Features

- 16-channel isolated barrier
- 24 V DC supply (Power Rail)
- Analog or digtial field device inputs
- Monitors leakage current
- Fault relay contact output
- LED status indication
- Test circuit for validation
- Parallel connection for easy integration
- Conformal coating

Function

This isolated barrier is used for intrinsic safety applications.

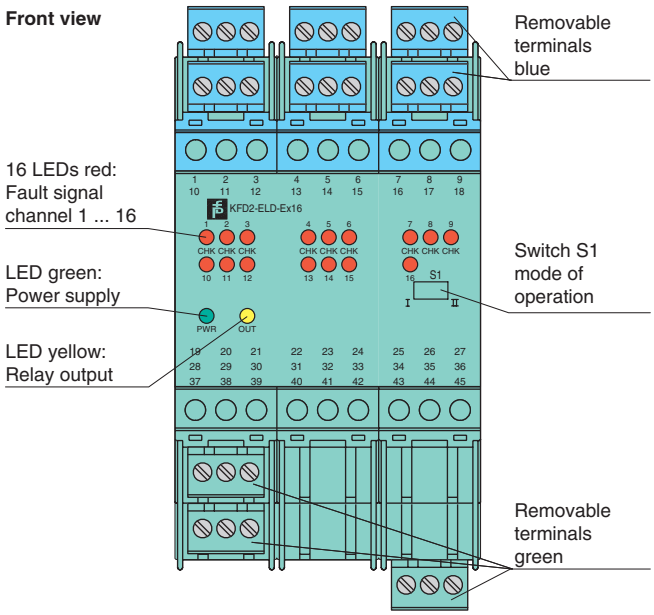
The device detects ground faults on field lines.

The 16 channels of the device continuously monitor galvanically isolated circuits and warns if their resistance to ground falls below 10 kΩ.

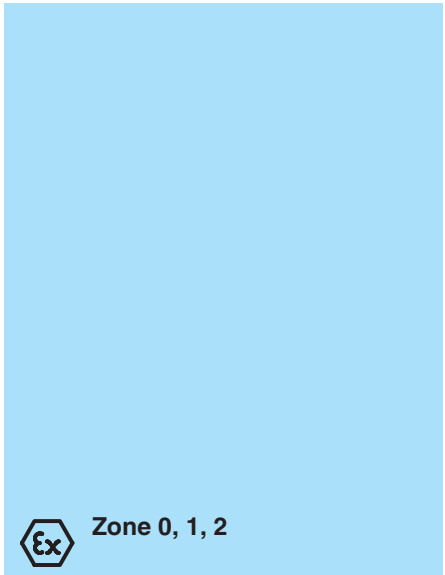
During an alarm condition, the appropriate channel LED is illuminated and the change-over contact is initiated (S1 = position I). The function of this relay can be reversed with switch S1 (S1 = position II).

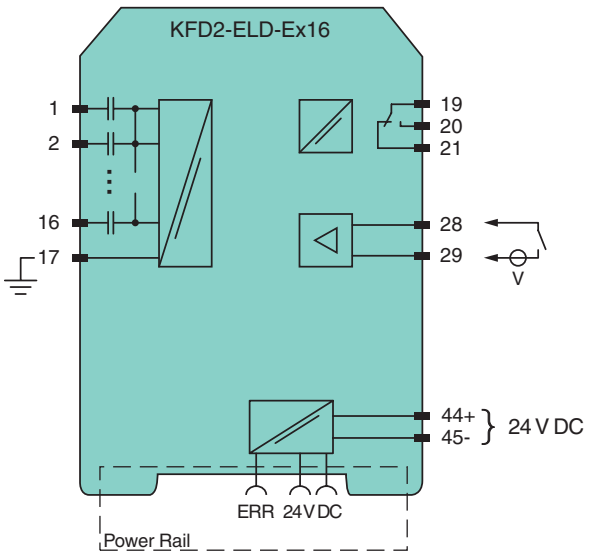
A self-test can be activated via the test input of the device. The device reacts by switching the relay. The self-test can be triggered manually by the user or remotely by the control system.

Assembly



Connection





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General specifications		
Signal type		Analog input
Supply		
Connection		Power Rail or terminals 44+, 45-
Rated voltage	U_n	20 ... 30 V DC
Ripple		≤ 10 %
Rated current	I_n	≤ 50 mA
Input		
Connection		intrinsically safe: terminals 1 ... 16 non-intrinsically safe: terminals 28, 29
Ground connection		terminal 17
Rated values		5 V_{pp}, 0.1 mA; rectangular
Function		Test input: 24 V DC / 5 mA; non-polarized
Output		
Connection		terminals 19, 20, 21
Output		signal ; relay
Contact loading		253 V AC/2 A /cos ϕ > 0.7; 40 V DC/2 A resistive load;
Mechanical life		10^7 switching cycles
Transfer characteristics		
Response delay		≤ 50 s
Electrical isolation		
Input/Output		reinforced insulation according to IEC/EN 61010-1, rated insulation voltage 300 V_{eff}
Input/power supply		reinforced insulation according to IEC/EN 61010-1, rated insulation voltage 300 V_{eff}
Output/power supply		reinforced insulation according to IEC/EN 61010-1, rated insulation voltage 300 V_{eff}
Directive conformity		
Electromagnetic compatibility		
Directive 2004/108/EC		EN 61326-1:2006
Low voltage		
Directive 2006/95/EC		EN 61010-1:2010
Conformity		
Electromagnetic compatibility		NE 21:2007
Degree of protection		IEC 60529:2001
Ambient conditions		
Ambient temperature		-20 ... 60 °C (-4 ... 140 °F)
Mechanical specifications		
Degree of protection		IP20
Mass		approx. 260 g
Dimensions		60 x 119 x 115 mm (2.4 x 4.7 x 4.5 in) , housing type D2
Mounting		on 35 mm DIN mounting rail acc. to EN 60715:2001
Data for application in connection with Ex-areas		
EC-Type Examination Certificate		TÜV 00 ATEX 1585 , for additional certificates see www.pepperl-fuchs.com
Group, category, type of protection		⟨Ex⟩ II (1)G [Ex ia Ga] IIC ⟨Ex⟩ II (1) D [Ex ia Da] IIIC ⟨Ex⟩ I (M1) [Ex ia Ma] I
Voltage	U_o	7.2 V
Current	I_o	1.7 mA
Power	P_o	3 mW
Supply		
Maximum safe voltage	U_m	40 V DC (Attention! The rated voltage can be lower.)
Collective error message		
Maximum safe voltage	U_m	40 V (Attention! The rated voltage can be lower.)
Electrical 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 94/9/EC		EN 60079-0:2012, EN 60079-11:2012, EN 60079-26:2007
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.

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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 150 individual devices depending on the power consumption of the devices. Collective error messages received from the Power Rail activate a galvanically-isolated mechanical contact.

Power Rail UPR-03

The Power Rail UPR-03 is a complete unit consisting of the electrical insert 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!

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