

Features

- 4-channel signal conditioner
- 24 V DC supply (Power Rail)
- Output 600 mA per channel
- Logic inputs
- Common disable input
- Line fault detection (LFD)
- Up to SIL2 acc. to IEC 61508

Function

This signal conditioner is a 4-channel barrier with outputs that switch 600 mA to high-power solenoids. It is also used as power amplifier up to a switching frequency of 1 kHz.

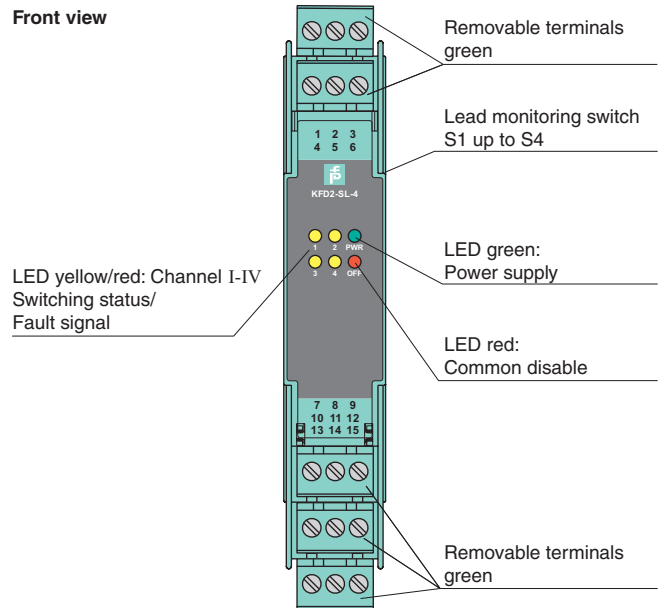
Two channels per module can be paralleled. The output current of a parallel combination is 1.2 A. If the supply voltage falls below 18 V, the outputs will be switched off.

The outputs are sustained short-circuit proofed and overload-proofed.

Lead breakage and short circuit, which is selected via DIP switch, is indicated by a red LED and through the collective error output via Power Rail.

With the common disable input (terminals 11 and 12), the auxiliary power for all 4 channels can be switched off simultaneously. This central switch-off is also indicated by a red LED and reported as an error signal to the Power Rail.

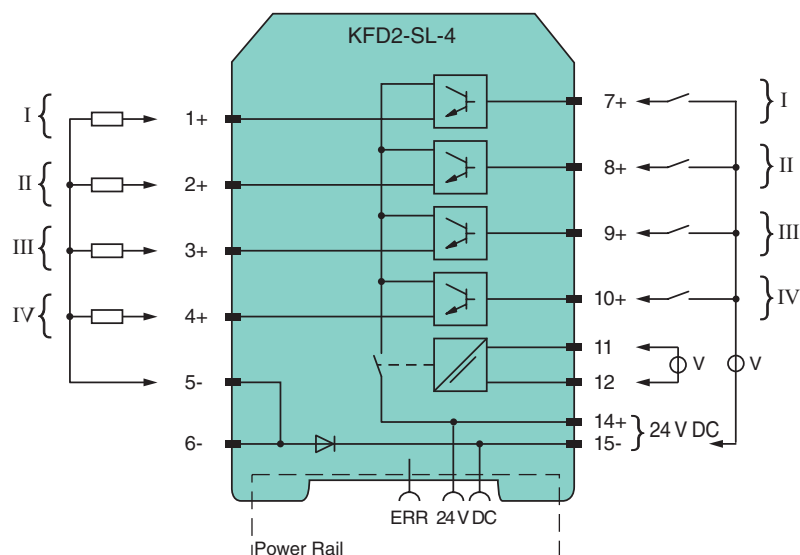
Assembly



CE

SIL2

Connection



General specifications	
Signal type	Digital output
Supply	
Connection	Power Rail or terminals 14+, 15-
Rated voltage	20 ... 30 V DC
Undervoltage switching-off	≤ 18 V DC
Quiescent current indication	< 50 mA at 24 V DC
Power loss	< 2 W supply voltage 30 V, all outputs loaded with 600 mA
Input	
Connection	Terminals 7+, 8+, 9+, 10+, 15-
Input current	approx. 2 mA at 24 V DC
Signal level	0-signal: 0 ... 5 V DC 1-signal: 16 ... 30 V
Comon disable	
Connection	terminals 11, 12
Input current	≤ 50 mA at 24 V, depolarized currentless state: downscale of the outputs
Switch on	≥ 15 V
Switch off	≤ 5 V
Output	
Open loop voltage	24 V DC
Connection	terminals 1+, 2+, 3+, 4+, 5-, 6-
Switching frequency f	1 kHz
Output rated operating current	600 mA , sustained short-circuit proof and overload-proof
Output voltage	operating voltage - 0.2 V at 0 ... 600 mA
Off-state current I _r	< 1 mA at 24 V DC
Electrical isolation	
Common disable/input and outputs	safe isolation according to DIN VDE 0106, part 101, rated insulation voltage 50 V _{eff}
Directive conformity	
Electromagnetic compatibility	
Directive 2004/108/EC	EN 61326-1:2006
Conformity	
Insulation coordination	EN 50178
Electrical isolation	EN 50178
Electromagnetic compatibility	NE 21
Protection degree	IEC 60529
Ambient conditions	
Ambient temperature	-20 ... 60 °C (-4 ... 140 °F)
Mechanical specifications	
Protection degree	IP20
Mass	approx. 100 g
Dimensions	20 x 119 x 115 mm (0.8 x 4.7 x 4.5 in) , housing type B2
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 .

Notes

The outputs are switched high and current-limited for each channel (electronically pulsed). They are suited for inductive loads such as magnet operated valves or solenoid coils and incandescent lamps or indicator lamps.

Each (optional) channel is continuous short circuit- and overload-proof. In this case, the max. power loss in the device of 2 W ($U_b = 24\text{ V}$) is not exceeded.

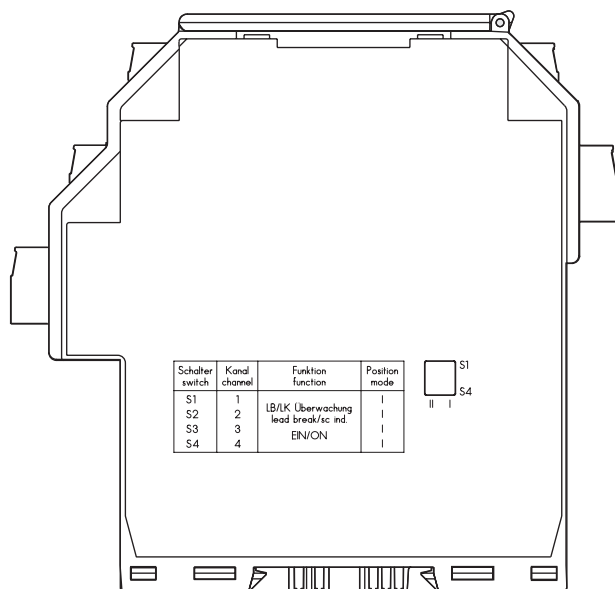
2 channels per device may be paralleled input- and output-sided. The output current of this dual combination may not exceed 1.2 A. Both remaining channels may not be loaded with more than (in sum) 200 mA.

The maximum current loading capacity of the Power Rail is to be considered. Alternatively, the device may be supplied with the terminals 14+, 15-.

Indication and collective error output (Power Rail)

Function	Device condition	LB/LK	LED condition	Collective error output
Power on (LED green)	Voltage < 18 V, undervoltage detection	no operation	OFF	active
	Voltage between 20 V and 30 V	no operation	Green	depending on device status
Common disable (LED red)	Voltage < 18 V, undervoltage detection	no operation	OFF	active
	Common disable	no operation	flashing red	active
Channel indication (LED yellow/red)	Voltage < 18 V, undervoltage detection	no operation	OFF	active
	Channel switched off	not active	OFF	not active
	Channel switched on	not active	yellow	not active
	Common disable, channel switched off	not active	OFF	active
	Common disable, channel switched on	not active	OFF	active
	Common disable, channel switched off	active	flashing red	active
	Common disable, channel switched on	active	flashing red	active
	Channel switched off	active	OFF	not active
	Channel switched on	active	yellow	not active
	Channel switched off, Lead short circuit and/or overload	active	OFF	not active
	Channel switched on, Lead short circuit and/or overload	active	flashing red	active
	Channel switched off, lead breakage	active	flashing red	active
	Channel switched on, lead breakage	active	yellow	not active

Configuration



Switch position

Switch	Channel	Function	Position
S1	1	LB/SC	ON I
			OFF II
S2	2	LB/SC	ON I
			OFF II
S3	3	LB/SC	ON I
			OFF II
S4	4	LB/SC	ON I
			OFF II

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 100 individual devices depending on the power consumption of the devices. A galvanically isolated mechanical contact uses the Power Rail to transmit collective error messages.

Power Rail UPR-03

The Power Rail UPR-03 is a complete unit consisting of the electrical inset 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.



Attention

Power Rail and Profile Rail must not be fed via the device terminals of the individual devices!