

**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 SIL2 acc. to IEC 61508/IEC 61511

**Function**

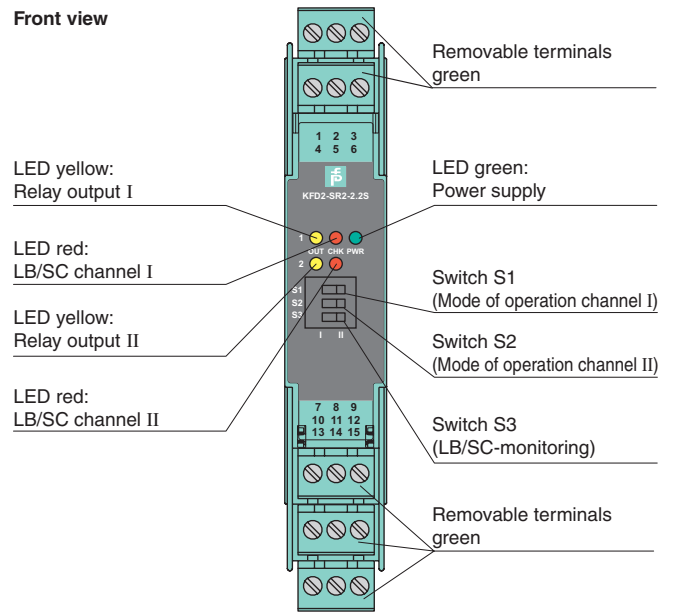
This signal conditioner transfers digital signals (NAMUR sensors/mechanical contacts).

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.

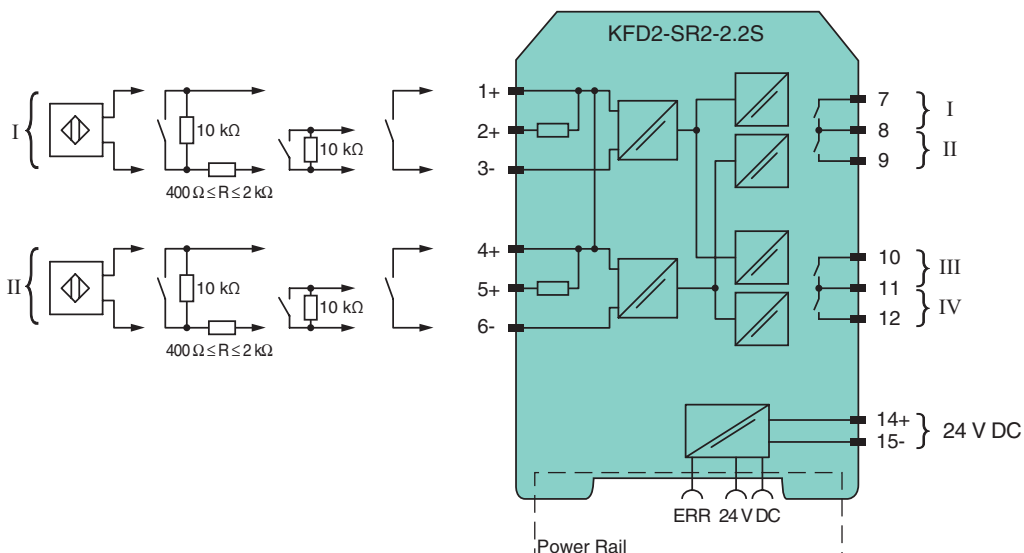
**Assembly**



CE

SIL2

**Connection**



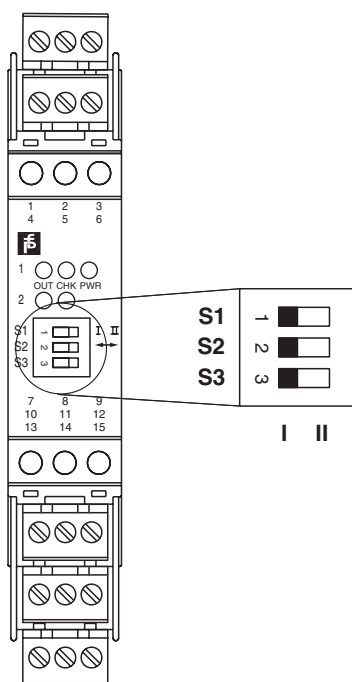
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Refer to "General Notes Relating to Pepperl+Fuchs Product Information".

<b>General specifications</b>		
Signal type		Digital Input
<b>Supply</b>		
Connection		Power Rail or terminals 14+, 15-
Rated voltage	$U_n$	20 ... 30 V DC
Ripple		≤ 10 %
Rated current	$I_n$	≤ 50 mA
Power loss		1 W
Power consumption		< 1.3 W
<b>Input</b>		
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 $I \leq 0.1$ mA , short-circuit $I > 6$ mA
Pulse/Pause ratio		≥ 20 ms / ≥ 20 ms
<b>Output</b>		
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 <sup>8</sup> switching cycles
Collective error message		Power Rail
<b>Transfer characteristics</b>		
Switching frequency		≤ 10 Hz
<b>Electrical isolation</b>		
Input/Output		reinforced insulation according to IEC/EN 61010-1, rated insulation voltage 300 V <sub>eff</sub>
Input/power supply		reinforced insulation according to IEC/EN 61010-1, rated insulation voltage 300 V <sub>eff</sub>
Output/power supply		basic insulation according to IEC/EN 61010-1, rated insulation voltage 32 V <sub>eff</sub> , functional insulation, rated insulation voltage 50 V <sub>eff</sub>
Input/input		not available
Output/Output		basic insulation according to IEC/EN 61010-1, rated insulation voltage 32 V <sub>eff</sub> , functional insulation, rated insulation voltage 50 V <sub>eff</sub>
<b>Directive conformity</b>		
Electromagnetic compatibility		
Directive 2004/108/EC		EN 61326-1:2006
Low voltage		
Directive 2006/95/EC		EN 50178:1997
<b>Conformity</b>		
Electromagnetic compatibility		NE 21:2006
Degree of protection		IEC 60529:2001
<b>Ambient conditions</b>		
Ambient temperature		-20 ... 60 °C (-4 ... 140 °F)
<b>Mechanical specifications</b>		
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
<b>General information</b>		
Supplementary information		Statement of Conformity, Declaration of Conformity, Attestation of Conformity and instructions have to be observed where applicable. For information see <a href="http://www.pepperl-fuchs.com">www.pepperl-fuchs.com</a> .

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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

**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!*