

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 SIL 2 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.

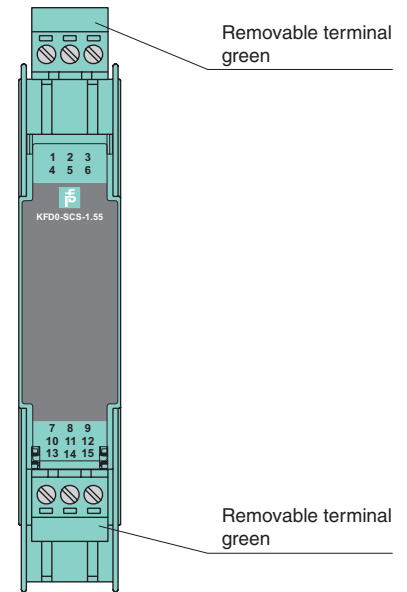
The low voltage drop of 5 V in comparison to active signal conditioners also allows transmitter applications with unstable power sources between 20 V DC ... 30 V DC.

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

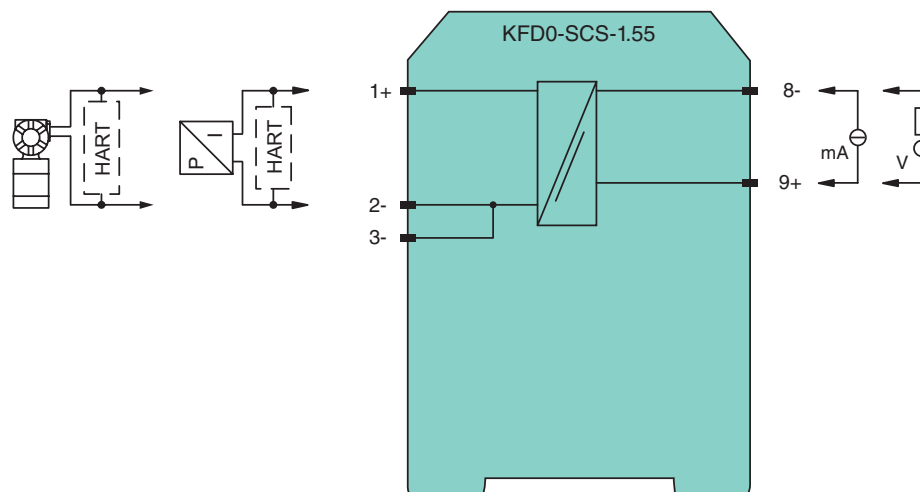
Front view



CE

SIL 2

Connection



General specifications		
Signal type		Analog input/analog output
Functional safety related parameters		
Safety Integrity Level (SIL)		SIL 2
Supply		
Rated voltage	U_r	loop powered
Power dissipation		0.2 W
Control circuit		
Connection		terminals 8-, 9+
Voltage		≤ 30 V DC
Current		4 ... 20 mA (quiescent current < 0.5 mA)
Power dissipation		150 mW at 20 mA and $U_{in} < 24$ V
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		$\leq 800 \Omega$ (at 20 mA)
Transfer characteristics		
Voltage drop		see note
Deviation		
After calibration		$\leq \pm 80 \mu\text{A}$ linearity, load and voltage dependence at 20 °C (68 °F)
Influence of ambient temperature		< 0.5 $\mu\text{A/K}$
Damping		approx. 3 dB
Rise time		$\leq 20 \mu\text{s}$ at 0 Ω , $\leq 600 \mu\text{s}$ with 800 Ω load
Galvanic isolation		
Input/Output		basic insulation according to IEC 62103, rated insulation voltage 300 V _{eff}
Indicators/settings		
Labeling		space for labeling at the front
Directive conformity		
Electromagnetic compatibility		
Directive 2014/30/EU		EN 61326-1:2013 (industrial locations)
Conformity		
Galvanic 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
Connection		screw terminals
Mass		approx. 120 g
Dimensions		20 x 124 x 115 mm (0.8 x 4.9 x 4.5 inch) , housing type B2
Mounting		on 35 mm DIN mounting rail acc. to EN 60715:2001
General information		
Supplementary information		Observe the certificates, declarations of conformity, instruction manuals, and manuals where applicable. For information see www.pepperl-fuchs.com .

Additional information

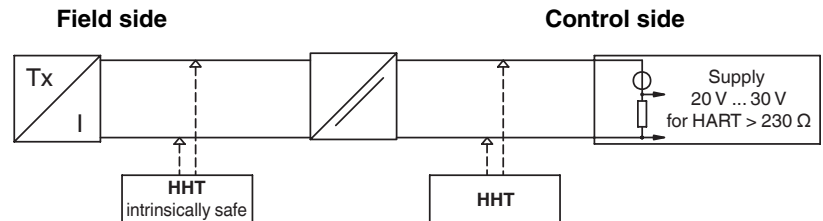
In addition, the voltage drop across the resistance (load) of the active measurement input must be considered when calculating the field voltage (terminals 1+ and 2-).

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

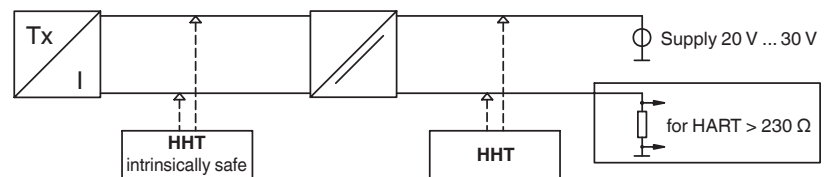
Voltage drop in case of 20 mA:
max. 5 V



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

