

Switch Amplifier

KCD2-SOT-2.SP

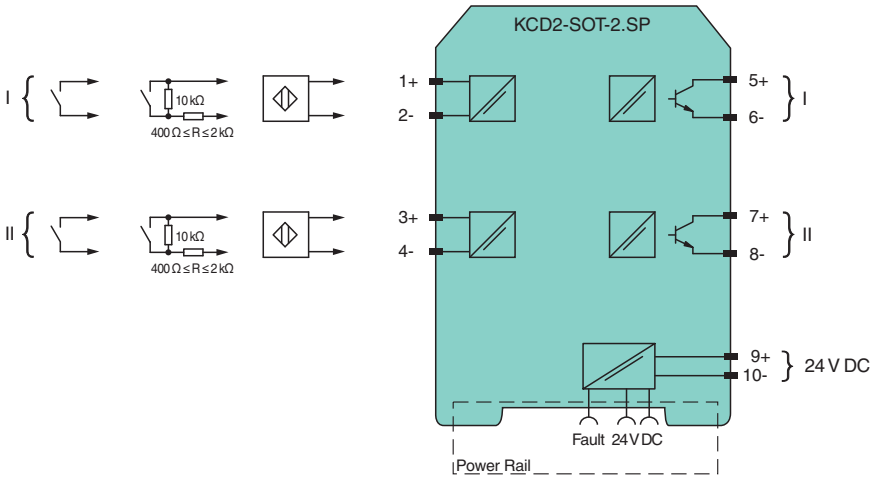
- 2-channel signal conditioner
- 24 V DC supply (Power Rail)
- Dry contact or NAMUR inputs
- 2 passive transistor outputs
- Reversible mode of operation
- Line fault detection (LFD)
- Housing width 12.5 mm
- Connection via spring terminals with push-in connection technology
- SIL 2 (SC 3) acc. to IEC/EN 61508

CE SIL2

Function

This signal conditioner provides the galvanic isolation between field circuits and control circuits.
The device transfers digital signals (NAMUR sensors or dry contacts) from the field to the control system.
Each input controls a passive transistor output.
Via switches the mode of operation can be reversed and the line fault detection can be switched off.
A fault is signalized by LEDs acc. to NAMUR NE44 and a separate collective error message output.

Connection



Technical Data

General specifications		
Signal type		Digital Input
Functional safety related parameters		
Safety Integrity Level (SIL)		SIL 2
Systematic capability (SC)		SC 3
Supply		
Connection		Power Rail or terminals 9+, 10-
Rated voltage	U_r	19 ... 30 V DC
Ripple		≤ 10 %
Rated current	I_r	30 ... 20 mA
Power dissipation		≤ 800 mW including maximum power dissipation in the output

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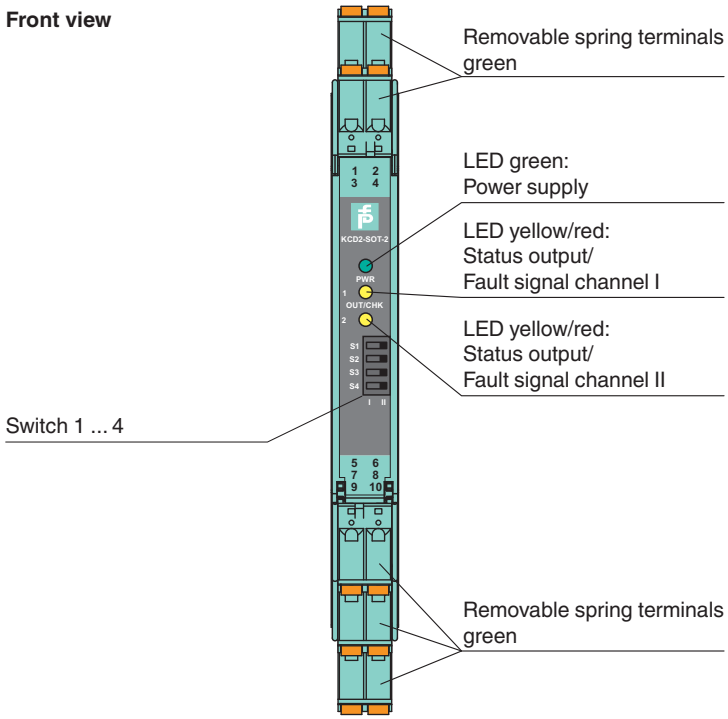
Technical Data

Input		
Connection side		field side
Connection		terminals 1+, 2-; 3+, 4-
Rated values		acc. to EN 60947-5-6 (NAMUR)
Open circuit voltage/short-circuit current		approx. 10 V DC / approx. 8 mA
Switching point/switching hysteresis		1.2 ... 2.1 mA / approx. 0.2 mA
Line fault detection		breakage I ≤ 0.1 mA , short-circuit I ≥ 6.5 mA
Pulse/Pause ratio		min. 100 µs / min. 100 µs
Output		
Connection side		control side
Connection		terminals 5, 6; 7, 8
Rated voltage	U_r	30 V DC
Rated current	I_r	50 mA
Response time		≤ 200 µs
Signal level		1-signal: (external voltage) - 3 V max. for 50 mA 0-signal: blocked output (off-state current ≤ 10 µA)
Output I		signal ; Transistor
Output II		signal ; Transistor
Collective error message		Power Rail
Transfer characteristics		
Switching frequency		≤ 5 kHz
Galvanic isolation		
Input/Output		reinforced insulation acc. to EN 50178, rated insulation voltage 300 V_{eff}
Input/power supply		reinforced insulation acc. to EN 50178, rated insulation voltage 300 V_{eff}
Output/power supply		basic insulation according to EN 50178, rated insulation voltage 50 V_{eff}
Output/Output		basic insulation according to EN 50178, 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)
Conformity		
Electromagnetic compatibility		NE 21:2011
Degree of protection		IEC 60529:2001
Protection against electrical shock		IEC 61010-1:2010
Input		EN 60947-5-6:2000
Ambient conditions		
Ambient temperature		-20 ... 60 °C (-4 ... 140 °F) extended ambient temperature range up to 70 °C (158 °F), refer to manual for necessary mounting conditions
Mechanical specifications		
Degree of protection		IP20
Connection		spring terminals
Mass		approx. 100 g
Dimensions		12.5 x 119 x 114 mm (0.5 x 4.7 x 4.5 inch) (W x H x D) , housing type A2
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.

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Assembly

Front view



Matching System Components

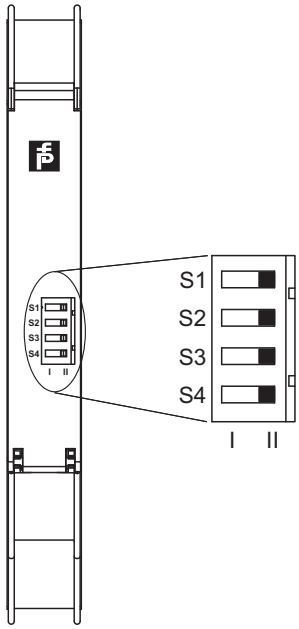
	**KFD2-EB2**	Power Feed Module
	**UPR-03**	Universal Power Rail with end caps and cover, 3 conductors, length: 2 m
	**UPR-03-M**	Universal Power Rail with end caps and cover, 3 conductors, length: 1,6 m
	**UPR-03-S**	Universal Power Rail with end caps and cover, 3 conductors, length: 0.8 m
	**K-DUCT-GY**	Profile rail, wiring comb field side, gray
	**K-DUCT-GY-UPR-03**	Profile rail with UPR-03-* insert, 3 conductors, wiring comb field side, gray

Accessories

	**KC-CTT-5GN**	Terminal block for KC modules, 2-pin spring terminal, with test sockets, green
	**KF-CP**	Red coding pins, packaging unit: 20 x 6

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Configuration



Switch settings

S	Function		Position
1	Mode of operation output I (active)	with high input current	I
		with low input current	II
2	Mode of operation output II (active)	with high input current	I
		with low input current	II
3	Line fault detection of the input I	ON	I
		OFF	II
4	Line fault detection of the input II	ON	I
		OFF	II

Operating states

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 setting: switch 1, 2, 3 and 4 in position I

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