

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/current source
- Terminals with test points
- Up to SIL 2 acc. to IEC 61508

Function

This signal conditioner provides the galvanic isolation between field circuits and control circuits.

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 on the field side or on the control side and are transferred bi-directionally.

The device provides a sink mode or a source mode output on the control side terminals.

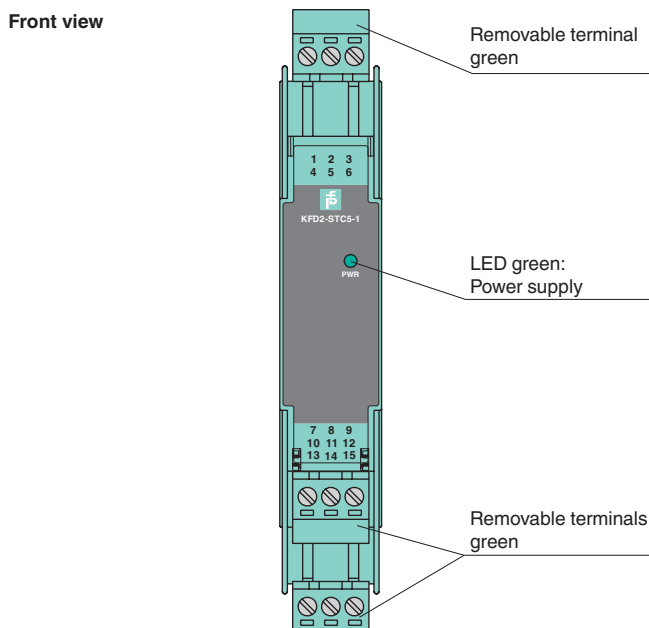
The device has an internal resistor. Use this resistor if the HART communication resistance in the control circuit is too low.

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

Application

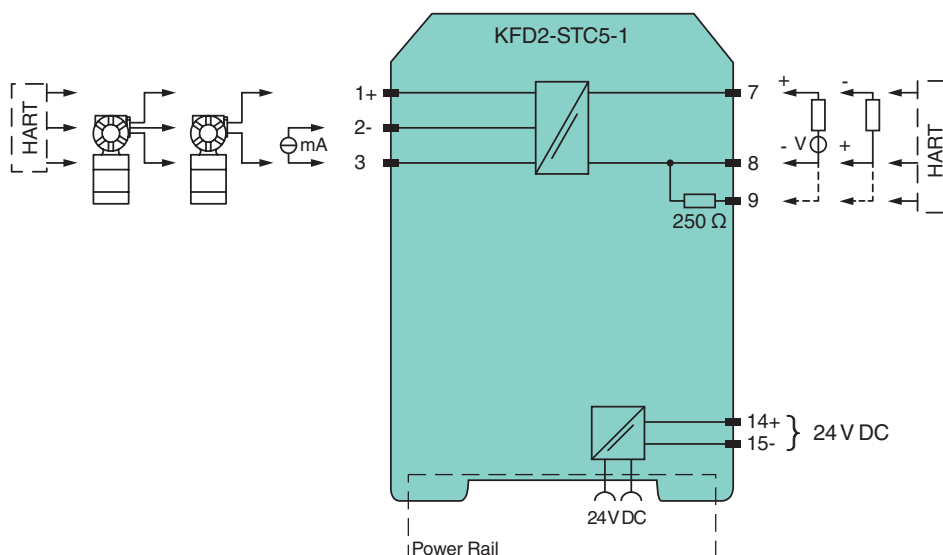
- The device supports the following SMART protocols:
- HART
 - BRAIN
 - Foxboro

Assembly



SIL 2

Connection



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

General specifications	
Signal type	Analog input
Functional safety related parameters	
Safety Integrity Level (SIL)	SIL 2
Supply	
Connection	Power Rail or terminals 14+, 15-
Rated voltage U_r	18 ... 30 V DC
Ripple	within the supply tolerance
Power dissipation	≤ 1 W at maximum load
Power consumption	≤ 1.6 W at maximum load
Input	
Connection side	field side
Connection	terminals 1+, 2-, 3
Input signal	0/4 ... 20 mA
Input resistance	≤ 265 Ω terminals 2-, 3, ≤ 330 Ω terminals 1+, 3
Available voltage	≥ 16 V at 20 mA terminals 1+, 3
Output	
Connection side	control side
Connection	terminals 7+, 8-, 9- (sink) terminals 7-, 8+, 9+ (source) see additional information
Load	0 ... 800 Ω
Output signal	0/4 ... 20 mA (overload > 25 mA)
Ripple	≤ 50 μA _{eff}
External supply (loop)	2 ... 30 V DC
Transfer characteristics	
Deviation	at 20 °C (68 °F), 0/4 ... 20 mA ≤ 10 μA incl. calibration, linearity, hysteresis, loads and fluctuations of supply voltage
Influence of ambient temperature	≤ 0.25 μA/K
Frequency range	input to output: bandwidth with 0.5 V _{pp} signal 0 ... 7.5 kHz (-3 dB) output to input: bandwidth with 0.5 V _{pp} signal 0.3 ... 7.5 kHz (-3 dB)
Settling time	200 μs
Rise time/fall time	100 μs
Galvanic isolation	
Input/Output	basic insulation according to IEC 61010-1, rated insulation voltage 300 V _{eff}
Input/power supply	basic insulation according to IEC 61010-1, rated insulation voltage 300 V _{eff}
Output/power supply	functional insulation, rated insulation voltage 50 V AC
Indicators/settings	
Display elements	LED
Labeling	space for labeling at the front
Directive conformity	
Electromagnetic compatibility	
Directive 2014/30/EU	EN 61326-1:2013 (industrial locations)
Conformity	
Electromagnetic compatibility	NE 21:2012 EN 61326-3-2:2008
Degree of protection	IEC 60529:2001
Protection against electrical shock	UL 61010-1:2012
Ambient conditions	
Ambient temperature	-20 ... 60 °C (-4 ... 140 °F)
Mechanical specifications	
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
General information	
Supplementary information	Observe the certificates, declarations of conformity, instruction manuals, and manuals where applicable. For information see www.pepperl-fuchs.com .
Accessories	
Optional accessories	- power feed module KFD2-EB2(.R4A.B)(.SP) - universal power rail UPR-03(-M)(-S) - profile rail K-DUCT-GY(-UPR-03)

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Additional Information

The device provides an output on the control side terminals. This output can be operated in the current sink operating mode or current source operating mode. Please refer to the following diagram for connection.

