Features

- 1-channel signal conditioner
- 24 V DC supply (loop powered)
- Current input/output 4 mA ... 20 mA
- HART I/P or transmitter power supply
- Low voltage drop
- Line fault detection (LFD)
- Up to SIL2 acc. to IEC 61508

Function

This signal conditioner is loop powered and isolates a 4 mA ... 20 mA signal for transmitters and positioners and is HART compatible.

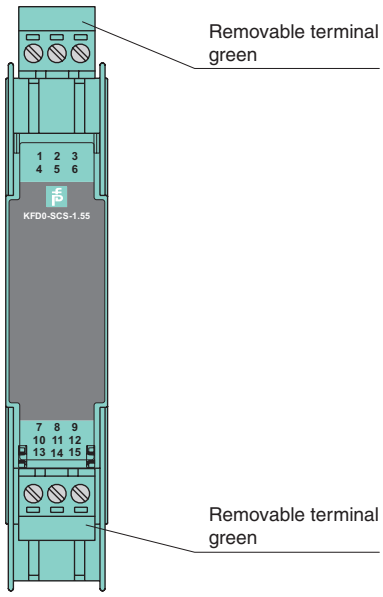
The low voltage drop of 5 V in comparison to active signal conditioners also allows transmitter applications with unstable power sources between 20 V DC ... 30 V DC.

Line fault detection of the field circuit is possible if the control loop in the safe area is monitored for overscale or underscale conditions of the 4 mA ... 20 mA range.

The module can also be used for controlling solenoid valves and discrete outputs, such as LEDs. In this case, terminals 8- and 9+ are driven with a 24 V signal.

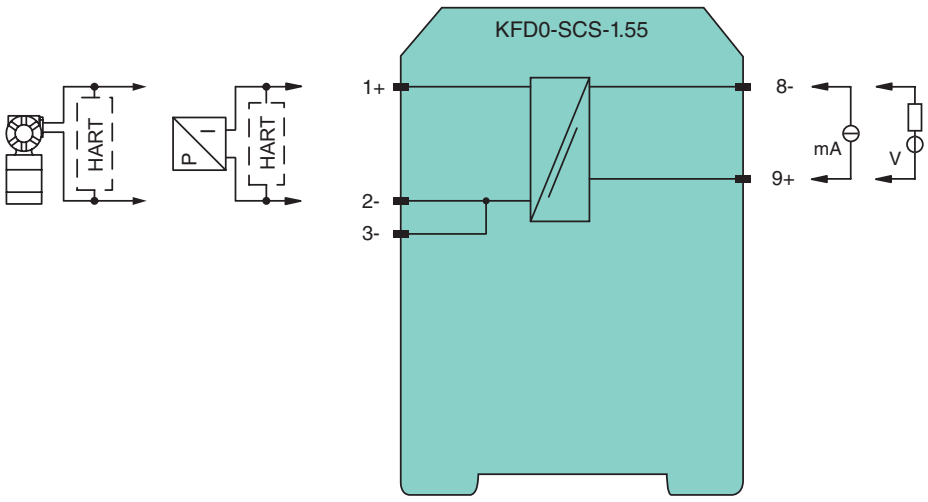
Assembly

Front view



SIL2

Connection



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General specifications		
Signal type		Analog output
Supply		
Rated voltage	U_n	loop powered
Power loss		0.2 W
Field circuit		
Connection		terminals 1+, 2 / 3-
Voltage		≥ 16 V for supply voltage > 21 V
Current		4 ... 20 mA (linear transmission 1 ... 22 mA)
Load		≤ 800 Ω (at 20 mA)
Supply circuit		
Connection		terminals 8-, 9+
Voltage		max. 30 V DC
Current		4 ... 20 mA (quiescent current < 0.5 mA)
Power loss		150 mW at 20 mA and U_E < 24 V
Transfer characteristics		
Voltage drop		see note
Deviation		
After calibration		≤ ± 80 µA linearity, load and voltage dependence at 20 °C (68 °F)
Influence of ambient temperature		< 0.5 µA/K
Damping		approx. 3 dB
Rise time		≤ 20 µs at 0 Ω, ≤ 600 µs with 800 Ω load
Electrical isolation		
Input/Output		basic insulation according to IEC 62103, rated insulation voltage 300 V_{eff}
Directive conformity		
Electromagnetic compatibility		
Directive 2004/108/EC		EN 61326-1:2006
Conformity		
Electrical isolation		IEC 62103:2003
Electromagnetic compatibility		NE 21:2007
Degree of protection		IEC 60529:2001
Ambient conditions		
Ambient temperature		-20 ... 60 °C (-4 ... 140 °F)
Mechanical specifications		
Degree of protection		IP20
Mass		approx. 120 g
Dimensions		20 x 124 x 115 mm (0.8 x 4.9 x 4.5 in) , housing type B2
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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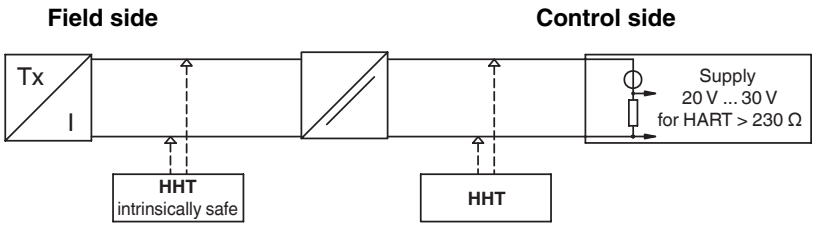
Additional information

In addition, the voltage drop across the resistance (load) of the active measurement input must be considered when calculating the field voltage (terminals 1+ and 2-).

Lead breakage monitoring is possible by means of the reaction of the field current signal to the control side, which means the control system must monitor whether the 4 mA ... 20 mA range was exceeded or fallen short of.

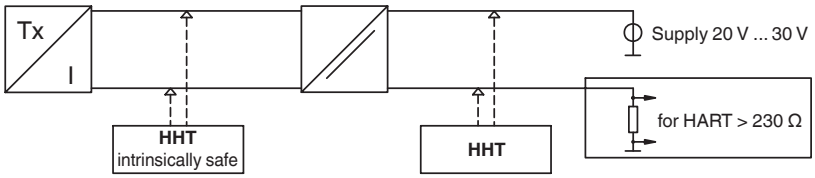
SMART repeater supply isolator for **active** interfaces
Transmitters with or without HART

Voltage drop in case of 20 mA:
max. 5 V



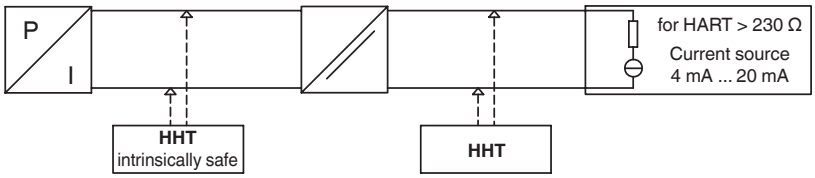
SMART repeater for **passive** interfaces
Transmitters with or without HART

Voltage drop in case of 20 mA:
max. 5 V



Current driver for
positioners, I/P converters
Positioners with or without HART

Voltage drop in case of 20 mA:
5 V, 500 Ω ... 800 Ω load
6 V, 250 Ω load
8 V, 50 Ω load



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