

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

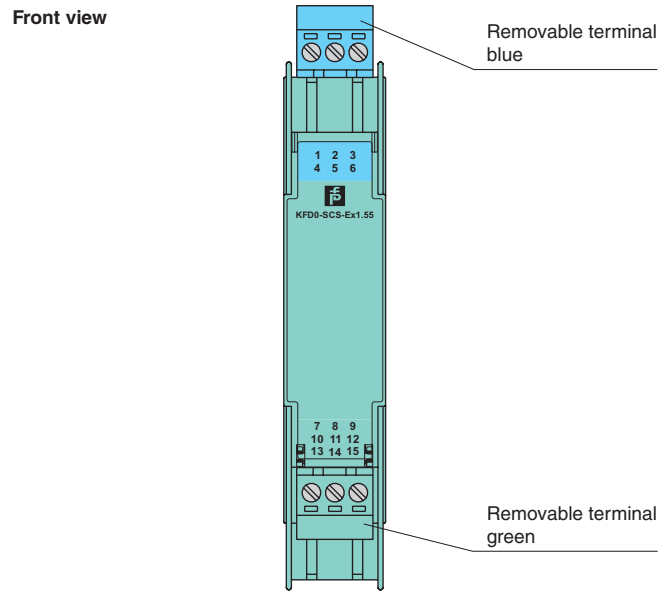
This isolated barrier is used for intrinsic safety applications. It is loop powered and isolates a 4 mA ... 20 mA signal for transmitters and positioners and is HART compatible.

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.

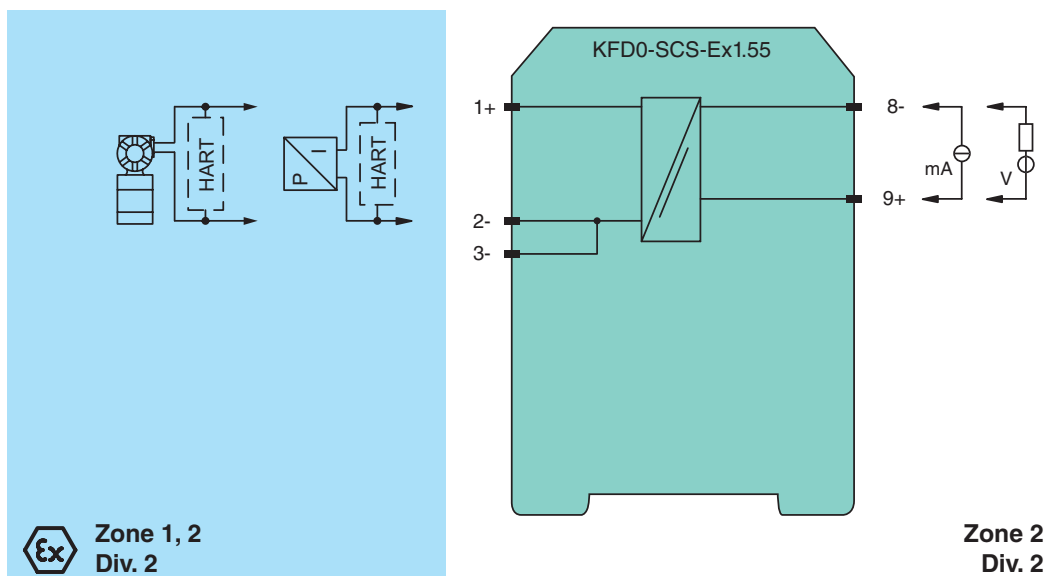
The module can also be used for controlling solenoid valves and discrete outputs, such as LEDs. In this case, terminals 8- and 9+ are driven with a 24 V signal.

Assembly



SIL2

Connection



Release date 2014-08-18 15:12 Date of issue 2015-02-16 240495_eng.xml

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

Pepperl+Fuchs Group
www.pepperl-fuchs.com

USA: +1 330 486 0002
pa-info@us.pepperl-fuchs.com

Germany: +49 621 776 2222
pa-info@de.pepperl-fuchs.com

Singapore: +65 6779 9091
pa-info@sg.pepperl-fuchs.com

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		$\leq 800 \Omega$ (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		$\leq \pm 80 \mu\text{A}$ 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
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		
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
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		Ex 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		Ex 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 60079-0:2012 , EN 60079-11:2012 , EN 60079-15:2010
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 2014-08-18 15:12 Date of issue 2015-02-16 240495_eng.xml

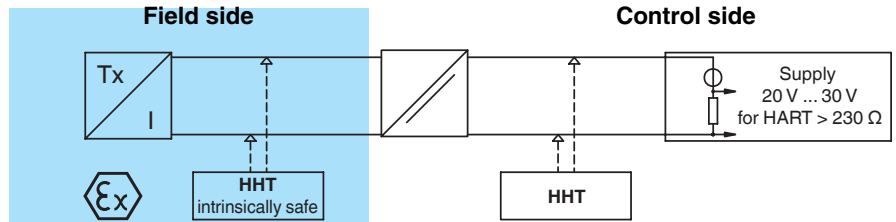
Additional information

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.

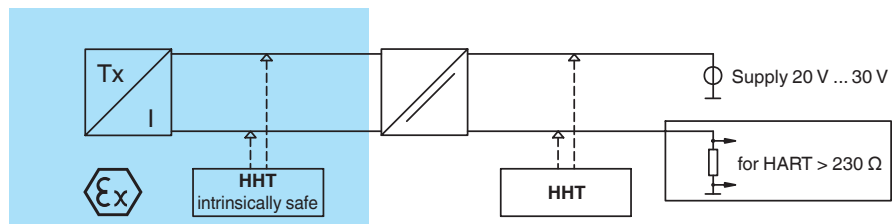
SMART repeater supply isolator for **active** interfaces
Transmitters with or without HART

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

