

Features

- 1-channel signal conditioner
- 24 V DC supply (Power Rail)
- Dry contact or NAMUR input
- 2 active transistor outputs
- Usable as signal splitter (1 input and 2 outputs)
- Reversible mode of operation
- Line fault detection (LFD)
- Housing width 12.5 mm
- Connection via spring terminals
- Up to SIL2 acc. to IEC 61508

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.

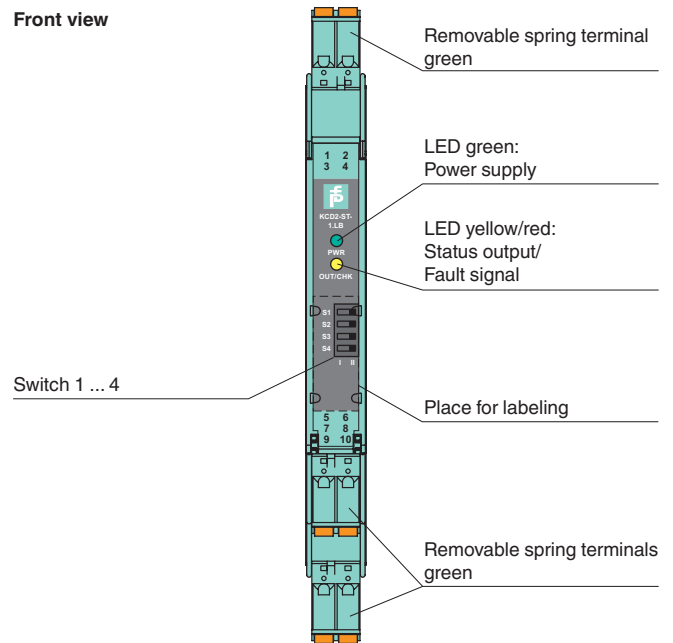
The input controls two active transistor outputs.

Via switches the mode of operation can be reversed and the line fault detection can be switched off.

Via switch the function of the second output can be defined as a signal output or an error output.

A fault is signaled by LEDs acc. to NAMUR NE44 and a separate collective error message output.

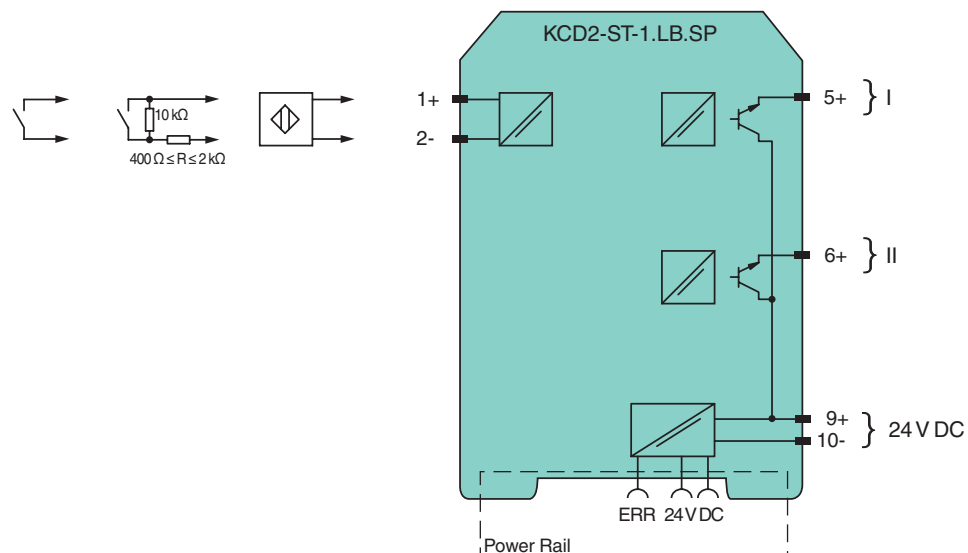
Assembly



CE

SIL2

Connection



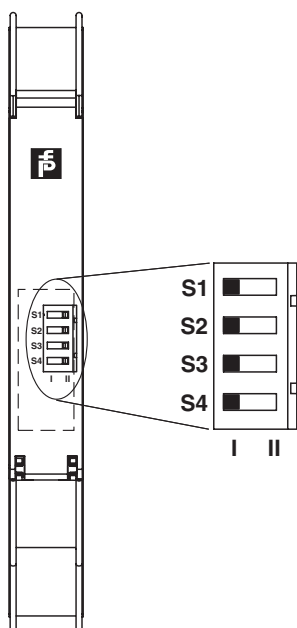
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Refer to "General Notes Relating to Pepperl+Fuchs Product Information".

General specifications		
Signal type		Digital Input
Supply		
Connection		Power Rail or terminals 9+, 10-
Rated voltage	U_n	19 ... 30 V DC
Ripple		≤ 10 %
Rated current	I_n	20 ... 15 mA + I_{out}
Power loss		≤ 700 mW including maximum power dissipation in the output
Input		
Connection		terminals 1+, 2-
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 $I \leq 0.1$ mA , short-circuit $I \geq 6.5$ mA
Pulse/Pause ratio		≥ 100 μ s / ≥ 100 μ s
Output		
Connection		output I: terminal 5 ; output II: terminal 6
Rated voltage	U_n	30 V DC
Rated current	I_n	50 mA
Response time		≤ 200 μ s
Signal level		1-signal: (supply voltage) - 3 V max. for 50 mA 0-signal: blocked output (off-state current ≤ 10 μ A)
Output I		signal ; Transistor
Output II		signal or error message ; Transistor
Collective error message		Power Rail
Transfer characteristics		
Switching frequency		≤ 5 kHz
Electrical 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		not available , common pole terminal 9+
Output/Output		not available , common pole terminal 9+
Directive conformity		
Electromagnetic compatibility		
Directive 2004/108/EC		EN 61326-1:2006
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)
Mechanical specifications		
Degree of protection		IP20
Mass		approx. 100 g
Dimensions		12.5 x 114 x 119 mm (0.5 x 4.5 x 4.7 in) , housing type A2
Mounting		on 35 mm DIN mounting rail acc. to EN 60715:2001
General information		
Supplementary information		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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Configuration



Switch settings

S	Function		Position
1	Mode of operation output I (active)	with high input current	I
		with low input current	II
2	Assignment output II	switching state like output I	I
		fault signal output (passive if fault)	II
3	Line fault detection of the input	ON	I
		OFF	II
4	no function		

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, 3 and 4 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!