

Features

- 1-channel isolated barrier
- 24 V DC supply (Power Rail)
- Voltage input 0 mV ... ± 500 mV
- Voltage output 0 mV ... ± 500 mV

Function

This isolated barrier is used for intrinsic safety applications. It transfers low voltage signals from thermocouples, load cells, strain gauges, operational amplifiers, and inductive oscillation sensors located in hazardous areas to safe areas.

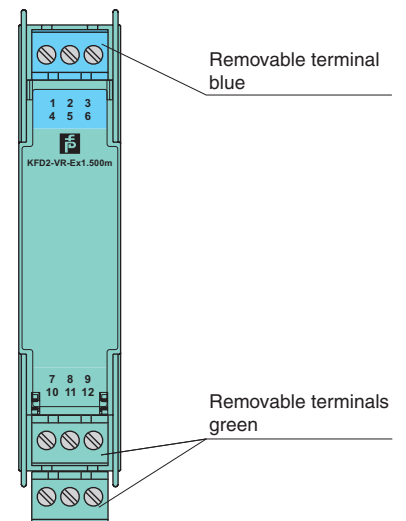
The input voltage of the terminals 4 and 5 is transferred to the terminals 7 and 8. The terminals 4 and 8 have the same polarity.

The input, output, and power supply are galvanically isolated from each other.

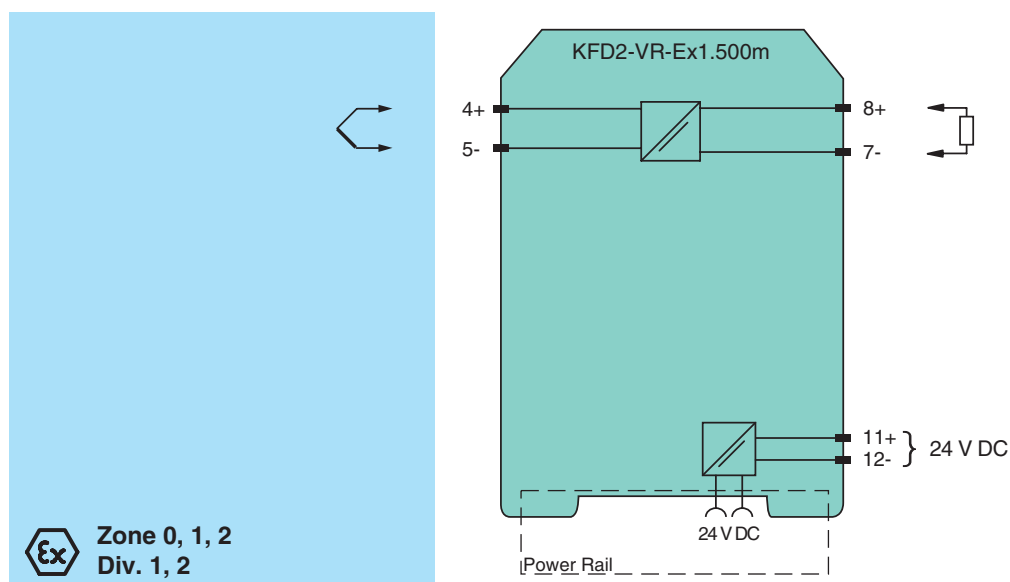
Note: This unit requires three minutes after power-up to reach the accuracy cited in the technical data.

Assembly

Front view



Connection



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General specifications	
Signal type	Analog input
Supply	
Connection	Power Rail or terminals 11+, 12-
Rated voltage	20 ... 35 V DC
Ripple	within the supply tolerance
Rated current	≤ 7 mA
Input	
Connection	terminals 4+, 5-
Input resistance	≤ 20 MΩ
Transmission range	0 ... ± 500 mV
Offset voltage/current	≤ 5 μV / ≤ 5 nA
Output	
Connection	terminals 7+, 8-
Load	accuracy figures for infinite load impedance, additional 0.03 % of span for a load resistance of 10 kΩ
Voltage	0 ... ± 500 mV
Output resistance	≤ 3 Ω
Transfer characteristics	
Deviation	
After calibration	at 293 K (20 °C), ± 30 μV to ± 100 mV / ± 0.3 % of span up to ± 500 mV
Influence of ambient temperature	max. 10 μV / K (typical 9 μV / K)
Trip value	-3 db at 1.3 kHz
Absolute	0.25 K (at 40 V DC nominal supply voltage)
Rise time	≤ 250 μs
Electrical isolation	
Output/power supply	basic insulation acc. to EN 50178, rated insulation voltage of 50 V AC
Directive conformity	
Electromagnetic compatibility	
Directive 2004/108/EC	EN 61326-1:2006
Conformity	
Insulation coordination	EN 50178
Electrical isolation	EN 50178
Electromagnetic compatibility	NE 21
Protection degree	IEC 60529
Ambient conditions	
Ambient temperature	-20 ... 60 °C (253 ... 333 K)
Mechanical specifications	
Protection degree	IP20
Mass	approx. 125 g
Dimensions	20 x 107 x 115 mm (0.8 x 4.2 x 4.5 in) , housing type B1
Data for application in conjunction with hazardous areas	
EC-Type Examination Certificate	BASEEFA 03 ATEX 0076 , for additional certificates see www.pepperl-fuchs.com
Group, category, type of protection	[Ex ia] IIC (T _{amb} = 60 °C)
Voltage U _o	5.5 V DC
Current I _o	2.4 mA
Power P _o	3.3 mW
Supply	
Safety maximum voltage U _m	250 V (Attention! The rated voltage can be lower.)
Type of protection [Ex ia]	
Electrical isolation	
Input/output	safe electrical isolation acc. to EN 50020, voltage peak value 375 V
Input/power supply	safe electrical isolation acc. to EN 50020, voltage peak value 375 V
Directive conformity	
Directive 94/9/EC	EN 50014, EN 50020
International approvals	
FM approval	
Control drawing	116-0129
UL approval	
Control drawing	116-0173 (cULus)
CSA approval	
Control drawing	116-0132
General information	

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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.

Accessories

Power feed modules 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.

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