

Voltage Repeater

KFD2-VR-Ex1.19-Y109129

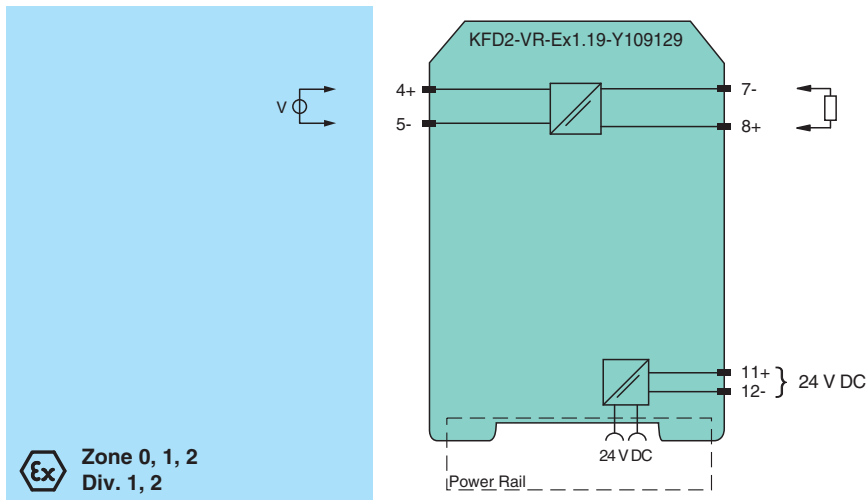
- 1-channel isolated barrier
- 24 V DC supply (Power Rail)
- Voltage input -10 V ... 10 V
- Transmission frequency up to 50 kHz
- Voltage output -10 V ... 10 V



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. This barrier is designed for frequencies up to 50 kHz.

Connection



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

Technical Data

General specifications

Signal type	Analog input	
Supply		
Connection	Power Rail or terminals 11+, 12-	
Rated voltage	U_r	20 ... 35 V DC
Ripple	within the supply tolerance	
Rated current	I_r	< 30 mA
Input		
Connection side	field side	
Connection	terminals 4+, 5-	
Input resistance	min. 10 M Ω	

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Technical Data

Transmission range	-10 ... 10 V	
Offset voltage/current	< 10 mV / < 1 μ A	
Output		
Connection side	control side	
Connection	terminals 7-, 8+	
Voltage	-10 ... 10 V	
Output resistance	max. 20 Ω	
Transfer characteristics		
Cut-off frequency	50 kHz (-3 dB)	
Deviation		
After calibration	\pm 30 mV at 20 °C (68 °F)	
Influence of ambient temperature	< 0.01 % of span per K	
Rise time	\leq 10 μ s	
Galvanic isolation		
Output/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		
Electromagnetic compatibility	NE 21	
Degree of protection	IEC 60529	
Ambient conditions		
Ambient temperature	-20 ... 60 °C (-4 ... 140 °F)	
Mechanical specifications		
Degree of protection	IP20	
Connection	screw terminals	
Mass	approx. 110 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 01 ATEX 7262	
Marking	Ⓔ II (1)GD, I (M1) [Ex ia Ga] IIC, [Ex ia Da] IIIC, [Ex ia Ma] I (-20 °C \leq T _{amb} \leq 60 °C) , [circuit(s) in zone 0/1/2]	
Voltage	U _o	15.5 V
Current	I _o	7.2 mA
Power	P _o	28 mW
Supply		
Maximum safe voltage	U _m	250 V (Attention! The rated voltage is lower.)
Output		
Maximum safe voltage	U _m	250 V (Attention! The rated voltage is lower.)
Certificate		
Marking	Ⓔ II 3G Ex ec IIC T4 Gc [device in zone 2]	
Galvanic isolation		
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	
Directive conformity		
Directive 2014/34/EU	EN 60079-0:2012+A11:2013 , EN 60079-11:2012 , EN 60079-7:2015+A1:2018	
International approvals		
FM approval		
Control drawing	116-0129	

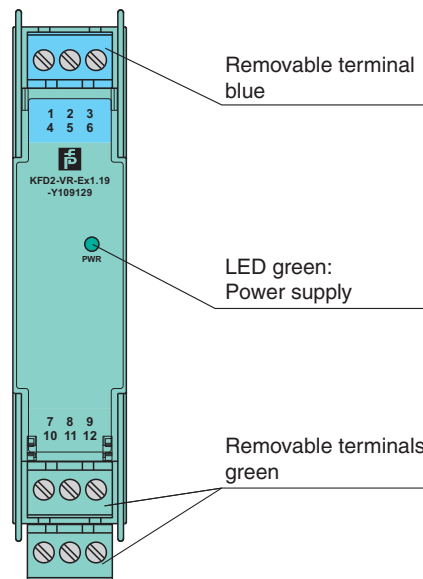
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Technical Data







UL approval		
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
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

	KFD2-EB2	Power Feed Module
	UPR-03	Universal Power Rail with end caps and cover, 3 conductors, length: 2 m
	UPR-03-M	Universal Power Rail with end caps and cover, 3 conductors, length: 1,6 m
	UPR-03-S	Universal Power Rail with end caps and cover, 3 conductors, length: 0.8 m
	K-DUCT-BU	Profile rail, wiring comb field side, blue
	K-DUCT-BU-UPR-03	Profile rail with UPR-03- * insert, 3 conductors, wiring comb field side, blue

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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