

## 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 current sink
- 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 or output signal and are transferred bi-directionally.

It is designed to provide a sink mode output.

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

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

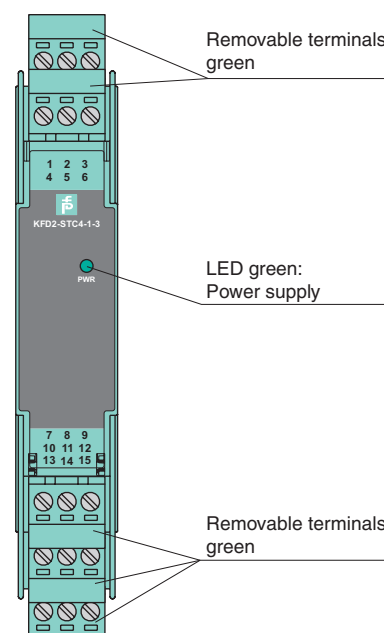
## Application

The device supports the following SMART protocols:

- HART
- BRAIN
- Foxboro

## Assembly

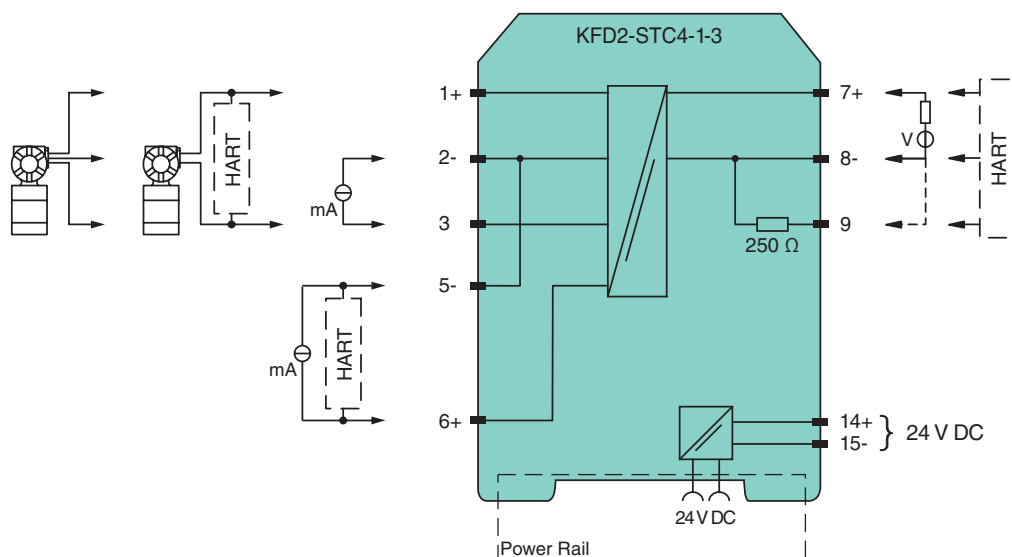
Front view



CE

SIL 2

## Connection



<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
Voltage drop	$\leq 2.4$ V at 20 mA (terminals 5, 6)
Input resistance	$\leq 64 \Omega$ terminals 2-, 3 ; $\leq 500 \Omega$ terminals 1+, 3 (250 $\Omega$ load)
Available voltage	$\geq 16$ V at 20 mA terminals 1+, 3
<b>Output</b>	
Connection side	control side
Connection	terminals 7+, 8-; 10+, 11-
Output signal	0/4 ... 20 mA (overload $> 25$ mA)
Ripple	$\leq 50 \mu\text{A}_{\text{rms}}$
External supply (loop)	11 ... 30 V DC
<b>Transfer characteristics</b>	
Deviation	at 20 °C (68 °F), 0/4 ... 20 mA $\leq 10 \mu\text{A}$ incl. calibration, linearity, hysteresis, loads and fluctuations of supply voltage
Influence of ambient temperature	0.25 $\mu\text{A/K}$
Frequency range	input to output: bandwidth with 0.5 $V_{\text{pp}}$ signal 0 ... 7.5 kHz (-3 dB) output to input: bandwidth with 0.5 $V_{\text{pp}}$ signal 0.3 ... 7.5 kHz (-3 dB)
Settling time	200 $\mu\text{s}$
Rise time/fall time	20 $\mu\text{s}$
<b>Galvanic isolation</b>	
Input/Output	basic insulation according to IEC 61010-1, rated insulation voltage 300 $V_{\text{eff}}$
Input/power supply	basic insulation according to IEC 61010-1, rated insulation voltage 300 $V_{\text{eff}}$
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> .

Release date 2017-08-09 14:35 Date of issue 2017-08-09 228737\_eng.xml

## 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!*



# SCATTERGOOD & JOHNSON LTD

ELECTRICAL ENGINEERING & FLUID CONTROL DISTRIBUTORS

Est.1899

At Scattergood & Johnson Ltd, we pride ourselves on being a technical distributor to specialist industries.

Working with a range of quality product suppliers across a number of specialist markets, we are not your average 'box shifter' - we are your technical and supply chain partner.

We fully support every product we sell - for free! Our internal team and external sales engineers can answer any product or application question, no matter the complexity.

Backing up this technical ability is a range of 50,000+ products available from stock for nationwide next day delivery (same day if required!), or you can collect what you need from any of our trade counters around the UK.

Select your specialist interest below to learn more about how we can help.



Online, In Branch and On the Road - Scattergood & Johnson Ltd, there when you need us.

# [www.scatts.co.uk](http://www.scatts.co.uk)