{in} > 20 \text{ V}$
Rise time		$\leq 5 \text{ ms}$ at bounce from $4 \dots 20 \text{ mA}$ and $U_{in} < 24 \text{ V}$
Galvanic isolation		
Field circuit/control circuit		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 21:2012 EN 61326-3-2:2008
Degree of protection		IEC 60529:2001
Protection against electrical shock		UL 61010-1:2012
Ambient conditions		
Ambient temperature		$-20 \dots 70^\circ\text{C}$ ($-4 \dots 158^\circ\text{F}$)
Mechanical specifications		
Degree of protection		IP20
Connection		screw terminals
Mass		approx. 100 g
Dimensions		$20 \times 107 \times 115 \text{ mm}$ ($0.8 \times 4.2 \times 4.5 \text{ inch}$) (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 98 ATEX 7343 X
Marking		Ⓔ II (1)G [Ex ia Ga] IIC Ⓔ II (1)D [Ex ia Da] IIIC Ⓔ I (M1) [Ex ia Ma] I
Voltage		U_o 25.2 V
Current		I_o 93 mA
Power		P_o 585 mW
Control circuit		
Maximum safe voltage		U_m 250 V _{eff} (Attention! The rated voltage can be lower.)
Field circuit		
Maximum safe voltage		U_m 250 V _{eff} (Attention! The rated voltage can be lower.)
Certificate		FIDI 22 ATEX 0001X
Marking		Ⓔ II 3G Ex ec IIC T4 Gc
Galvanic isolation		
Field circuit/control circuit		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 IEC 60079-7:2015+A1:2018
International approvals		
FM approval		

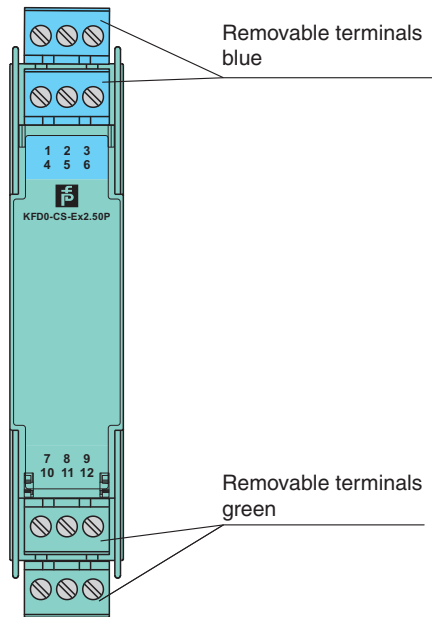
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Technical Data

Control drawing	116-0437
UL approval	E106378
Control drawing	116-0438 (cULus)
IECEX approval	
IECEX certificate	IECEX BAS 05.0004X IECEX CML 19.0040X
IECEX marking	[Ex ia Ga] IIC , [Ex ia Da] IIIC , [Ex ia Ma] I Ex ec 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



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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