

Features

- 1-channel isolated barrier
- 24 V DC supply (Power Rail)
- Voltage input 0 mV ... ± 50 mV
- Voltage output 0 mV ... ± 50 mV
- Selectable up/downscale sensor breakage detection

Function

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

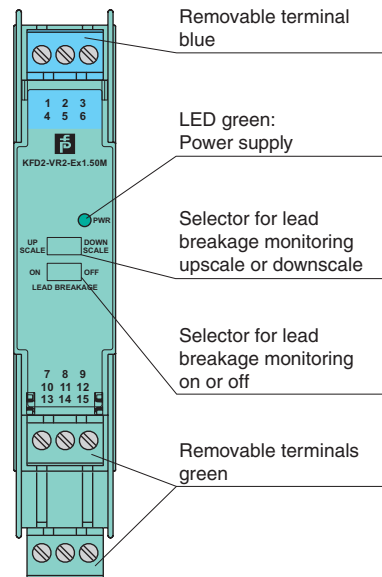
The input voltage of the terminals 4 and 5 is transferred to the terminals 7 and 8.

The input, output, and power supply are galvanically isolated from each other. Upscale or downscale lead breakage monitoring is selectable via switches located on the front panel of the device.

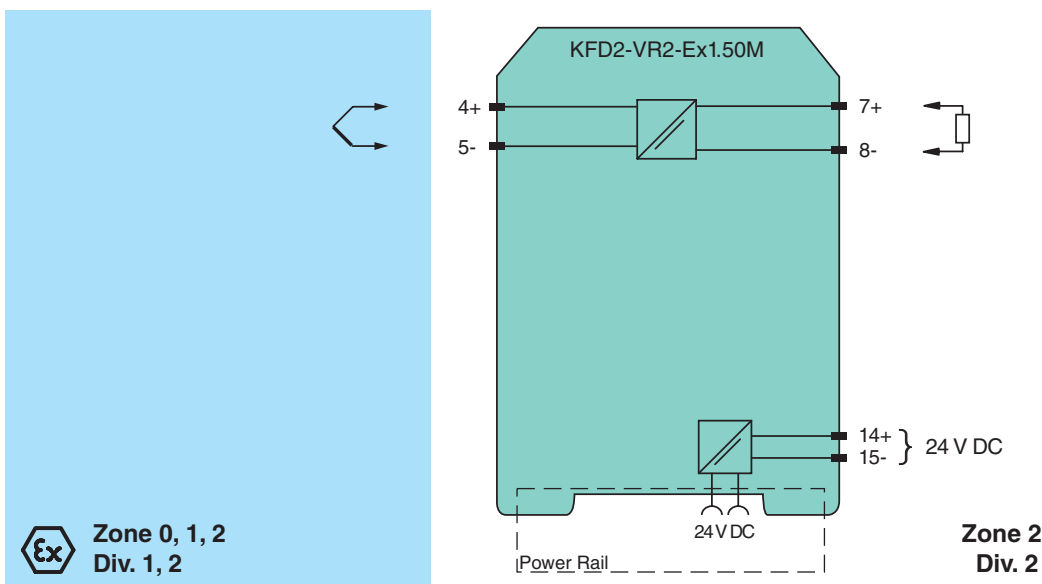
Note: This unit requires three minutes after power-up to reach the accuracy cited in the technical data.

Assembly

Front view



Connection



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

| | | |
|--|-------|---|
| General specifications | | |
| Signal type | | Analog input |
| Supply | | |
| Connection | | Power Rail or terminals 14+, 15- |
| Rated voltage | U_r | 19 ... 30 V DC |
| Ripple | | within the supply tolerance |
| Rated current | I_r | ≤ 11 mA |
| Power dissipation/power consumption | | 0.3 W max. |
| Input | | |
| Connection side | | field side |
| Connection | | terminals 4+, 5- |
| Input resistance | | ≥ 20 M Ω |
| Transmission range | | -50 ... 50 mV |
| Offset voltage/current | | ≤ 5 μ V / ≤ 5 nA |
| Line fault detection | | 100 nA |
| Output | | |
| Connection side | | control side |
| Connection | | terminals 7+, 8- |
| Load | | Accuracy figures for infinite load impedance. Additional 0.03 % of span for a load resistance of 10 k Ω |
| Voltage | | -50 ... 50 mV |
| Fault signal | | sensor breakage: > +100 mV (upscale), < -100 mV (downscale) |
| Output resistance | | ≤ 3 Ω |
| Transfer characteristics | | |
| Cut-off frequency | | 350 Hz (-3 dB) |
| Deviation | | |
| After calibration | | at 20 °C (68 °F): ± 3 μ V up to ± 10 mV/ ± 0.03 % of the span up to +50 mV/ ± 0.05 % of the span up to -50 mV |
| Influence of ambient temperature | | ± 1 μ V/K (typical ± 0.25 μ V/K) |
| Absolute | | < 0.25 K at 30 V voltage supply |
| Rise time | | ≤ 1 ms |
| Galvanic isolation | | |
| Output/power supply | | functional insulation, rated insulation voltage 50 V AC |
| Indicators/settings | | |
| Display elements | | LED |
| Control elements | | DIP-switch |
| Configuration | | via DIP switches |
| 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 |
| Protection against electrical shock | | UL 61010-1 |
| Ambient conditions | | |
| Ambient temperature | | -20 ... 60 °C (-4 ... 140 °F) |
| Mechanical specifications | | |
| Degree of protection | | IP20 |
| Connection | | screw terminals |
| Mass | | approx. 125 g |
| Dimensions | | 20 x 119 x 115 mm (0.8 x 4.7 x 4.5 inch) , housing type B2 |
| Mounting | | on 35 mm DIN mounting rail acc. to EN 60715:2001 |
| Data for application in connection with hazardous areas | | |
| EU-Type Examination Certificate | | |
| 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 | 5.5 V DC |
| Current | I_o | 2.4 mA |
| Power | P_o | 3.3 mW |
| Supply | | |
| Maximum safe voltage | U_m | 250 V (Attention! The rated voltage can be lower.) |
| Certificate | | |
| Marking | | II 3G Ex ec IIC T4 Gc |
| 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 |

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PEPPERL+FUCHS

| | |
|--------------------------------|---|
| Directive conformity | |
| Directive 2014/34/EU | EN 60079-0:2012+A11:2013 , EN 60079-7:2015+A1:2018 , EN 60079-11:2012 |
| International approvals | |
| UL approval | |
| Control drawing | 116-0334 (cULus) |
| IECEX approval | |
| IECEX certificate | IECEX BAS 06.0011 IECEX BAS 09.0103X |
| IECEX marking | [Ex ia Ga] IIC , [Ex ia Da] IIIC , [Ex ia Ma] I 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 . |
| Accessories | |
| Optional accessories | - power feed module KFD2-EB2(.R4A.B)(.SP) - universal power rail UPR-03(-M)(-S) - profile rail K-DUCT-BU(-UPR-03) |



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