

Features

- 1-channel signal conditioner
- 24 V DC supply (Power Rail)
- Input 2-wire transmitters and 2-wire current sources
- Output 4 mA ... 20 mA or 1 V ... 5 V
- Sink or source mode
- Housing width 12.5 mm
- 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, 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.

Selectable output of current source, sink mode, or voltage output is available via DIP switches.

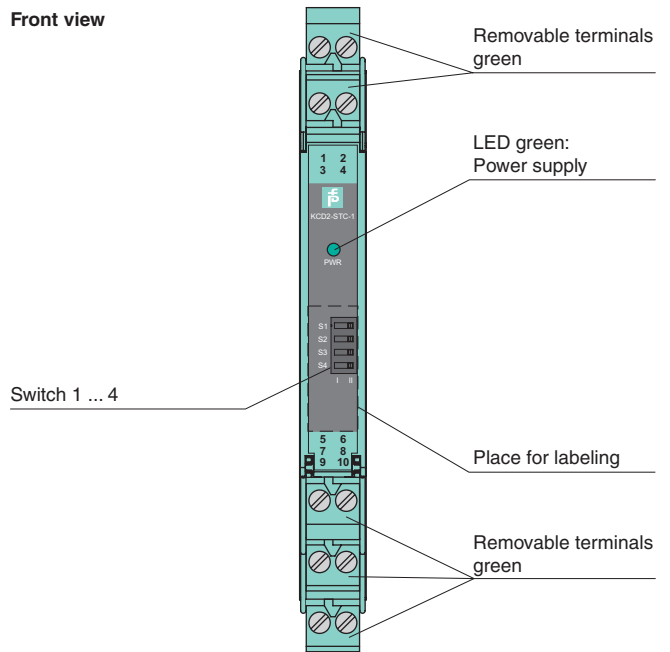
If the HART communication resistance in the loop is too low, the internal resistance of 250 Ω between terminals 6 and 8 can be used.

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

Application

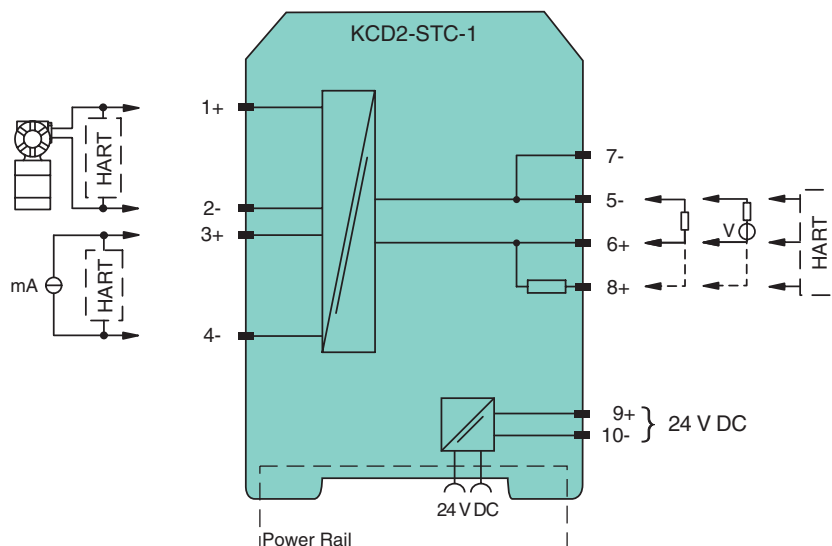
- The device supports the following SMART protocols:
- HART
 - BRAIN

Assembly



SIL2

Connection

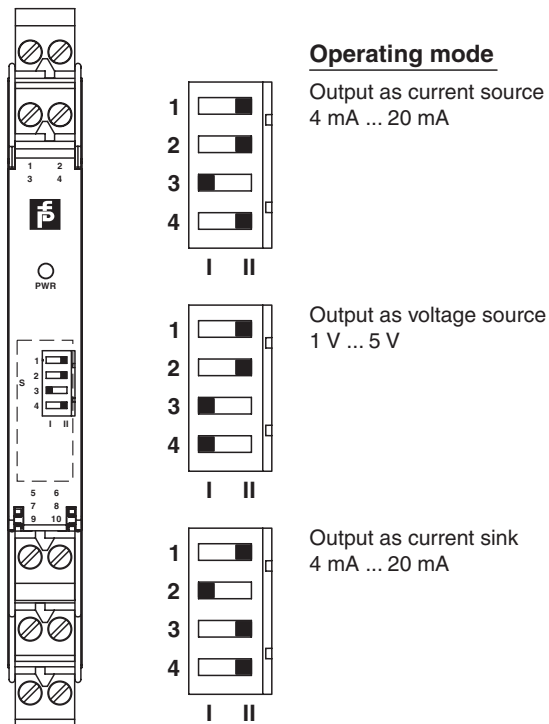


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|----------------------------------|--|
| General specifications | |
| Signal type | Analog input |
| Supply | |
| Connection | Power Rail or terminals 9+, 10- |
| Rated voltage | 19 ... 30 V DC |
| Ripple | ≤ 10 % |
| Rated current | ≤ 45 mA |
| Power loss | ≤ 800 mW |
| Power consumption | ≤ 1.1 W |
| Input | |
| Connection | terminals 1+, 2-; 3+, 4- |
| Input signal | 4 ... 20 mA limited to approx. 30 mA |
| Voltage drop U_d | approx. 5 V on terminals 3+, 4- |
| Available voltage | ≥ 15 V at 20 mA terminals 1+, 2- |
| Output | |
| Connection | terminals 5-, 6+ |
| Load | 0 ... 300 Ω (source mode) |
| Output signal | 4 ... 20 mA or 1 ... 5 V (on 250 Ω, 0.1 % internal shunt) 4 ... 20 mA (sink mode), operating voltage 15.5 ... 26 V |
| Ripple | 20 mV _{rms} |
| Transfer characteristics | |
| Deviation | at 20 °C (293 K) ≤ ± 0.1 % incl. non-linearity and hysteresis (source mode 4 ... 20 mA) ≤ ± 0.2 % incl. non-linearity and hysteresis (sink mode 4 ... 20 mA) ≤ ± 0.2 % incl. non-linearity and hysteresis (source mode 1 ... 5 V) |
| Influence of ambient temperature | < 2 μA/°C (0 ... +60 °C); < 4 μA/°C (-20 ... 0 °C) (source mode and sink mode 4 ... 20 mA) < 0.5 mV/°C (0 ... +60 °C); < 1 mV/°C (-20 ... 0 °C) (source mode 1 ... 5 V) |
| Frequency range | bandwidth at 0.5 V _{SS} -signal 0 ... 3 kHz (-3 dB) |
| Rise time | 10 to 90 % ≤ 20 ms |
| Electrical isolation | |
| Input/Output | reinforced insulation according to IEC 61140, rated insulation voltage 300 V _{eff} |
| Input/power supply | reinforced insulation according to IEC 61140, rated insulation voltage 300 V _{eff} |
| Output/power supply | reinforced insulation according to IEC 61140, rated insulation voltage 300 V _{eff} |
| Indicators/settings | |
| LED PWR | green |
| DIP-switch | selection of operating mode: current source, current sink or voltage source |
| Factory setting | output: current source |
| Labeling | space for labeling at the front |
| Directive conformity | |
| Electromagnetic compatibility | |
| Directive 2004/108/EC | EN 61326-1:2006 |
| Conformity | |
| Electromagnetic compatibility | NE 21 |
| Protection degree | EN 60529 |
| Ambient conditions | |
| Ambient temperature | -20 ... 60 °C (-4 ... 140 °F) |
| Mechanical specifications | |
| Protection degree | IP20 |
| Mass | approx. 100 g |
| Dimensions | 12.5 x 114 x 124 mm (0.5 x 4.5 x 4.9 in) , housing type A2 |
| General information | |
| Supplementary information | Statement of Conformity, Declaration of Conformity, Attestation of Conformity and instructions have to be observed where applicable. For information see www.pepperl-fuchs.com . |

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Configuration



Factory settings: output as current source 4 mA ... 20 mA

Accessories

Power feed modules 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 100 individual devices depending on the power consumption of the devices. A galvanically isolated mechanical contact uses the Power Rail to transmit collective error messages.

Power Rail UPR-03

The Power Rail UPR-03 is a complete unit consisting of the electrical inset and an aluminium profile rail 35 mm x 15 mm. To make electrical contact, the devices are simply engaged.

The Power Rail must not be fed via the device terminals of the individual devices!

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