

Features

- 2-channel signal conditioner
- 24 V DC supply (Power Rail)
- Dry contact or NAMUR inputs
- Usable as signal splitter (1 input and 2 outputs)
- 2 x 2 relay contact outputs with AND logic
- Line fault detection (LFD)
- Reversible mode of operation
- Up to SIL 2 acc. to IEC 61508/IEC 61511

Function

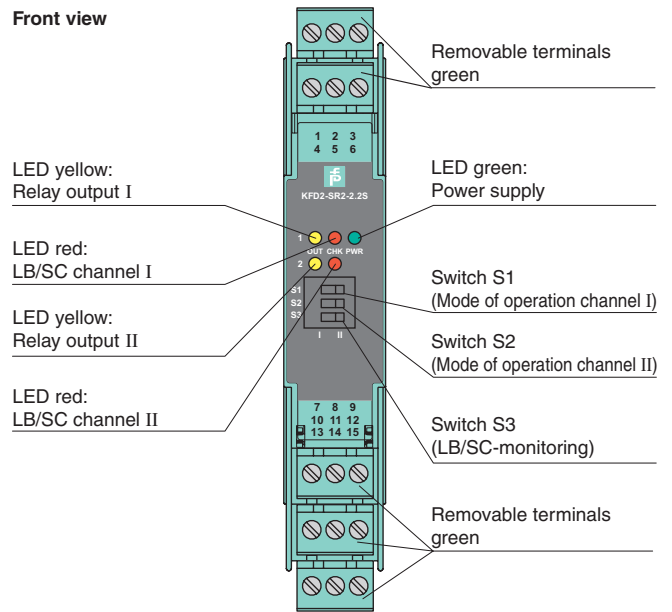
This signal conditioner transfers digital signals (NAMUR sensors/mechanical contacts).

Each sensor or switch controls two form A normally open relay contacts. The normal output state can be reversed using switches S1 and S2. 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.

A unique collective error messaging feature is available when used with the Power Rail system.

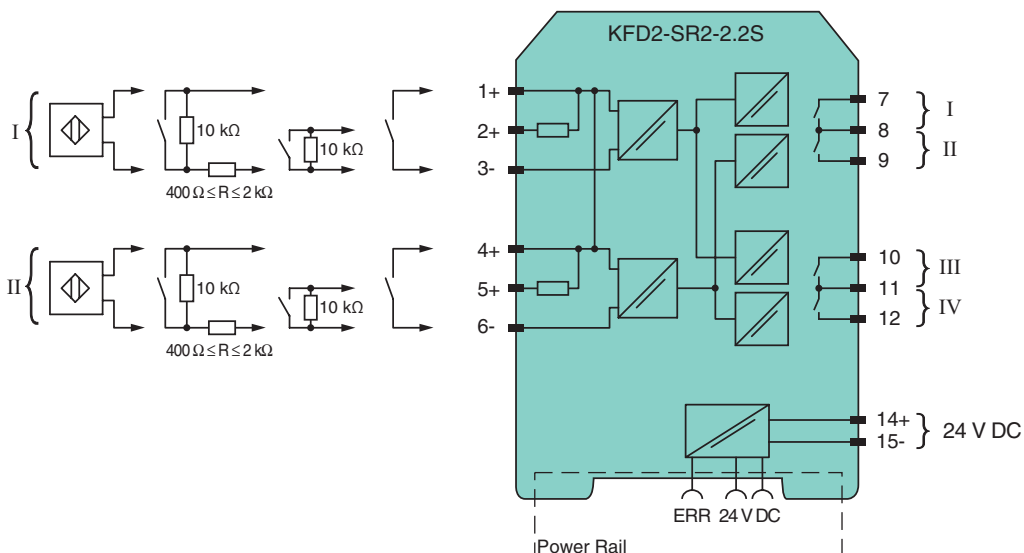
Assembly



CE

SIL 2

Connection



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

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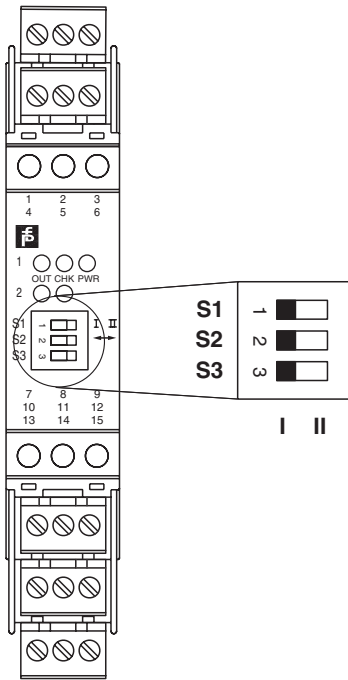
PEPPERL+FUCHS

General specifications	
Signal type	Digital Input
Functional safety related parameters	
Safety Integrity Level (SIL)	SIL 2
Supply	
Connection	Power Rail or terminals 14+, 15-
Rated voltage U_r	20 ... 30 V DC
Ripple	$\leq 10 \%$
Rated current I_r	$\leq 50 \text{ mA}$
Power dissipation	1 W
Power consumption	$< 1.3 \text{ W}$
Input	
Connection side	field side
Connection	terminals 1+, 2+, 3-; 4+, 5+, 6-
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 $I \leq 0.1 \text{ mA}$, short-circuit $I > 6 \text{ mA}$
Pulse/Pause ratio	$\geq 20 \text{ ms} / \geq 20 \text{ ms}$
Output	
Connection side	control side
Connection	output I: terminals 7, 8 ; output II: terminals 8, 9 ; output III: terminals 10, 11 ; output IV: terminals 11, 12
Output I, II, III, IV	channel 1, 2; relay
Contact loading	50 V AC/1 A/cos $\phi > 0.7$; 40 V DC/1 A resistive load
Minimum switch current	1 mA / 24 V DC
Energized/De-energized delay	approx. 20 ms / approx. 20 ms
Mechanical life	10^8 switching cycles
Collective error message	Power Rail
Transfer characteristics	
Switching frequency	$\leq 10 \text{ Hz}$
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	basic insulation according to IEC/EN 61010-1, rated insulation voltage 32 V _{eff} , functional insulation, rated insulation voltage 50 V _{eff}
Input/input	not available
Output/Output	basic insulation according to IEC/EN 61010-1, rated insulation voltage 32 V _{eff} , functional insulation, rated insulation voltage 50 V _{eff}
Indicators/settings	
Display elements	LEDs
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)
Low voltage	
Directive 2014/35/EU	EN 61010-1:2010
Conformity	
Electromagnetic compatibility	NE 21:2006
Degree of protection	IEC 60529:2001
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
General information	
Supplementary information	Observe the certificates, declarations of conformity, instruction manuals, and manuals where applicable. For information see www.pepperl-fuchs.com .
Accessories	

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Optional accessories	<ul style="list-style-type: none">- power feed module KFD2-EB2(.R4A.B)(.SP)- universal power rail UPR-03(-M)(-S)- profile rail K-DUCT-GY(-UPR-03)
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Configuration



Switch position

S	Function		Position
1	Mode of operation Channel I (relay) energized	with high input current	I
		with low input current	II
2	Mode of operation Channel II (relay) energized	with high input current	I
		with low input current	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



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