

Repeater

KFD0-CS-Ex2.50P

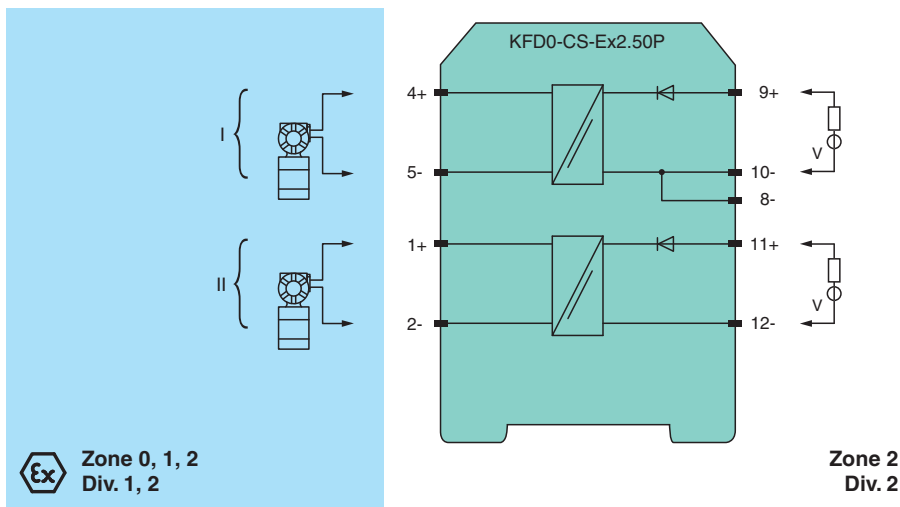
- 2-channel isolated barrier
- 24 V DC supply (loop powered)
- Current input/output 4 mA ... 20 mA
- transmitter power supply
- Accuracy 0.1 %
- Reverse polarity protection
- Up to SIL 2 (SC 3) acc. to IEC/EN 61508



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

Release date: 2023-03-13 Date of issue: 2023-03-13 Filename: 294983_eng.pdf

Technical Data

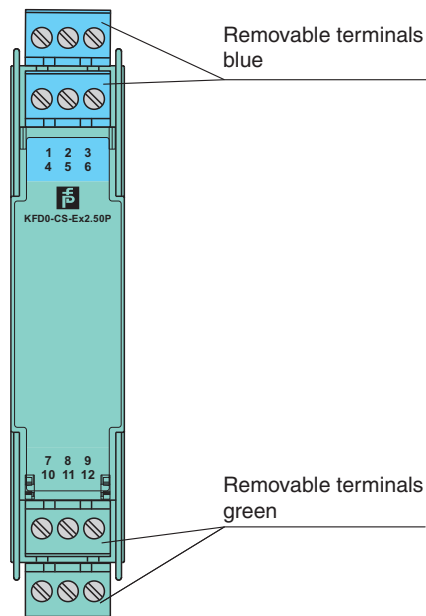
Power dissipation	at 20 mA and $U_{in} < 24.3$ V: < 250 mW per channel at 20 mA and $U_{in} > 24.3$ V: < 500 mW per channel	
Field circuit		
Connection	terminals 1+, 2-; 4+, 5-	
Voltage	for $5V < U_{in} < 24.3V$: $\geq 0.9 \times U_{in} - (0.37 \times \text{current in mA}) - 1.0$ for $U_{in} > 24.3$ V: ≥ 21 V - (0.36 x current in mA)	
Short-circuit current	at $U_{in} > 24.3$ V : ≤ 65 mA	
Transfer current	≤ 40 mA	
Transfer characteristics		
Accuracy	0.1 %	
Deviation		
After calibration	$\leq \pm 20$ μ A; incl. calibration, linearity, hysteresis and load fluctuations at the field side up to a load of 1 k Ω at 20 °C (68 °F)	
Influence of ambient temperature	$\leq \pm 2$ μ A/K at $U_{in} \leq 20$ V; $\leq \pm 5$ μ A/K at $U_{in} > 20$ V	
Rise time	≤ 5 ms at bounce from 4 ... 20 mA and $U_{in} < 24$ 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 ... 70 °C (-4 ... 158 °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 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		
Marking	FIDI 22 ATEX 0001X	
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		

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
-------------------------------------------------------------------------------------	------------------	--------------------------------------------

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