

## Features

- 2-channel signal conditioner
- 24 V DC supply (Power Rail)
- Input 2-wire SMART transmitters
- Output 0/1 V ... 5 V
- Terminal blocks with test sockets
- Up to SIL2 acc. to IEC 61508

## Function

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

The device supplies 2-wire SMART transmitters.

It transfers the analog input signal as an isolated voltage 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  $250\ \Omega$  between terminals 8, 9 and 11, 12 can be used.

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

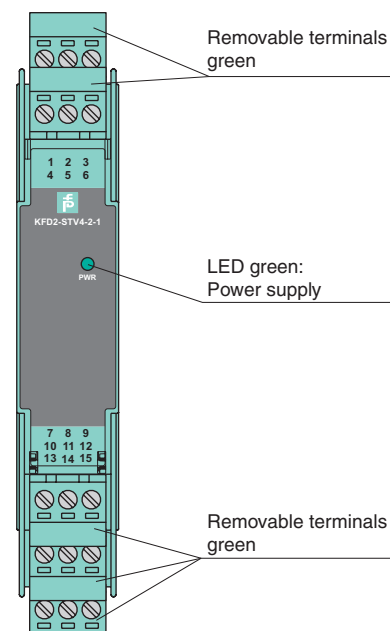
## Application

The device supports the following SMART protocols:

- HART
- BRAIN
- Foxboro

## Assembly

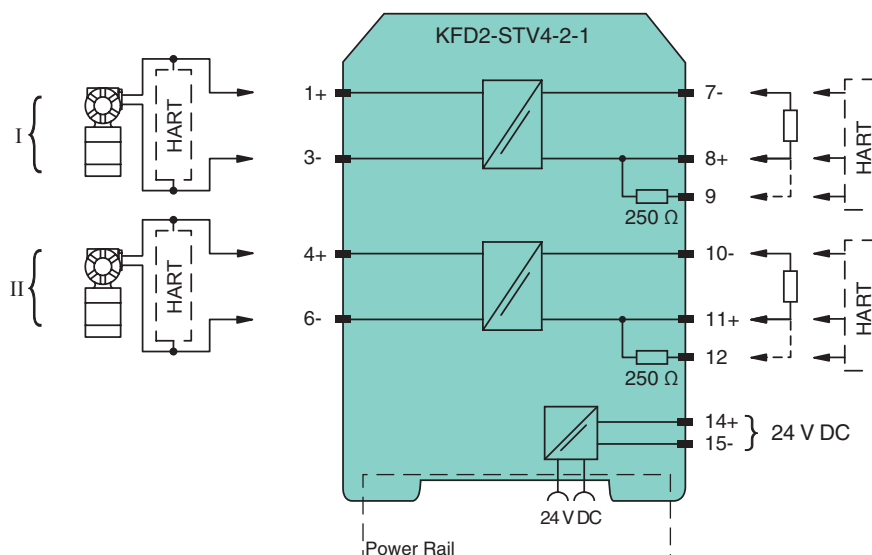
Front view



CE

SIL2

## Connection



<b>General specifications</b>	
Signal type	Analog input
<b>Supply</b>	
Connection	Power Rail or terminals 14+, 15-
Rated voltage $U_n$	20 ... 35 V DC
Ripple	within the supply tolerance
Power loss	1.8 W
Power consumption	$\leq 2.7$ W
<b>Input</b>	
Connection	terminals 1+, 3-; 4+, 6-
Input signal	0/4 ... 20 mA
Open circuit voltage/short-circuit current	terminals 1+, 3-; 4+, 6-: 22.1 V / 38 mA
Available voltage	$\geq 16$ V at 20 mA
<b>Output</b>	
Connection	terminals 7-, 8+; 10-, 11+
Load	output resistance: 250 $\Omega$
Output signal	0/1 ... 5 V
Ripple	$\leq 12.5$ mV
<b>Transfer characteristics</b>	
Deviation	at 20 °C (68 °F), 0/1 ... 5 V $\leq 5$ mV 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 1 V <sub>pp</sub> signal 0 ... 7.5 kHz (-3 dB) output to input: bandwidth with 1 V <sub>pp</sub> signal 0.3 ... 7.5 kHz (-3 dB)
Rise time	20 $\mu$ s
Settling time	200 $\mu$ s
De-energized delay	20 $\mu$ s
<b>Electrical 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
Input/input	basic insulation according to IEC 61010-1, rated insulation voltage 300 V <sub>eff</sub>
Output/Output	functional insulation, rated insulation voltage 50 V AC
<b>Directive conformity</b>	
Electromagnetic compatibility	
Directive 2004/108/EC	EN 61326-1:2006
<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
Mass	approx. 100 g
Dimensions	20 x 124 x 115 mm (0.8 x 4.9 x 4.5 in) , housing type B2
Mounting	on 35 mm DIN mounting rail acc. to EN 60715:2001
<b>General information</b>	
Supplementary information	Statement of Conformity, Declaration of Conformity, Attestation of Conformity and instructions have to be observed where applicable. For information see <a href="http://www.pepperl-fuchs.com">www.pepperl-fuchs.com</a> .

## 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!*