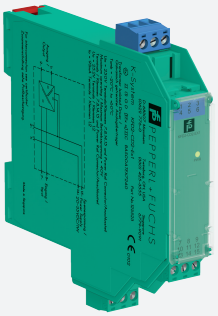


Current/Voltage Driver

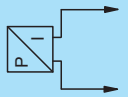
KFD2-CD-Ex1.32-**

- 1-channel isolated barrier
- 24 V DC supply (Power Rail)
- Current and voltage input
- Current or voltage output
- Factory configured input/output
- Accuracy 0.1 %
- Up to SIL 2 acc. to IEC/EN 61508

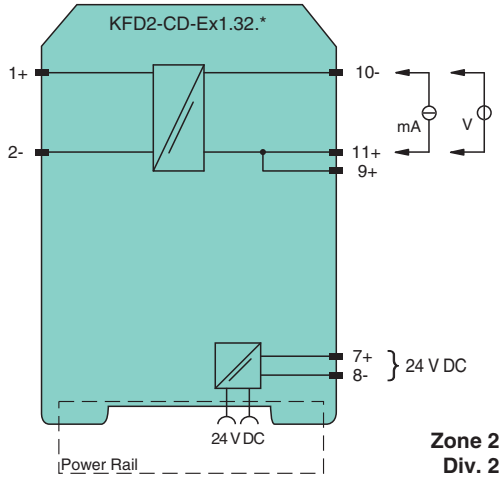
Function

This isolated barrier is used for intrinsic safety applications. It drives a voltage or current signal from the safe area to I/P converters, electrical valves and positioners located in the hazardous areas.
This barrier is designed to provide various inputs and outputs of voltage and current.

Connection



Zone 0, 1, 2
Div. 1, 2



Zone 2
Div. 2

Technical Data

General specifications		
Signal type		Analog output
Functional safety related parameters		
Safety Integrity Level (SIL)		SIL 2
Supply		
Connection		Power Rail or terminals 7+, 8-
Rated voltage	U_r	20 ... 35 V DC
Ripple		within the supply tolerance
Rated current	I_r	current output: ≤ 50 mA ; voltage output: ≤ 20 mA
Power dissipation		1.2 W
Input		
Connection side		control side
Connection		terminals 9+, 10-, 11+

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Voltage drop		optional current input: approx. 4 V at 20 mA
Input current		≤ 100 µA up to 50 °C (122 °F) at 10 V
Limit		optional current input: Input current: approx. ≤40 mA optional voltage input: input voltage: 12 V DC
Transmission range		optional current input: 0 ... 20 mA/optional voltage input: 0 ... 10 V
Output		
Connection side		field side
Connection		terminals 1+, 2-
Voltage		optional current output: 17 V at 20 mA/optional voltage output: 0 ... 10 V
Current		optional current output: 0 ... 20 mA/optional voltage output: ≤ 20 mA
Load		optional current output: max. 850 Ω optional voltage output: output resistance max. 3 Ω
Transfer characteristics		
Accuracy		0.1 %
Deviation		
After calibration		≤ ± 0.1 % incl. non-linearity and hysteresis at 20 °C (68 °F)
Influence of ambient temperature		≤ ± 0.01 %/K
Rise time		< 10 ms
Galvanic isolation		
Input/power supply		functional insulation, rated insulation voltage 50 V AC
Indicators/settings		
Display elements		LED
Labeling		space for labeling at the front
Directive conformity		
Electromagnetic compatibility		
Directive 2014/30/EU		EN 61326-1:2013 (industrial locations)
Conformity		
Degree of protection		IEC 60529:2001
Protection against electrical shock		UL 61010-1:2004
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 02 ATEX 7203 X
Marking		⟨Ex⟩ II (1)G [Ex ia Ga] IIC , ⟨Ex⟩ II (1)D [Ex ia Da] IIIC , ⟨Ex⟩ I (M1) [Ex ia Ma] I
Voltage	U_o	25.2 V DC
Current	I_o	optional current output: 93 mA optional voltage output: 95 mA
Power	P_o	optional current output: 0.586 W optional voltage output: 0.59 W
Supply		
Maximum safe voltage	U_m	250 V (Attention! The rated voltage can be lower.)
Input		
Maximum safe voltage	U_m	250 V (Attention! The rated voltage can be lower.)
Certificate		TÜV 99 ATEX 1499 X
Marking		⟨Ex⟩ II 3G Ex nA II T4

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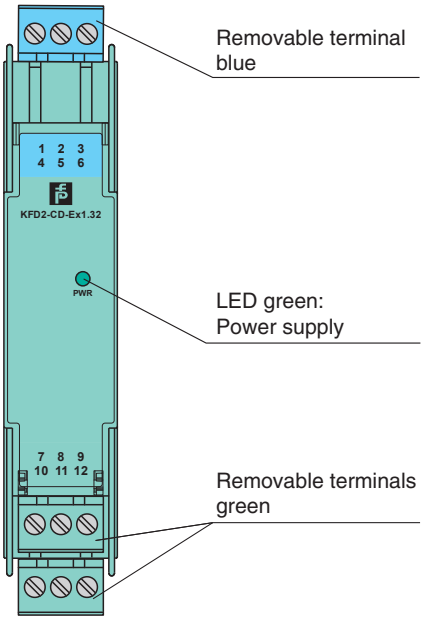
Technical Data

Galvanic isolation		
Input/Output		safe electrical isolation acc. to IEC/EN 60079-11, voltage peak value 375 V
Output/power supply		safe electrical isolation acc. to IEC/EN 60079-11, voltage peak value 375 V
Directive conformity		
Directive 2014/34/EU		EN 60079-0:2012+A11:2013 , EN 60079-11:2012 , EN 60079-15:2010
International approvals		
FM approval		
Control drawing		116-0129
UL approval		
Control drawing		116-0173 (cULus)
IECEx approval		
IECEx certificate		IECEx BAS 05.0041
IECEx marking		[Ex ia Ga] IIC, [Ex ia Da] IIIC, [Ex ia Ma] I
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



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Product Versions

Input/output options, model number

This barrier is designed to provide various inputs and outputs of voltage and current:

- Current input option
  A current limit circuit in series to terminal 9 protects the device from damage. The max. voltage drop at the input is DC 4 V, allowing for the connection of several KFD2-CD-Ex1.32 repeaters due to the low voltage drop in order to maintain multiple galvanically isolated outputs (signal duplication).
- Voltage input option
  The signal is transmitted to terminals 9 and 10 across an amplifier and the DC/DC converter within the allowable voltage range. A voltage limiter circuit protects the amplifier from incorrect input switching and overvoltage, but will draw current through a 50 mA fuse during operation. The fuse can be changed only by the manufacturer.
- Current output option
  The open circuit voltage is DC 24 V within the allowable supply voltage range at terminals 1 and 2. The max. load that can be applied is 850 Ω.
- Voltage output option
  At least 20 mA is available within the allowable supply voltage range at terminals 1 and 2 which means that with 10 V output voltage, a load of at least 500 Ω must be connected.

Input	Output						Ordering example
	0 mA ... 20 mA	4 mA ... 20 mA	0 V ... 5 V	1 V ... 5 V	0 V ... 10 V	2 V ... 10 V	
0 mA ... 20 mA	0	2	–	9	12	–	Input 0 V ... 10 V, Output 4 mA ... 20 mA: is code number 8 **Type code:** KFD2-CD-Ex1.32.8
4 mA ... 20 mA	1	(0)	10	–	13	(12)	
0 V ... 5 V	3	5	(15)	–	–	–	
1 V ... 5 V	–	(3)	–	(15)	–	–	
0 V ... 10 V	6	8	21	–	15	–	
2 V ... 10 V	–	(6)	–	–	–	(15)	

For options enclosed in parentheses, the transfer range for a base type is only partially used, i. e. 4 mA ... 20 mA from the base type 0 mA ... 20 mA.

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