

Features

- 1-channel isolated barrier
- 115 V AC supply
- Dry contact or NAMUR inputs
- Relay contact output
- Fault relay contact output
- Line fault detection (LFD)
- Reversible mode of operation
- Up to SIL2 acc. to IEC 61508/IEC 61511

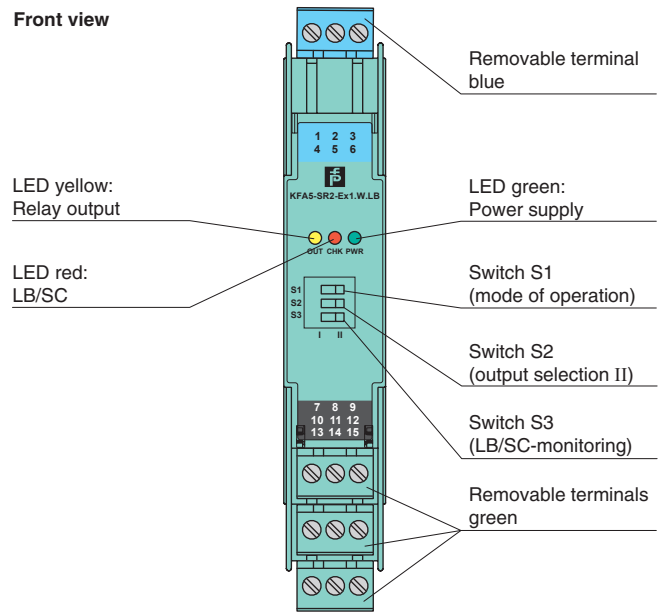
Function

This isolated barrier is used for intrinsic safety applications. It transfers digital signals (NAMUR sensors/mechanical contacts) from a hazardous area to a safe area.

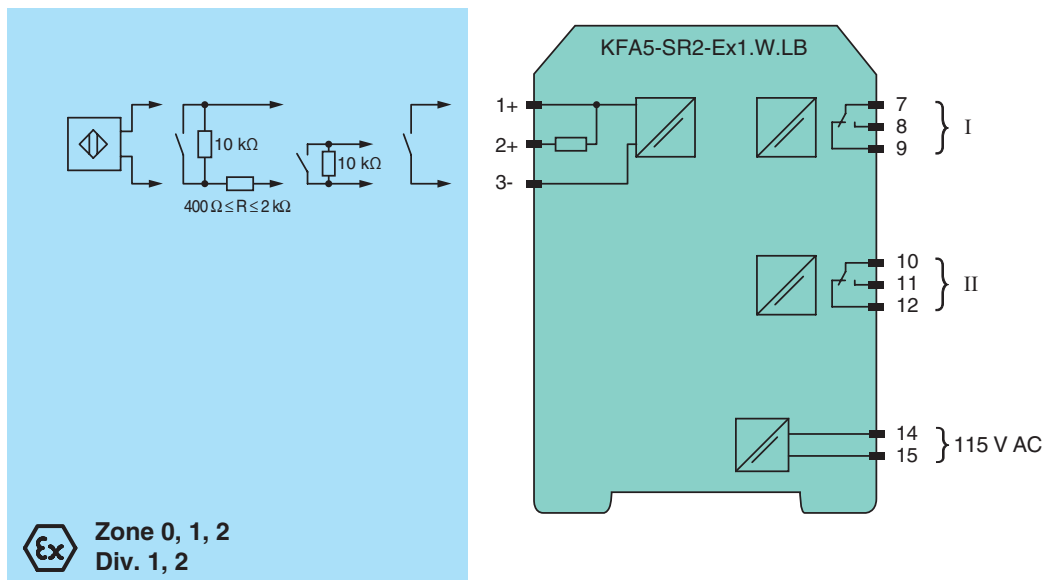
The proximity sensor or switch controls a form C changeover relay contact for the safe area load. The normal output state can be reversed using switch S1. Switch S2 allows output II to be switched between a signal output or an error message output. Switch S3 is used to enable or disable line fault detection of the field circuit.

During an error condition, the relays revert to their de-energized state and the LEDs indicate the fault according to NAMUR NE44.

Assembly



Connection



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


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

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| | | |
|---|-------|--|
| General specifications | | |
| Signal type | | Digital Input |
| Supply | | |
| Connection | | terminals 14, 15 |
| Rated voltage | U_n | 103.5 ... 126 V AC , 45 ... 65 Hz |
| Power loss | | 1.2 W |
| Power consumption | | ≤ 1.3 W |
| Input | | |
| Connection | | terminals 1+, 2+, 3- |
| Rated values | | acc. to EN 60947-5-6 (NAMUR) |
| Open circuit voltage/short-circuit current | | approx. 8 V DC / approx. 8 mA |
| Switching point/switching hysteresis | | 1.2 ... 2.1 mA / approx. 0.2 mA |
| Line fault detection | | breakage $I \leq 0.1$ mA , short-circuit $I > 6$ mA |
| Pulse/Pause ratio | | ≥ 20 ms / ≥ 20 ms |
| Output | | |
| Connection | | output I: terminals 7, 8, 9 ; output II: terminals 10, 11, 12 |
| Output I | | signal ; relay |
| Output II | | signal or error message ; relay |
| Contact loading | | 253 V AC/2 A/cos $\phi > 0.7$; 126.5 V AC/4 A/cos $\phi > 0.7$; 40 V DC/2 A resistive load |
| Energized/De-energized delay | | approx. 20 ms / approx. 20 ms |
| Mechanical life | | 10 ⁷ switching cycles |
| Transfer characteristics | | |
| Switching frequency | | ≤ 10 Hz |
| 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} |
| Output/Output | | 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 21:2006 |
| Degree of protection | | IEC 60529:2001 |
| Input | | EN 60947-5-6:2000 |
| Ambient conditions | | |
| Ambient temperature | | -20 ... 60 °C (-4 ... 140 °F) |
| Mechanical specifications | | |
| Degree of protection | | IP20 |
| Mass | | approx. 150 g |
| Dimensions | | 20 x 119 x 115 mm (0.8 x 4.7 x 4.5 in) , housing type B2 |
| Mounting | | on 35 mm DIN mounting rail acc. to EN 60715:2001 |
| Data for application in connection with Ex-areas | | |
| EC-Type Examination Certificate | | PTB 00 ATEX 2081 , for additional certificates see www.pepperl-fuchs.com |
| Group, category, type of protection | |  II (1)G [Ex ia Ga] IIC  II (1)D [Ex ia Da] IIIC  I (M1) [Ex ia Ma] I |
| Input | | Ex ia |
| Voltage | U_o | 10.6 V |
| Current | I_o | 19.1 mA |
| Power | P_o | 51 mW (linear characteristic) |
| Supply | | |
| Maximum safe voltage | U_m | 126.5 V AC (Attention! U_m is no rated voltage.) |
| Output | | |
| Contact loading | | 253 V AC/2 A/cos $\phi > 0.7$; 126.5 V AC/4 A/cos $\phi > 0.7$; 40 V DC/2 A resistive load |
| Maximum safe voltage | U_m | 253 V AC (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 |
| International approvals | | |

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|----------------------------|--|
| FM approval | |
| Control drawing | 116-0035 |
| UL approval | |
| Control drawing | 116-0145 |
| CSA approval | |
| Control drawing | 116-0047 |
| IECEX approval | |
| Approved for | IECEX PTB 11.0031 [Ex ia Ga] IIC, [Ex ia Da] IIIC, [Ex ia Ma] I |
| 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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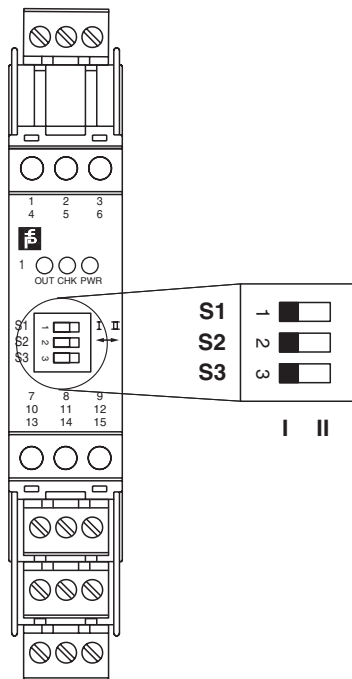
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Configuration



Switch position

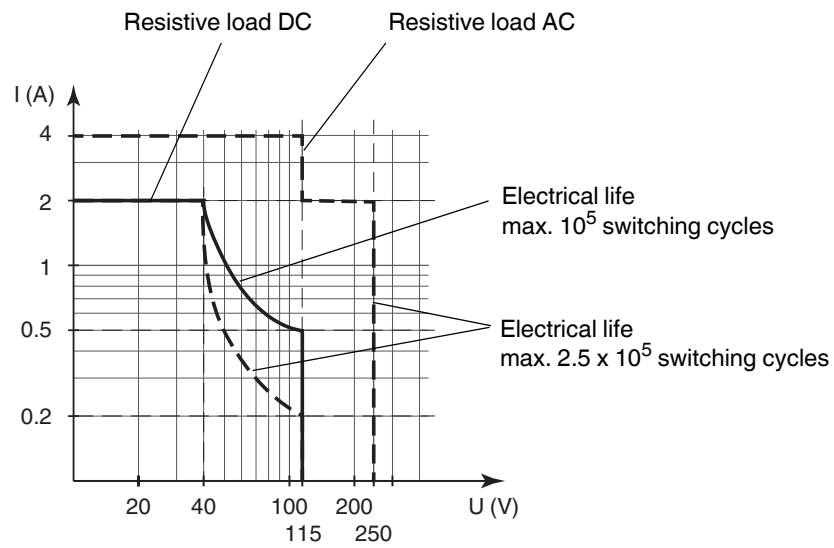
| S | Function | | Position |
|---|--|--|----------|
| 1 | Mode of operation Output I (relay) energized | with high input current | I |
| | | with low input current | II |
| 2 | Assignment Output II (relay) | switching state like output I | I |
| | | fault signal output (de-energized if fault) | II |
| 3 | Line fault detection | ON | I |
| | | OFF | II |

Operating status

| Control circuit | Input signal |
|---|--------------------|
| Initiator high impedance/ contact opened | low input current |
| Initiator low impedance/ contact closed | high input current |
| Lead breakage, lead short-circuit | Line fault |

Factory settings: switch 1, 2 and 3 in position I

Maximum switching power of output contacts



The maximum number of switching cycles is depending on the electrical load and may be higher when reduced currents and voltages are applied.