

Features

- 1-channel isolated barrier
- 115 V AC supply
- Dry contact or NAMUR inputs
- Relay contact output
- Line fault detection (LFD)
- Reversible mode of operation
- Up to SIL 2 acc. to IEC 61508/IEC 61511

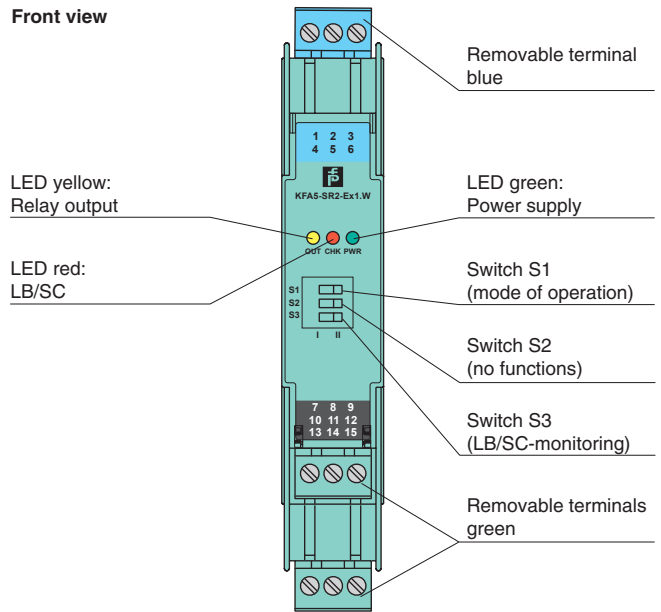
Function

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 barrier output changes state when the input signal changes state. The normal output state can be reversed using switch S1. Switch S3 is used to enable or disable line fault detection of the field circuit.

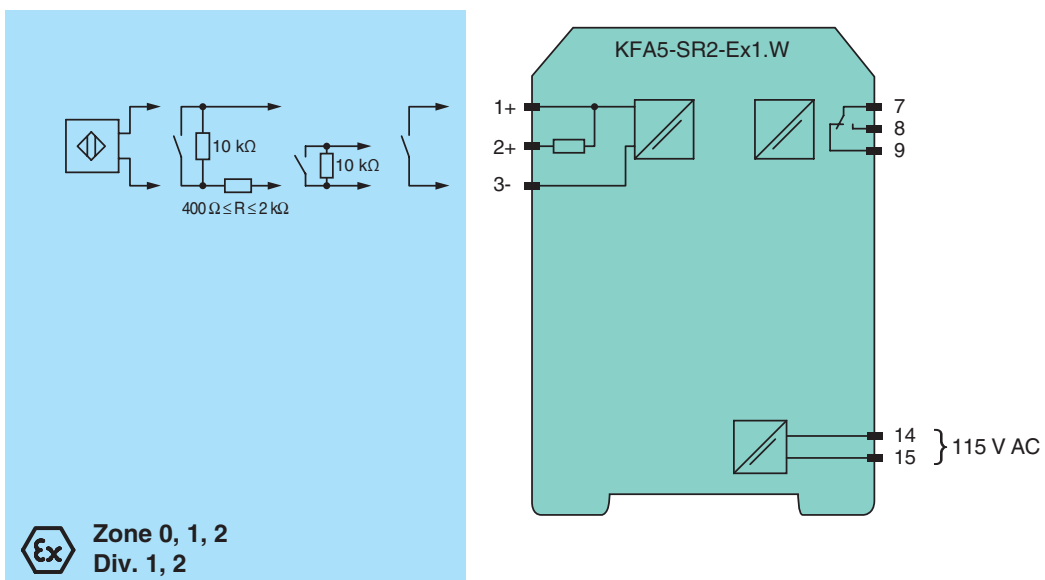
During an error condition, the relay reverts to its de-energized state and the LEDs indicate the fault according to NAMUR NE44.

Assembly



SIL 2

Connection



Release date 2016-05-18 16:22 Date of issue 2016-05-18 103371_eng.xml

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

Pepperl+Fuchs Group
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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 consumption		1 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		terminals 7, 8, 9
Output		signal, 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}
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		
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		
Group, category, type of protection		PTB 00 ATEX 2081 Ex II (1)G [Ex ia Ga] IIC Ex II (1)D [Ex ia Da] IIIC Ex I (M1) [Ex ia Ma] I
Input		
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 2014/34/EU		EN 60079-0:2012+A11:2013 , EN 60079-11:2012
International approvals		
FM approval		
Control drawing		116-0035
UL approval		

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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	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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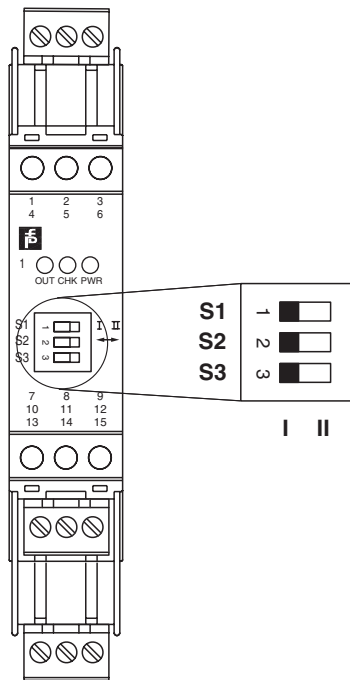
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Configuration



Switch position

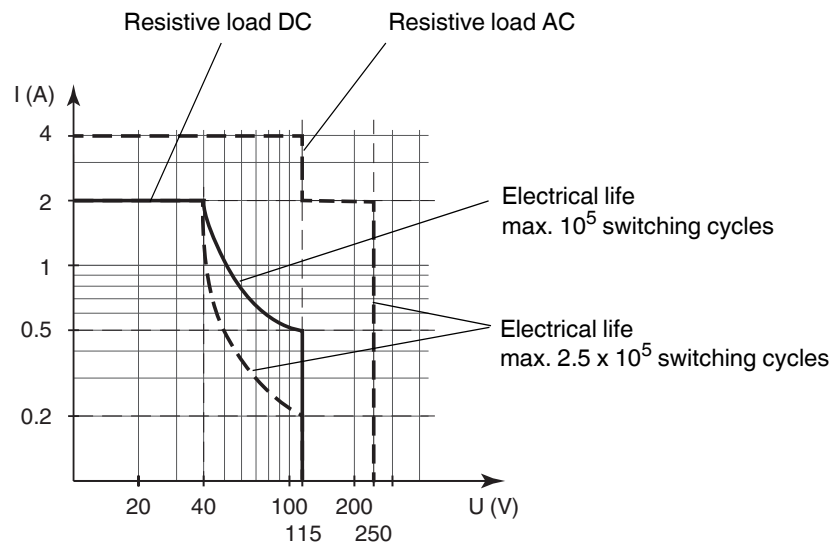
S	Function		Position
1	Mode of operation Output I (relay) energized	with high input current	I
		with low input current	II
2	no function		
3	Line fault detection	ON	I
		OFF	II

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.