

# Voltage Repeater KFD2-VR-Ex1.19

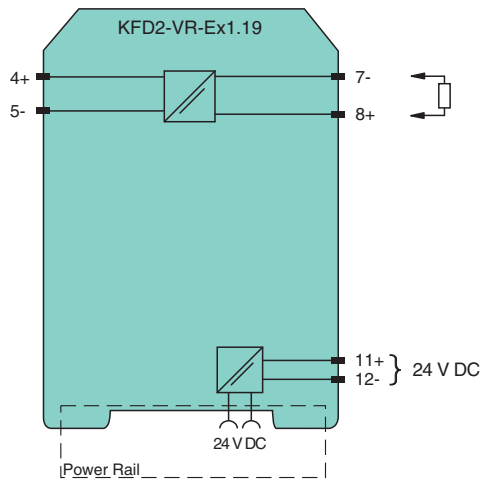
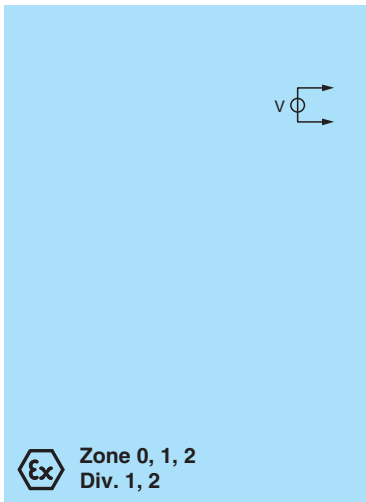
- 1-channel isolated barrier
- 24 V DC supply (Power Rail)
- Voltage input -10 V ... 10 V
- Voltage output -10 V ... 10 V



## Function

This isolated barrier is used for intrinsic safety applications. It transfers voltage signals from hazardous areas to safe areas. The input voltage of the terminals 4 and 5 is transferred to the terminals 7 and 8. The terminals 4 and 8 have the same polarity. It repeats voltage signals from magnetic pickups, transducers, and flow meters between -10 V ... 10 V with signal frequencies up to 1.2 kHz.

## Connection



## Technical Data

General specifications	
Signal type	Analog input
<b>Supply</b>	
Connection	Power Rail or terminals 11+, 12-
Rated voltage	$U_r$ 20 ... 35 V DC
Ripple	within the supply tolerance
Rated current	$I_r$ < 25 mA
<b>Input</b>	
Connection side	field side
Connection	terminals 4+, 5-
Input resistance	min. 10 M $\Omega$
Transmission range	-10 ... 10 V

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

Pepperl+Fuchs Group  
www.pepperl-fuchs.com

USA: +1 330 486 0002  
pa-info@us.pepperl-fuchs.com

Germany: +49 621 776 2222  
pa-info@de.pepperl-fuchs.com

Singapore: +65 6779 9091  
pa-info@sg.pepperl-fuchs.com

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## Technical Data

Offset voltage/current		< 2 mV / < 7 nA
<b>Output</b>		
Connection side		control side
Connection		terminals 7-, 8+
Voltage		-10 ... 10 V
Output resistance		max. 20 Ω
<b>Transfer characteristics</b>		
Cut-off frequency		1.2 kHz (-3 dB)
Deviation		
After calibration		± 5 mV at 20 °C (68 °F)
Influence of ambient temperature		< 0.005 % of range per K
Rise time		≤ 0.4 ms
<b>Galvanic isolation</b>		
Output/power supply		functional insulation, rated insulation voltage 50 V AC
<b>Indicators/settings</b>		
Display elements		LED
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
Degree of protection		IEC 60529
<b>Ambient conditions</b>		
Ambient temperature		-20 ... 60 °C (-4 ... 140 °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 01 ATEX 7262
Marking		⊕ II (1)GD, I (M1) [Ex ia Ga] IIC, [Ex ia Da] IIIC, [Ex ia Ma] I (-20 °C ≤ T <sub>amb</sub> ≤ 60 °C) , [circuit(s) in zone 0/1/2]
Voltage	U <sub>o</sub>	18 V
Current	I <sub>o</sub>	4.2 mA
Power	P <sub>o</sub>	19 mW
<b>Supply</b>		
Maximum safe voltage	U <sub>m</sub>	250 V (Attention! The rated voltage is lower.)
<b>Output</b>		
Maximum safe voltage	U <sub>m</sub>	250 V (Attention! The rated voltage is lower.)
<b>Certificate</b>		
Marking		⊕ II 3G Ex ec IIC T4 Gc [device in zone 2]
<b>Galvanic isolation</b>		
Input/Output		safe electrical isolation acc. to IEC/EN 60079-11, voltage peak value 375 V
Input/power supply		safe electrical isolation acc. to IEC/EN 60079-11, voltage peak value 375 V
<b>Directive conformity</b>		
Directive 2014/34/EU		EN 60079-0:2012+A11:2013 , EN 60079-11:2012 , EN 60079-7:2015+A1:2018
<b>International approvals</b>		
<b>FM approval</b>		
Control drawing		116-0129
<b>UL approval</b>		

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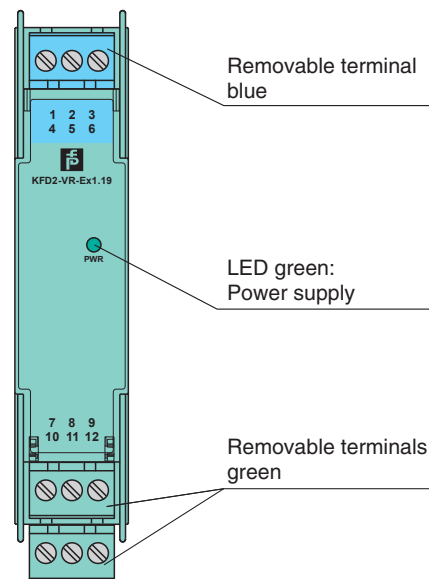
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## Technical Data







Control drawing	116-0173 (cULus)
CSA approval	
Control drawing	116-0132
IECEX approval	
IECEX certificate	IECEX BAS 10.0040X
IECEX marking	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>KFD2-EB2</b>	Power Feed Module
	<b>UPR-03</b>	Universal Power Rail with end caps and cover, 3 conductors, length: 2 m
	<b>UPR-03-M</b>	Universal Power Rail with end caps and cover, 3 conductors, length: 1,6 m
	<b>UPR-03-S</b>	Universal Power Rail with end caps and cover, 3 conductors, length: 0.8 m
	<b>K-DUCT-BU</b>	Profile rail, wiring comb field side, blue
	<b>K-DUCT-BU-UPR-03</b>	Profile rail with UPR-03- * insert, 3 conductors, 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