

Features

- 1-channel signal conditioner
- 24 V DC supply (Power Rail)
- Input for 2-wire SMART transmitters and current sources
- Output for 4 mA ... 20 mA or 1 V ... 5 V
- Sink or source mode
- Housing width 12.5 mm
- Connection via spring terminals
- Up to SIL2 acc. to IEC 61508

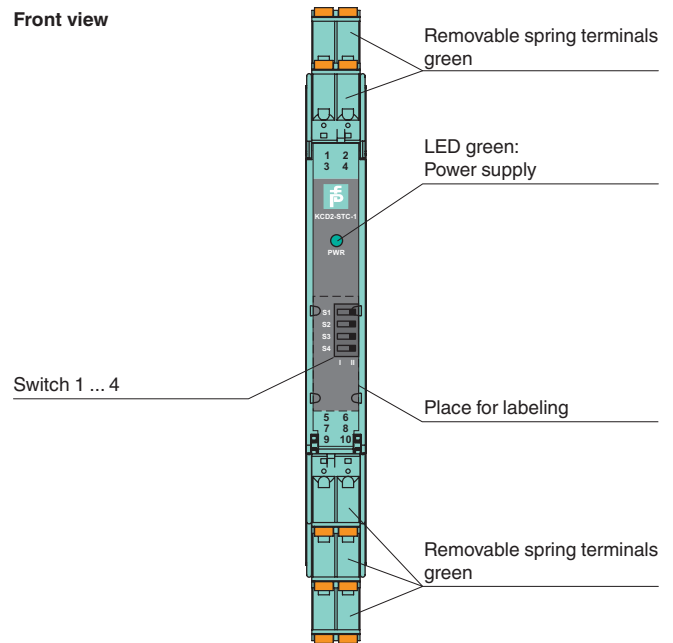
Function

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

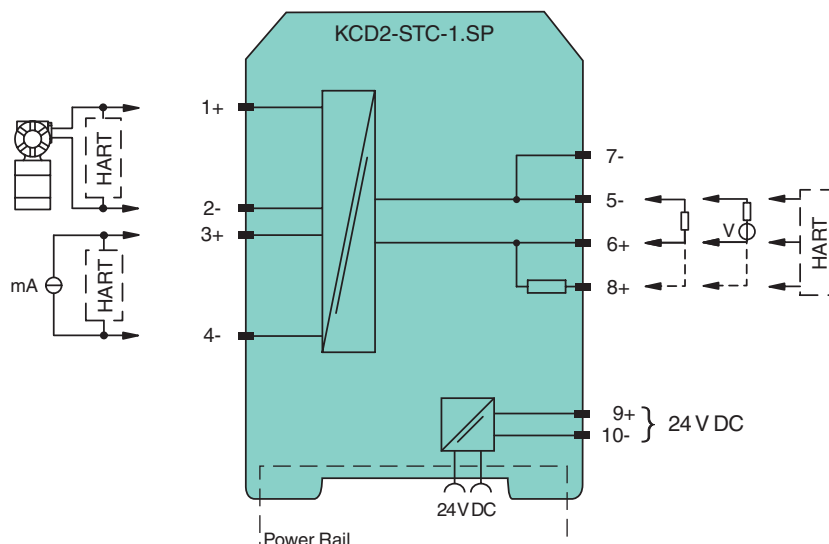
- The device supports the following SMART protocols:
- HART
 - BRAIN

Assembly



SIL2

Connection



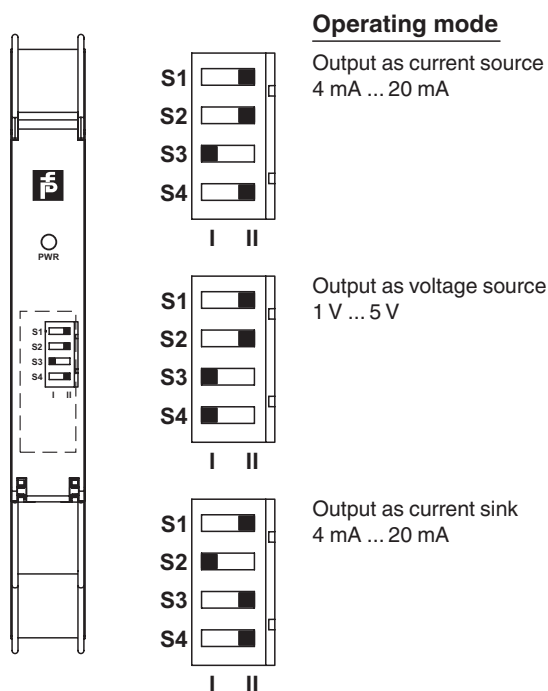
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Refer to "General Notes Relating to Pepperl+Fuchs Product Information".

| | | |
|--|-------|--|
| General specifications | | |
| Signal type | | Analog input |
| Supply | | |
| Connection | | Power Rail or terminals 9+, 10- |
| Rated voltage | U_n | 19 ... 30 V DC |
| Ripple | | ≤ 10 % |
| Rated current | I_n | ≤ 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 |
| Open circuit voltage/short-circuit current | | terminals 1+, 2-: 22 V / 30 mA |
| Voltage drop | | terminals 3+, 4- : approx. 5 V |
| Available voltage | | terminals 1+, 2-: ≥ 15 V at 20 mA |
| 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 (68 °F) ≤ ± 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/K (0 ... 60 °C (32 ... 140 °F)); < 4 μA/K (-20 ... 0 °C (-4 ... 32 °F)) (source mode and sink mode 4 ... 20 mA) < 0.5 mV/K (0 ... 60 °C (32 ... 140 °F)); < 1 mV/K (-20 ... 0 °C (-4 ... 32 °F)) (source mode 1 ... 5 V) |
| Frequency range | | bandwidth at 0.5 V _{ss} signal 0 ... 3 kHz (-3 dB) |
| Settling time | | ≤ 200 ms |
| Rise time/fall time | | ≤ 20 ms |
| Electrical isolation | | |
| Input/Output | | reinforced insulation acc. to EN 50178, rated insulation voltage 300 V _{eff} |
| Input/power supply | | reinforced insulation acc. to EN 50178, rated insulation voltage 300 V _{eff} |
| Output/power supply | | reinforced insulation acc. to EN 50178, rated insulation voltage 300 V _{eff} |
| Directive conformity | | |
| Electromagnetic compatibility | | |
| Directive 2004/108/EC | | EN 61326-1:2006 |
| Conformity | | |
| Electromagnetic compatibility | | NE 21:2006 |
| Degree of protection | | IEC 60529:2001 |
| Ambient conditions | | |
| Ambient temperature | | -20 ... 60 °C (-4 ... 140 °F) |
| Mechanical specifications | | |
| Degree of protection | | 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 |
| Mounting | | on 35 mm DIN mounting rail acc. to EN 60715:2001 |
| 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 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!

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