

Features

- 1-channel isolated barrier
- 230 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 SIL 2 acc. to IEC 61508/IEC 61511

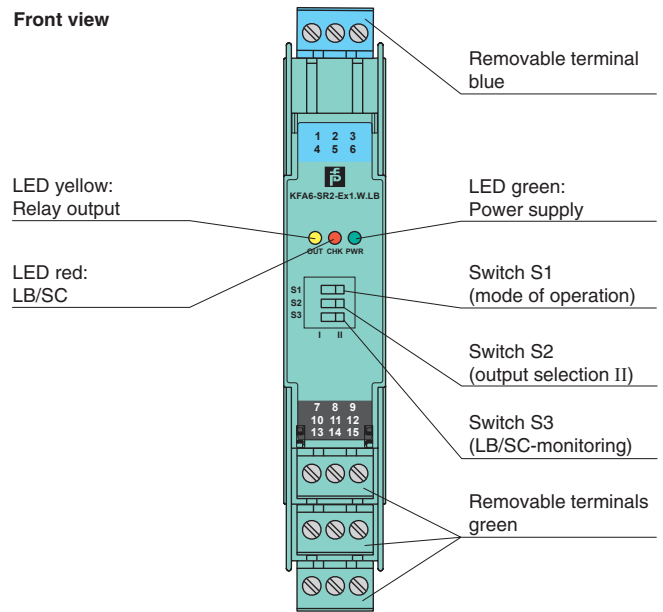
Function

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.

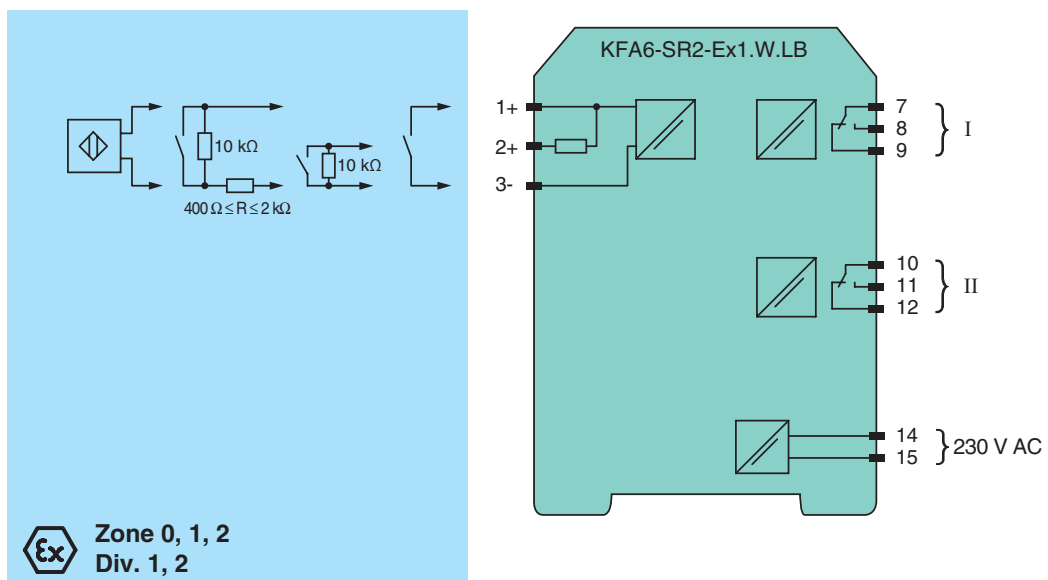
The proximity sensor or switch controls a form C changeover relay contact for the safe area load. The normal output state can be reversed using switch S1. Switch S2 allows output II to be switched between a signal output or an error message output. Switch S3 is used to enable or disable line fault detection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



Release date 2018-05-08 08:09 Date of issue 2018-05-08 103375_eng.xml

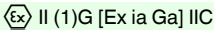
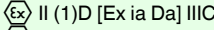
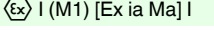
Refer to "General Notes Relating to Pepperl+Fuchs Product Information".

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| | | |
|--|-------|---|
| General specifications | | |
| Signal type | | Digital Input |
| Functional safety related parameters | | |
| Safety Integrity Level (SIL) | | SIL 2 |
| Supply | | |
| Connection | | terminals 14, 15 |
| Rated voltage | U_r | 207 ... 253 V AC, 45 ... 65 Hz |
| Power dissipation | | 1.2 W |
| Power consumption | | ≤ 1.3 W |
| Input | | |
| Connection side | | field side |
| 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 side | | control side |
| 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 |
| Galvanic 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} |
| Indicators/settings | | |
| Display elements | | LEDs |
| Labeling | | space for labeling at the front |
| Directive conformity | | |
| Electromagnetic compatibility | | |
| Directive 2014/30/EU | | EN 61326-1:2013 (industrial locations) |
| Low voltage | | |
| Directive 2014/35/EU | | 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 |
| Connection | | screw terminals |
| Mass | | approx. 150 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 | | PTB 00 ATEX 2081 |
| Marking | |    |
| 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 | 253 V AC (Attention! U_m is no rated voltage.) |
| Output | | |

Release date 2018-05-08 08:09 Date of issue 2018-05-08 103375_eng.xml

| | | |
|--------------------------------|-------|---|
| 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.) |
| 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 |
| International approvals | | |
| FM approval | | |
| Control drawing | | 116-0035 |
| UL approval | | |
| Control drawing | | 116-0145 |
| CSA approval | | |
| Control drawing | | 116-0047 |
| IECEX approval | | IECEX PTB 11.0031 |
| Approved for | | [Ex ia Ga] IIC, [Ex ia Da] IIIC, [Ex ia Ma] I |
| General information | | |
| Supplementary information | | Observe the certificates, declarations of conformity, instruction manuals, and manuals where applicable. For information see www.pepperl-fuchs.com . |

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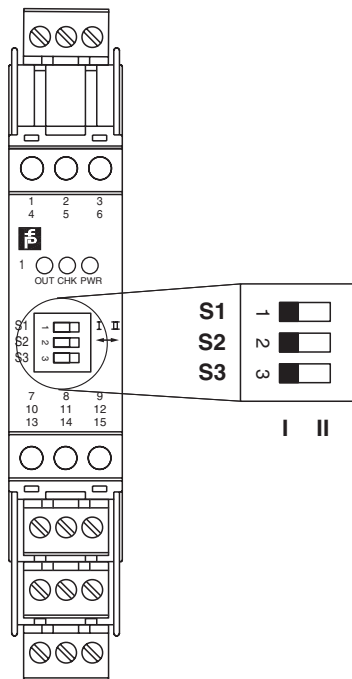
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Configuration



Switch position

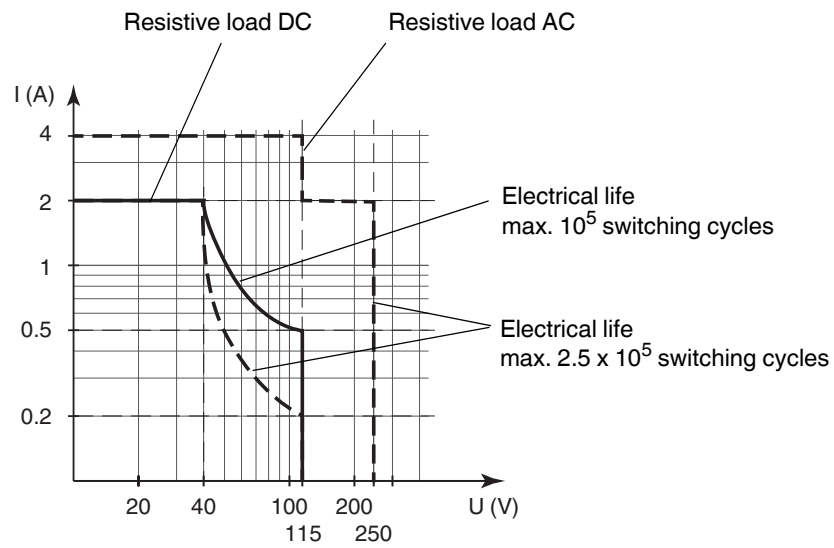
| S | Function | | Position |
|---|--|--|----------|
| 1 | Mode of operation Output I (relay) energized | with high input current | I |
| | | with low input current | II |
| 2 | Assignment Output II (relay) | switching state like output I | I |
| | | fault signal output (de-energized if fault) | II |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