

# Repeater

## KFD0-CS-Ex2.50P

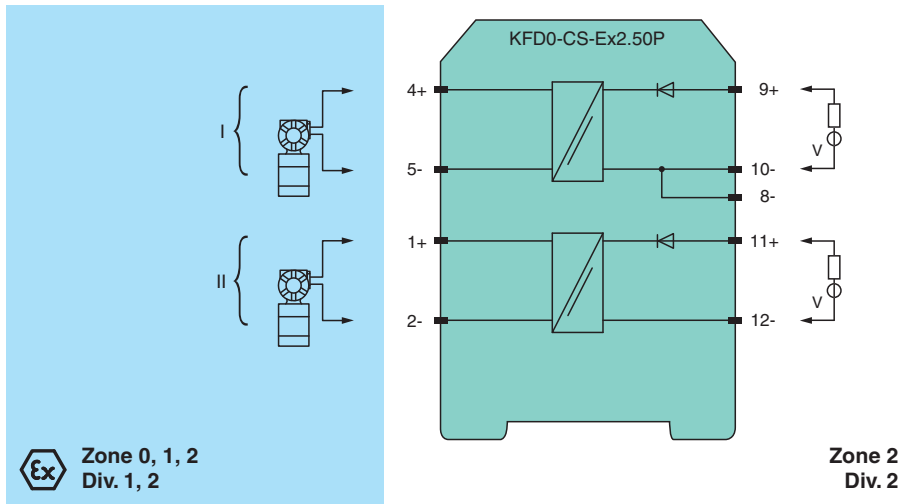
- 2-channel isolated barrier
- 24 V DC supply (loop powered)
- Current input/output 4 mA ... 20 mA
- transmitter power supply
- Accuracy 0.1 %
- Reverse polarity protection
- Up to SIL 2 (SC 3) acc. to IEC/EN 61508



### 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



**Ex** Zone 0, 1, 2  
Div. 1, 2

Zone 2  
Div. 2

### Technical Data

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

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

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## Technical Data

Power dissipation	at 20 mA and $U_{in} < 24.3$ V: < 250 mW per channel at 20 mA and $U_{in} > 24.3$ V: < 500 mW per channel	
<b>Field circuit</b>		
Connection	terminals 1+, 2-; 4+, 5-	
Voltage	for $5V < U_{in} < 24.3V$ : $\geq 0.9 \times U_{in} - (0.37 \times \text{current in mA}) - 1.0$ for $U_{in} > 24.3$ V: $\geq 21$ V - (0.36 x current in mA)	
Short-circuit current	at $U_{in} > 24.3$ V : $\leq 65$ mA	
Transfer current	$\leq 40$ mA	
<b>Transfer characteristics</b>		
Accuracy	0.1 %	
Deviation		
After calibration	$\leq \pm 20$ $\mu$ A; incl. calibration, linearity, hysteresis and load fluctuations at the field side up to a load of 1 k $\Omega$ at 20 °C (68 °F)	
Influence of ambient temperature	$\leq \pm 2$ $\mu$ A/K at $U_{in} \leq 20$ V; $\leq \pm 5$ $\mu$ A/K at $U_{in} > 20$ V	
Rise time	$\leq 5$ ms at bounce from 4 ... 20 mA and $U_{in} < 24$ V	
<b>Galvanic isolation</b>		
Field circuit/control circuit	safe electrical isolation acc. to IEC/EN 60079-11, voltage peak value 375 V	
<b>Indicators/settings</b>		
Labeling	space for labeling at the front	
<b>Directive conformity</b>		
Electromagnetic compatibility		
Directive 2014/30/EU	EN 61326-1:2013 (industrial locations)	
<b>Conformity</b>		
Electromagnetic compatibility	NE 21:2012 EN 61326-3-2:2008	
Degree of protection	IEC 60529:2001	
Protection against electrical shock	UL 61010-1:2012	
<b>Ambient conditions</b>		
Ambient temperature	-20 ... 70 °C (-4 ... 158 °F)	
<b>Mechanical specifications</b>		
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	
<b>Data for application in connection with hazardous areas</b>		
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 (-20 °C $\leq$ T <sub>amb</sub> $\leq$ 60 °C)	
Voltage	$U_o$	25.2 V
Current	$I_o$	93 mA
Power	$P_o$	585 mW
<b>Control circuit</b>		
Maximum safe voltage	$U_m$	250 V <sub>eff</sub> (Attention! The rated voltage can be lower.)
<b>Field circuit</b>		
Maximum safe voltage	$U_m$	250 V <sub>eff</sub> (Attention! The rated voltage can be lower.)
<b>Certificate</b>		
Marking	Ⓔ II 3G Ex ec IIC T4 Gc [device in zone 2]	
<b>Galvanic isolation</b>		
Field circuit/control circuit	safe electrical isolation acc. to IEC/EN 60079-11, voltage peak value 375 V	
<b>Directive conformity</b>		
Directive 2014/34/EU	EN IEC 60079-0:2018 , EN 60079-11:2012 , EN IEC 60079-7:2015+A1:2018	
<b>International approvals</b>		
FM approval		
Control drawing	116-0437	

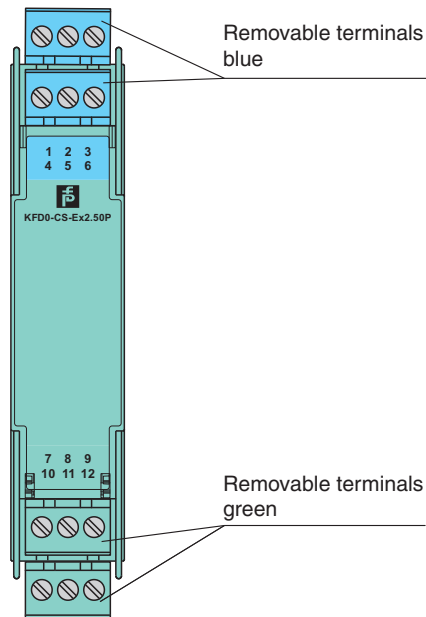
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## Technical Data


UL approval	
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
<b>General information</b>	
Supplementary information	Observe the certificates, declarations of conformity, instruction manuals, and manuals where applicable. For information see <a href="http://www.pepperl-fuchs.com">www.pepperl-fuchs.com</a> .

## Assembly




Front view



## Matching System Components

	<b>K-DUCT-BU</b>	Profile rail, wiring comb field side, blue
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## Accessories

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

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