

**Features**

- 1-channel signal conditioner
- 24 V DC supply (Power Rail)
- Input 2-wire and 3-wire SMART transmitters and 2-wire SMART current sources
- Output 0/4 mA ... 20 mA
- Terminal blocks with test sockets
- Up to SIL 2 acc. to IEC 61508

**Function**

This signal conditioner provides the isolation for non-intrinsically safe applications.

The device supplies 2-wire and 3-wire SMART transmitters, and can also be used with 2-wire SMART current sources.

It transfers the analog input signal as an isolated current value.

Digital signals may be superimposed on the input signal and are transferred bi-directionally.

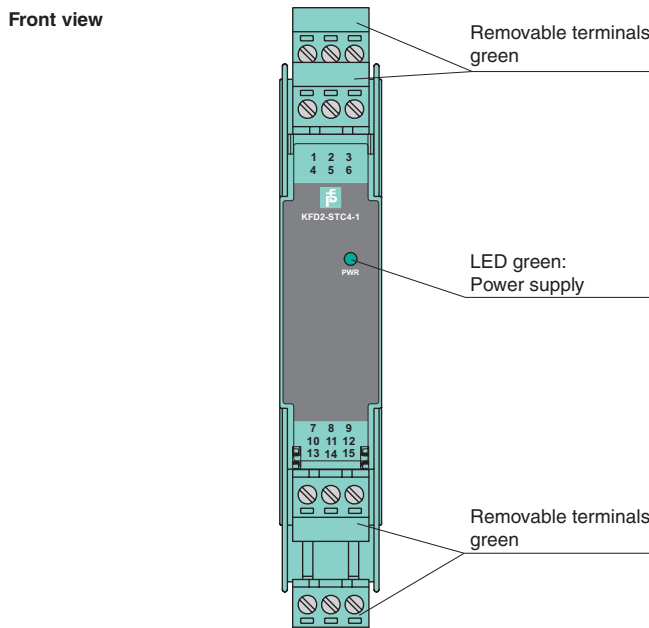
If the HART communication resistance in the loop is too low, the internal resistance of 250 Ω between terminals 8 and 9 can be used.

Test sockets for the connection of HART communicators are integrated into the terminals of the device.

**Application**

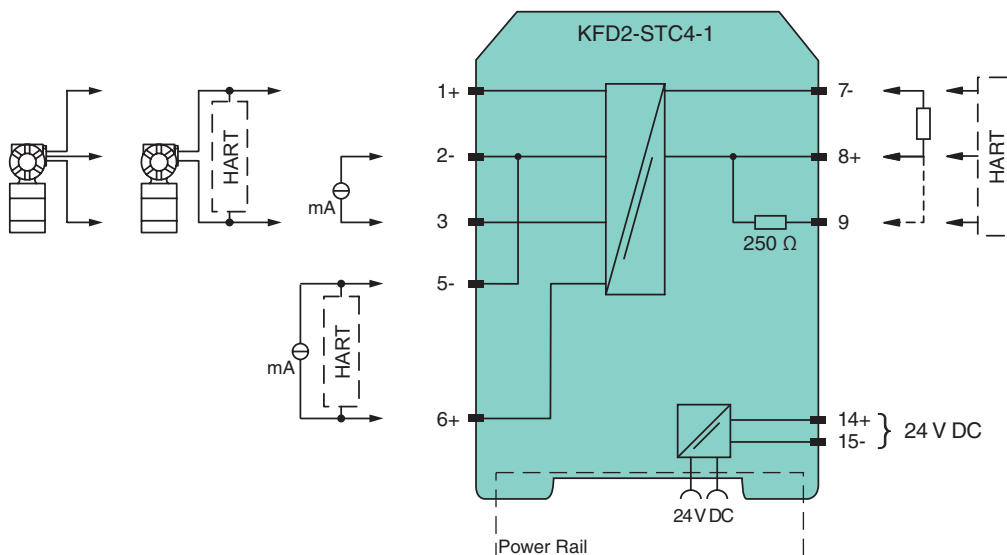
- The device supports the following SMART protocols:
- HART
  - BRAIN
  - Foxboro

**Assembly**



**SIL 2**

**Connection**



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

<b>General specifications</b>	
Signal type	Analog input
<b>Functional safety related parameters</b>	
Safety Integrity Level (SIL)	SIL 2
<b>Supply</b>	
Connection	Power Rail or terminals 14+, 15-
Rated voltage $U_r$	20 ... 35 V DC
Ripple	within the supply tolerance
Power dissipation	1.4 W
Power consumption	1.8 W
<b>Input</b>	
Connection side	field side
Connection	terminals 1+, 2-, 3 or 5-, 6+
Input signal	0/4 ... 20 mA
Open circuit voltage/short-circuit current	terminals 1+, 3-: 22.7 V / 38 mA
Voltage drop	terminals 5, 6 : $\leq 2.4$ V at 20 mA
Input resistance	terminals 2-, 3: $\leq 64 \Omega$ terminals 1+, 3: $\leq 500 \Omega$ (250 $\Omega$ load)
Available voltage	terminals 1+, 3: $\geq 16$ V at 20 mA
<b>Output</b>	
Connection side	control side
Connection	terminals 7-, 8+, 9
Load	0 ... 800 $\Omega$ at 20 mA
Output signal	4 ... 20 mA (overload > 25 mA)
Ripple	$\leq 50 \mu A_{eff}$
<b>Transfer characteristics</b>	
Deviation	at 20 °C (68 °F), 0/4 ... 20 mA $\leq 10 \mu A$ incl. calibration, linearity, hysteresis, loads and fluctuations of supply voltage
Influence of ambient temperature	$\leq 20$ ppm/K
Frequency range	input to output: bandwidth with 0.5 V <sub>pp</sub> signal 0 ... 7.5 kHz (-3 dB) output to input: bandwidth with 0.5 V <sub>pp</sub> signal 0.3 ... 7.5 kHz (-3 dB)
Settling time	200 $\mu s$
Rise time/fall time	20 $\mu s$
<b>Galvanic isolation</b>	
Input/Output	basic insulation according to IEC 61010-1, rated insulation voltage 300 V <sub>eff</sub>
Input/power supply	basic insulation according to IEC 61010-1, rated insulation voltage 300 V <sub>eff</sub>
Output/power supply	functional insulation, rated insulation voltage 50 V AC
<b>Indicators/settings</b>	
Display elements	LED
Labeling	space for labeling at the front
<b>Directive conformity</b>	
Electromagnetic compatibility	
Directive 2014/30/EU	EN 61326-1:2013 (industrial locations)
<b>Conformity</b>	
Electromagnetic compatibility	NE 21:2011
Degree of protection	IEC 60529:2001
Protection against electrical shock	EN 61010-1:2010
<b>Ambient conditions</b>	
Ambient temperature	-20 ... 60 °C (-4 ... 140 °F)
<b>Mechanical specifications</b>	
Degree of protection	IP20
Connection	screw terminals
Mass	approx. 200 g
Dimensions	20 x 124 x 115 mm (0.8 x 4.9 x 4.5 inch) , housing type B2
Mounting	on 35 mm DIN mounting rail acc. to EN 60715:2001
<b>General information</b>	
Supplementary information	Observe the certificates, declarations of conformity, instruction manuals, and manuals where applicable. For information see <a href="http://www.pepperl-fuchs.com">www.pepperl-fuchs.com</a> .

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## 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!*