

Features

- 1-channel isolated barrier
- 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

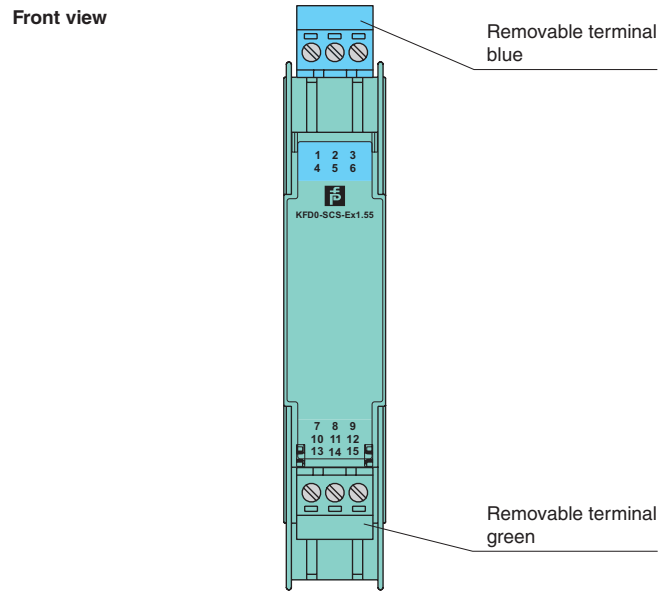
This isolated barrier is used for intrinsic safety applications. It is loop powered and isolates a 4 mA ... 20 mA signal for transmitters and positioners and is HART compatible.

With a noticeably lower power loss compared to active isolator modules, the barriers 5 V drop makes it suitable for 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.

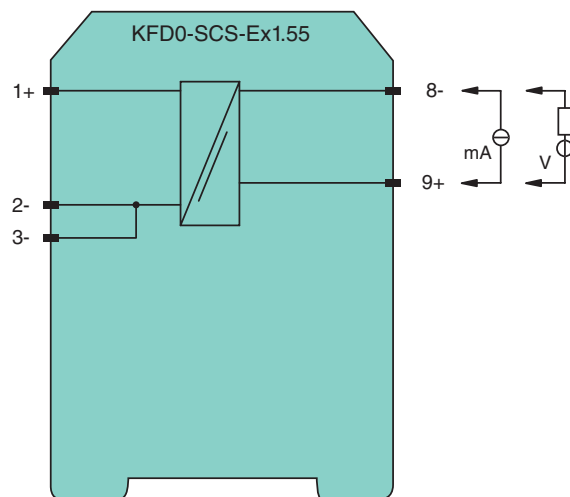
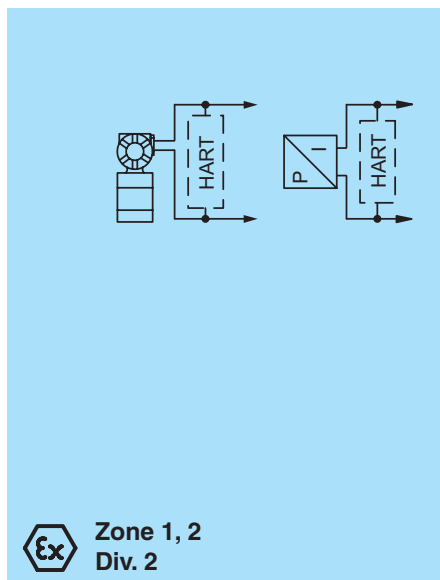
The module can also be used for controlling solenoid valves and discrete outputs, such as LEDs. In this case, terminals 8- and 9+ are driven with a 24 V signal.

Assembly



SIL2

Connection



**Zone 2
Div. 2**

Release date 2012-04-04 10:02 Date of issue 2012-04-04 240495_eng.xml

General specifications	
Signal type	Analog output
Supply	
Rated voltage	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	safe electrical isolation acc. to IEC/EN 60079-11, voltage peak value 375 V
Directive conformity	
Electromagnetic compatibility	
Directive 2004/108/EC	EN 61326-1:2006
Conformity	
Electrical isolation	IEC 62103
Electromagnetic compatibility	NE 21
Protection degree	IEC 60529
Ambient conditions	
Ambient temperature	-20 ... 60 °C (-4 ... 140 °F)
Mechanical specifications	
Protection degree	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 DIN EN 60715
Data for application in connection with Ex-areas	
EC-Type Examination Certificate	PTB 02 ATEX 2064 , for additional certificates see www.pepperl-fuchs.com
Group, category, type of protection	⊕ II (2)G [Ex ib] IIC
Voltage U_o	23.1 V DC
Current I_o	28 mA
Power P_o	0.647 W
Supply	
Maximum safe voltage U_m	253 V (Attention! The rated voltage can be lower.)
Type of protection [Ex ib]	
Statement of conformity	PF 11 CERT 0902 X
Group, category, type of protection, temperature class	⊕ II 3G Ex nA IIC T4 Gc
Electrical isolation	
Input/Output	safe electrical isolation acc. to IEC/EN 60079-11, voltage peak value 375 V
Directive conformity	
Directive 94/9/EC	EN 60079-0:2009, EN 60079-11:2007 , EN 60079-15:2005
International approvals	
FM approval	device with FM approval on request
General information	
Supplementary information	EC-Type Examination Certificate, Statement of Conformity, Declaration of Conformity, Attestation of Conformity and instructions have to be observed where applicable. For information see www.pepperl-fuchs.com .

Release date 2012-04-04 10:02 Date of issue 2012-04-04 240495_eng.xml

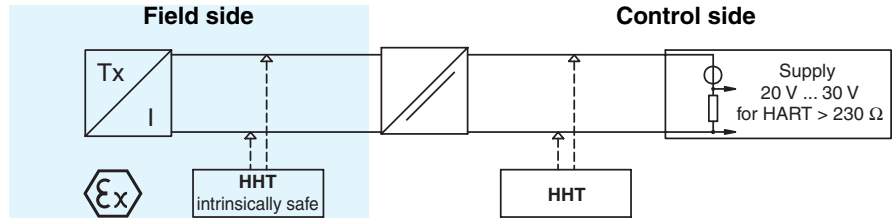
Additional information

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.

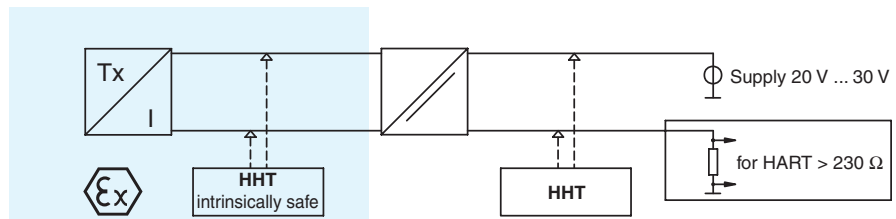
SMART repeater supply isolator for **active** interfaces
Transmitters with or without HART

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

