

Features

- 1-channel
- 24 V DC supply voltage
- Suitable for HART communication
- Up to SIL2 acc. to IEC 61508

Function

The SMART repeater transmits a 4 mA ... 20 mA current from the control to the field.

Digital HART signals can be superimposed on the analogue values.

A bidirectional communication between a HART device in the field and the corresponding HART communicator in the safe area is possible.

The HART communicators should be connected as shown in the block diagram.

In the connection terminals of the device sockets for the connection of the HART communicator are integrated.

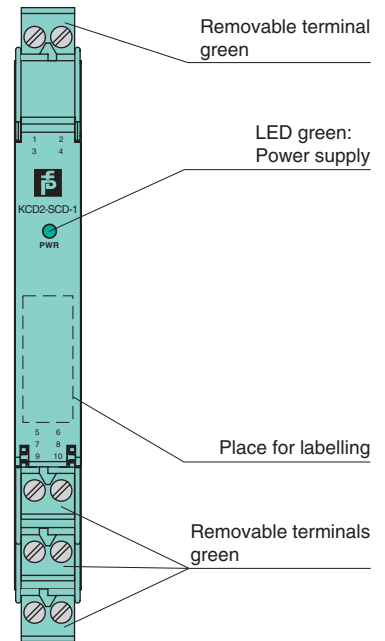
A field open circuit presents a high impedance to the control device input to allow alarm conditions to be monitored.

Application

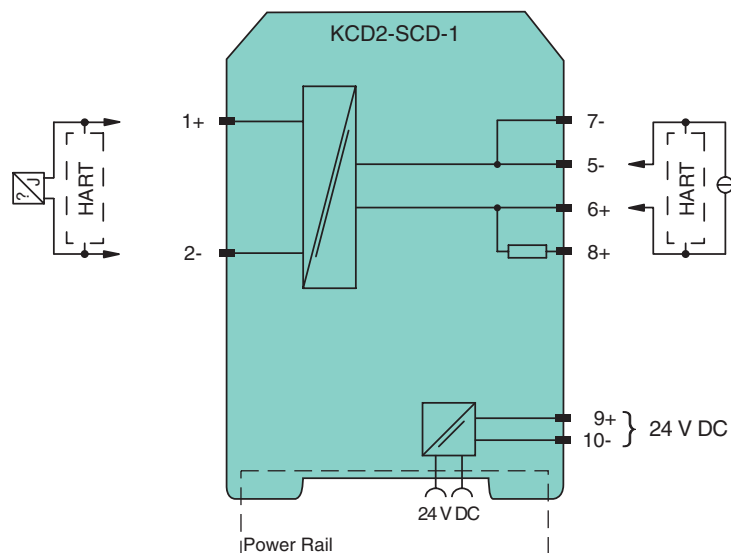
- Control of positioners
- Transfer of a 4 mA ... 20 mA current signal (also with superimposed HART signal)

Composition

Front view



Connection



Supply	
Connection	Power Rail or terminals 9+, 10-
Rated voltage	19 ... 30 V DC
Ripple	≤ 10 %
Rated current	≤ 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
Voltage drop U_d	approx. 6 V or internal resistance 300 Ω at 20 mA
Input resistance	> 100 kΩ at max. 23 V, with field wiring open
Output	
Connection	terminals 1+, 2-
Current	4 ... 20 mA
Voltage	≥ 13 V at 20 mA
Load	0 ... 650 Ω
Ripple	20 mV rms
Transfer characteristics	
Deviation	at 20 °C (293 K), 4 ... 20 mA ≤ ± 0.1 % incl. non-linearity and hysteresis
Influence of ambient temperature	< 2 μA/°C (0 ... +60 °C); < 4 μA/°C (-20 ... 0 °C)
Frequency range	bandwidth with 0.5 V_{pp} -signal 0 ... 3 kHz (-3 dB)
Rise time	10 to 90 % ≤ 100 ms
Electrical isolation	
Input/output	reinforced insulation acc. to IEC 61140, rated insulation voltage 300 V _{eff}
Input/power supply	reinforced insulation acc. to IEC 61140, rated insulation voltage 300 V _{eff}
Output/power supply	reinforced insulation acc. to IEC 61140, rated insulation voltage 300 V _{eff}
Indicators/settings	
LED PWR	green
Labelling	place for labelling on the front side
Directive conformity	
Electromagnetic compatibility	
Directive 89/336/EC	EN 61326, NE 21
Conformity	
Electromagnetic compatibility	NE 21
Protection degree	IP20 according to EN 60529
Ambient conditions	
Ambient temperature	-20 ... 60 °C (253 ... 333 K)
Mechanical specifications	
Protection degree	IP20
Mass	approx. 100 g
Dimensions	12.5 x 114 x 122 mm (0.5 x 4.5 x 4.8 in) , housing type A2
General information	
Supplementary information	Statement of Conformity, Declaration of Conformity and instructions have to be observed. For information see www.pepperl-fuchs.com .

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!