

Features

- 1-channel signal conditioner
- 24 V DC supply (Power Rail)
- Level sensing input
- Adjustable range 1 kΩ ... 150 kΩ
- Relay contact output
- Fault relay contact output
- Adjustable time delay up to 10 s
- Minimum/maximum control
- Line fault detection (LFD)

Function

This signal conditioner provides the AC measuring voltage for the level sensing electrodes.

Once the measured medium reaches the electrodes, the unit reacts by energizing a form C changeover relay contact.

The module is voltage and temperature stabilized and guarantees a defined switching characteristic.

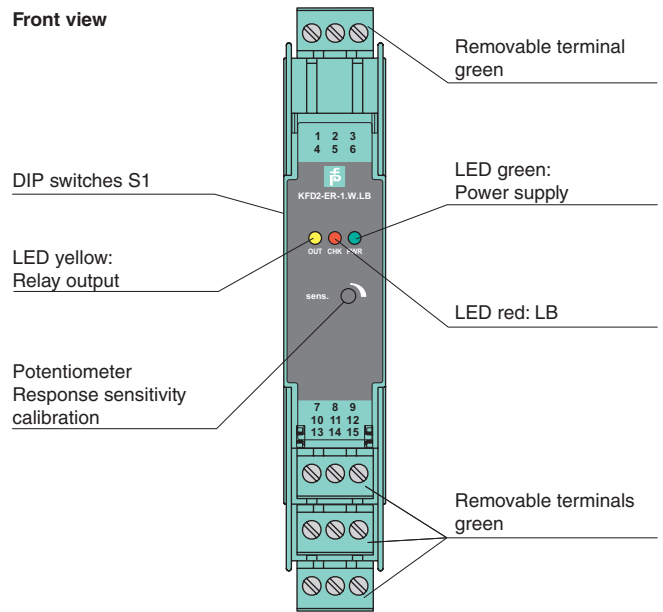
It can be used for on/off control or minimum/maximum control. A signal delay feature is available and is adjustable between 0.5 s and 10 s.

This module can also monitor the field circuit for lead breakage (LB). LB is indicated by a red LED. If LB monitoring is selected, output II serves as the fault signal output; otherwise, it will follow the function of output I.

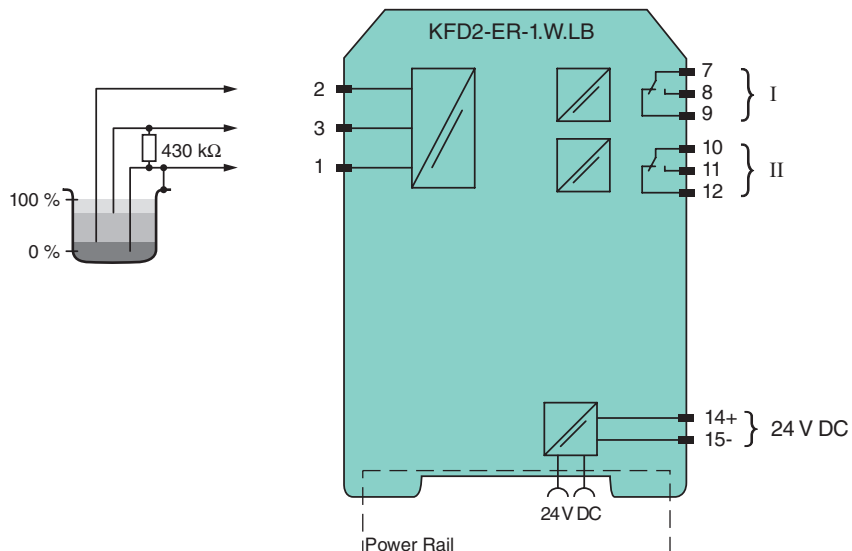
Application

The device is equipped with lead breakage detection (current free relay in event of failure). For this purpose, the enclosed 430 kΩ resistance must be switched between the maximum and reference electrode. This function can be deactivated by DIP switches.

Assembly



Connection



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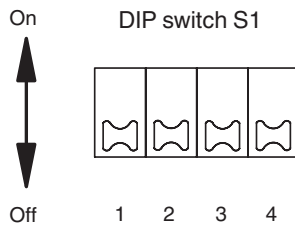
Refer to "General Notes Relating to Pepperl+Fuchs Product Information".

General specifications		
Signal type		Digital Input
Supply		
Connection		Power Rail or terminals 14+, 15-
Rated voltage	U_r	20 ... 30 V DC
Rated current	I_r	30 ... 40 mA
Input		
Connection side		field side
Connection		terminals 1 (mass), 2 (min), 3 (max)
Control input		min./max. control system: terminals 1, 2, 3 on/off control system: terminals 1, 3
Response sensitivity		1 ... 150 k Ω , adjustable via potentiometer
Output		
Connection side		control side
Connection		terminals 7, 8, 9; 10, 11, 12
Switching power		max. 192 W , 2000 VA
Output		relay
Contact loading		253 V AC/2 A/cos ϕ > 0.7; 40 V DC/2 A resistive load
Time constant for signal damping		0.5 s, 2 s, 5 s, 10 s
Galvanic isolation		
Input/Output		basic insulation according to EN 50178, rated insulation voltage 253 V _{eff}
Input/power supply		basic insulation according to EN 50178, rated insulation voltage 253 V _{eff}
Output/power supply		basic insulation according to EN 50178, rated insulation voltage 253 V _{eff}
Indicators/settings		
Display elements		LEDs
Control elements		DIP-switch potentiometer
Configuration		via DIP switches via potentiometer
Labeling		space for labeling at the front
Directive conformity		
Electromagnetic compatibility		
Directive 2004/108/EC		EN 61326-1:2006
Low voltage		
Directive 2006/95/EC		EN 50178:1997
Conformity		
Insulation coordination		EN 50178:1997
Galvanic isolation		EN 50178:1997
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 , max. 2.5 mm ²
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 .

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Configuration

DIP switch function on side of device



Switches	Position	Function
1	Off	open circuit current
	On	closed circuit current
2	Off	LB deactivated
	On	LB activated

Switch 3	Switch 4	Time constant for signal damping
Off	Off	0.5 s
Off	On	2 s
On	Off	5 s
On	On	10 s

- Open circuit current principle: In open circuit current principle the relay becomes active when the limit is reached.
- Closed circuit current principle: In closed circuit current principle, the relay is activated when power is applied. The relay is deactivated when the limit is reached.

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!