

Features

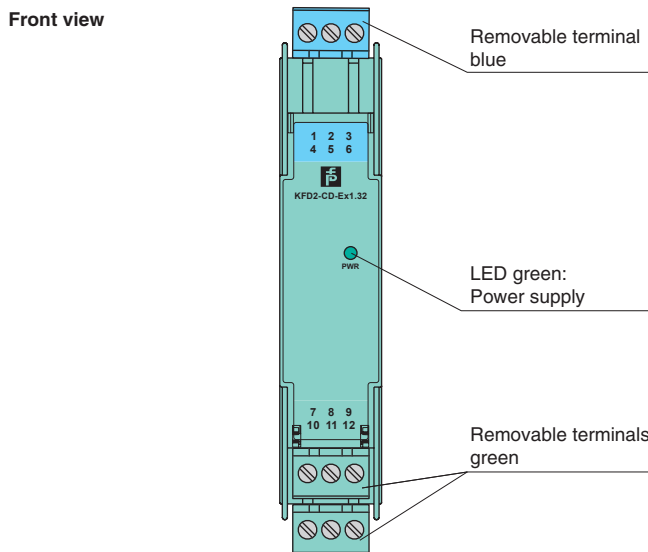
- 1-channel isolated barrier
- 24 V DC supply (Power Rail)
- Current or voltage output
- Factory configured input/output
- Accuracy 0.1 %
- Up to SIL2 acc. to IEC 61508

Function

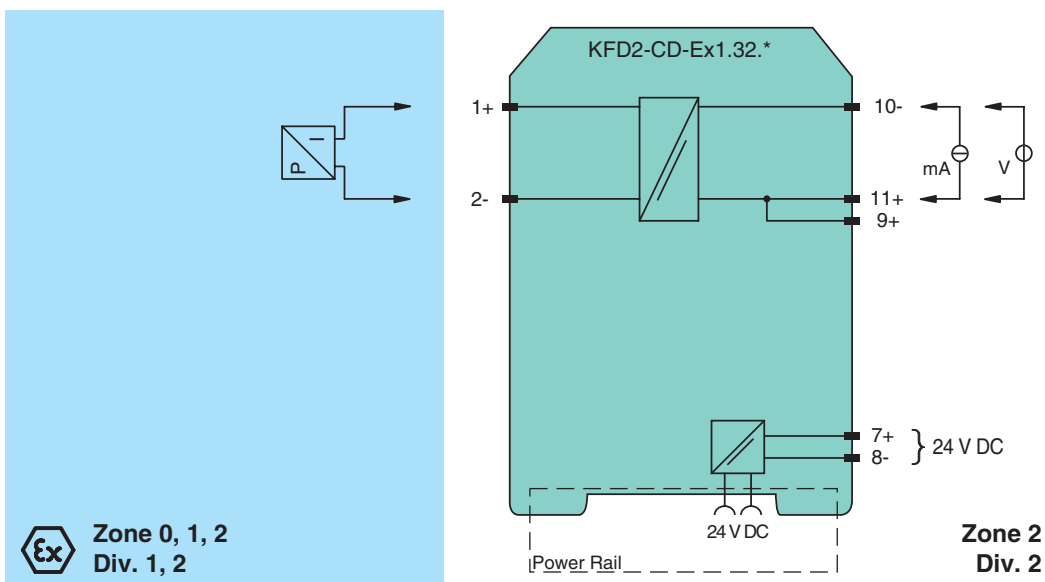
This isolated barrier is used for intrinsic safety applications. It drives a voltage or current signal from the safe area to I/P converters, electrical valves and positioners located in the hazardous areas.

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

Assembly



Connection



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General specifications	
Signal type	Analog output
Supply	
Connection	Power Rail or terminals 7+, 8-
Rated voltage	20 ... 35 V DC
Ripple	within the supply tolerance
Rated current	current output: ≤ 50 mA ; voltage output: ≤ 20 mA
Power loss	1.2 W
Input	
Connection	terminals 9+, 10-, 11+
Voltage drop U_d	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	terminals 1+, 2-
Current	optional current output: 0 ... 20 mA/optional voltage output: ≤ 20 mA
Load	optional current output: ≤ 850 Ω optional voltage output: output resistance ≤ 3 Ω
Voltage	optional current output: 17 V at 20 mA/optional voltage output: 0 ... 10 V
Transfer characteristics	
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
Electrical isolation	
Input/power supply	functional insulation, rated insulation voltage 50 V AC
Directive conformity	
Electromagnetic compatibility	
Directive 2004/108/EC	EN 61326-1:2006
Conformity	
Insulation coordination	EN 50178
Electrical isolation	EN 50178
Protection degree	IEC 60529
Ambient conditions	
Ambient temperature	-20 ... 60 °C (-4 ... 140 °F)
Mechanical specifications	
Protection degree	IP20
Mass	approx. 100 g
Dimensions	20 x 107 x 115 mm (0.8 x 4.2 x 4.5 in) , housing type B1
Data for application in connection with Ex-areas	
EC-Type Examination Certificate	BAS 02 ATEX 7203 , for additional certificates see www.pepperl-fuchs.com
Group, category, type of protection	Ⓔ II (1)GD, I (M1), [Ex ia] IIC, [Ex iaD], [Ex ia] I (-20 °C ≤ T _{amb} ≤ 60 °C) [circuit(s) in zone 0/1/2]
Voltage U_o	25.2 V DC
Current I_o	optional current output: 93 mA optional voltage output: 95 mA
Power P_o	0.586 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.)
Statement of conformity	
Group, category, type of protection, temperature classification	Ⓔ II 3G Ex nA II T4
Electrical isolation	
Input/Output	safe electrical isolation acc. to IEC 60079-11, voltage peak value 375 V
Output/power supply	safe electrical isolation acc. to IEC 60079-11, voltage peak value 375 V
Directive conformity	
Directive 94/9/EC	EN 60079-0:2006, EN 60079-11:2007, EN 60079-15:2005, EN 61241-11:2006
International approvals	
FM approval	
Control drawing	116-0129
UL approval	

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Control drawing	116-0173 (cULus)
CSA approval	
Control drawing	116-0132
IECEX approval	IECEX BAS 05.0041
Approved for	[zone 0] [Ex ia] IIC, [Ex iaD], [Ex ia] I
General information	
Supplementary information	EC-Type Examination Certificate, Statement of Conformity, Declaration of Conformity, Attestation of Conformity and instructions have to be observed where applicable. For information see www.pepperl-fuchs.com.

Additional information

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-CD32-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 parantheses, 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.

Accessories

Power feed module KFD2-EB2

The power feed module is used to supply the devices with 24 V DC via the Power Rail. The fuse-protected power feed module can supply up to 100 individual devices depending on the power consumption of the devices. A galvanically isolated mechanical contact uses the Power Rail to transmit collective error messages.

Power Rail UPR-03

The Power Rail UPR-03 is a complete unit consisting of the electrical inset and an aluminium profile rail 35 mm x 15 mm. To make electrical contact, the devices are simply engaged.

Profile Rail K-DUCT with Power Rail

The profile rail K-DUCT is an aluminum profile rail with Power Rail insert and two integral cable ducts for system and field cables. Due to this assembly no additional cable guides are necessary.



Power Rail and Profile Rail must not be fed via the device terminals of the individual devices!

Attention

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