

Features

- 1-channel signal conditioner
- 24 V DC supply (Power Rail)
- Current output up to 650 Ω load
- HART I/P and valve positioner
- Lead breakage monitoring
- Accuracy 0.1 %
- Housing width 12.5 mm
- Connection via spring terminals
- Up to SIL2 acc. to IEC 61508

Function

This signal conditioner drives SMART I/P converters, electrical valves, and positioners and provides isolation for non-intrinsically safe applications.

Digital signals are superimposed on the analog values at the field or control side and are transferred bi-directionally.

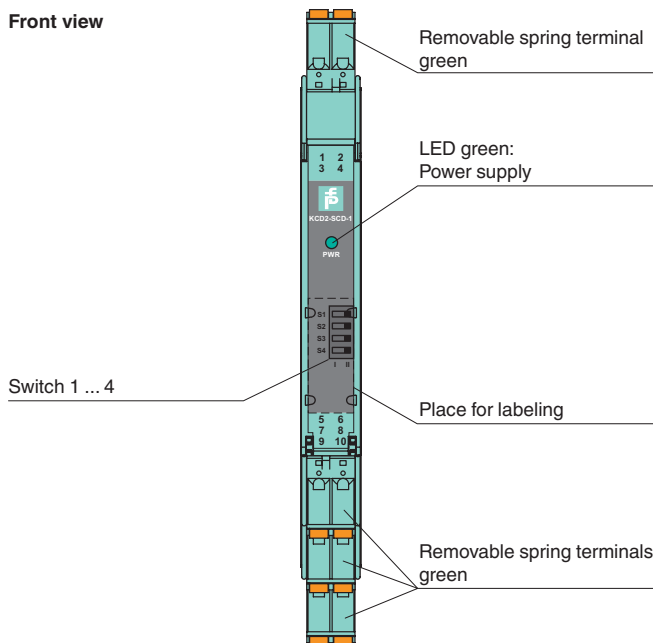
Current transferred across the DC/DC converter is repeated at terminals 1 and 2.

An open field circuit presents a high input impedance to the control side to allow lead breakage monitoring by control system.

If the loop resistance for the digital communication is too low, an internal resistor of 250 Ω between terminals 6 and 8 is available, which may be used as the HART communication resistor.

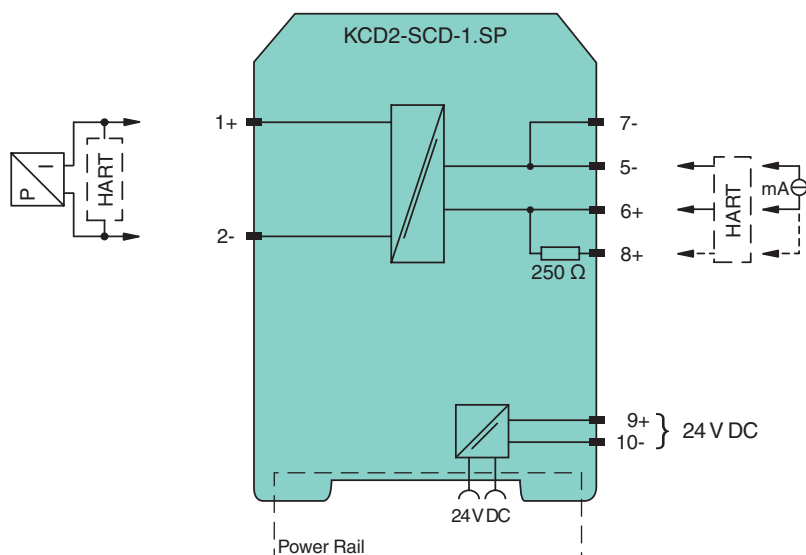
Sockets for the connection of a HART communicator are integrated into the terminals of the device.

Assembly



SIL2

Connection



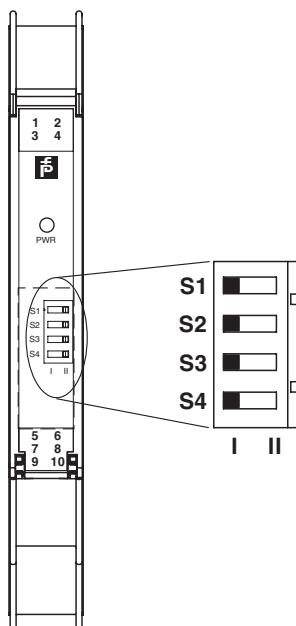
Release date 2012-04-04 10:04 Date of issue 2015-02-16 240639_eng.xml

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

General specifications		
Signal type		Analog output
Supply		
Connection		Power Rail or terminals 9+, 10-
Rated voltage	U_n	19 ... 30 V DC
Ripple		≤ 10 %
Rated current	I_n	≤ 30 mA
Power loss		≤ 600 mW
Power consumption		≤ 700 mW
Input		
Connection		terminals 5-, 6+
Input signal		4 ... 20 mA limited to approx. 30 mA
Input voltage		depending on switch configuration open loop voltage of the control system < 23 V open loop voltage of the control system < 27 V
Voltage drop		depending on switch configuration open loop voltage of the control system < 23 V: approx. 6 V at 20 mA open loop voltage of the control system < 27 V: approx. 10 V at 20 mA
Input resistance		> 100 kΩ, with field wiring open
Output		
Connection		terminals 1+, 2-
Current		4 ... 20 mA
Load		0 ... 650 Ω
Voltage		≥ 13 V at 20 mA
Ripple		20 mV _{rms}
Transfer characteristics		
Deviation		at 20 °C (68 °F), 0/4 ... 20 mA ≤ ± 0.1 % incl. non-linearity and hysteresis
Influence of ambient temperature		< 2 μA/K (0 ... 60 °C (32 ... 140 °F)); < 4 μA/K (-20 ... 0 °C (-4 ... 32 °F))
Frequency range		bandwidth at 0.5 V _{SS} signal 0 ... 3 kHz (-3 dB)
Rise time		10 to 90 % ≤ 100 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
Degree of protection		IP20 according to EN 60529
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



Switch position

Function	S1	S2	S3	S4
Open loop voltage of the control system < 23 V	I	I	II	II
Open loop voltage of the control system < 27 V	II	I	II	II

Factory settings: open loop voltage of the control system < 23 V

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!