Features

- 1-channel isolated barrier
- 24 V DC supply (loop powered)
- Current input/output 0 mA ... 40 mA
- I/P or transmitter power supply
- Accuracy 1 %
- Reverse polarity protection
- Up to SIL2 acc. to IEC 61508

Function

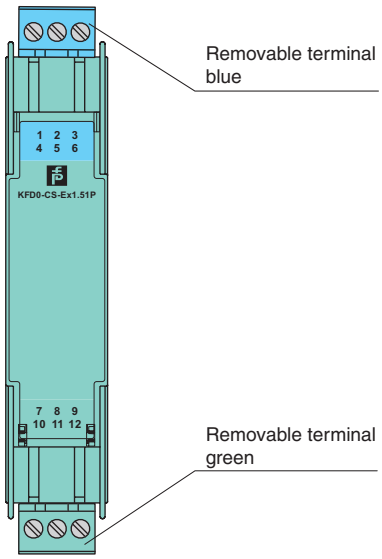
This isolated barrier is used for intrinsic safety applications. It transfers DC signals from fire alarms, smoke alarms, and temperature sensors in hazardous areas. It can also be used to control I/P converters, power solenoids, LEDs, and audible alarms.

Reverse polarity protection prevents damage to the isolator caused by faulty wiring.

Since this isolator is loop powered, use the technical data to verify that proper voltage is available to the field devices.

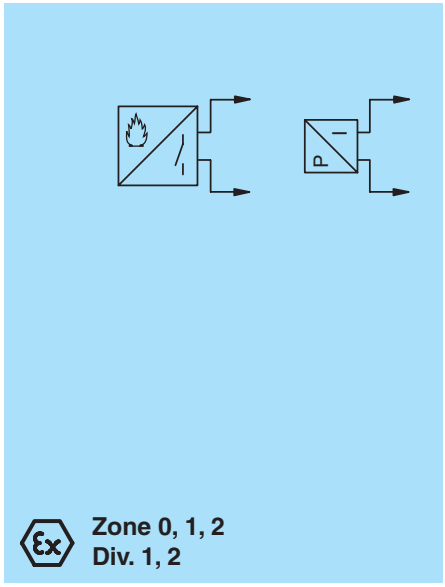
Assembly

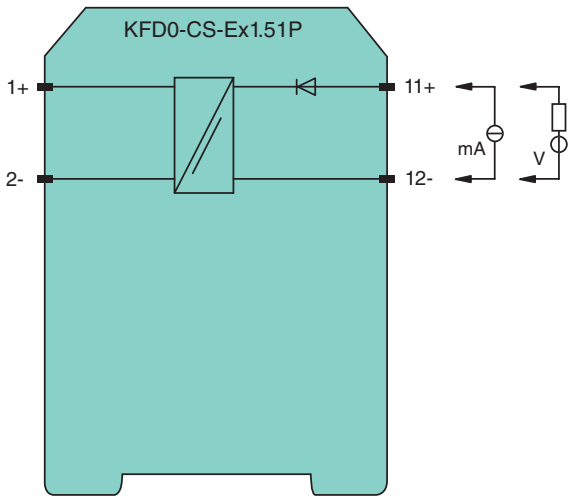
Front view



SIL2

Connection





Release date 2015-08-10 10:56 Date of issue 2015-08-10 072147_eng.xml

General specifications		
Signal type		Analog output
Supply		
Rated voltage	U_n	loop powered
Control circuit		
Connection		terminals 12-, 11+
Voltage		4 ... 35 V DC
Current		0 ... 40 mA
Power dissipation		at 40 mA and U_{in} < 22 V: 700 mW per channel at 40 mA and U_{in} > 22 V: 1.2 W per channel
Field circuit		
Connection		terminals 1+, 2-
Voltage		for 4 V < U_{in} < 24 V: ≥ U_{in} - (0.37 x current in mA) - 1.0 for U_{in} > 24 V: ≥ 21 V - (0.36 x current in mA)
Short-circuit current		at U_{in} > 24 V: ≤ 65 mA
Transfer current		≤ 40 mA
Transfer characteristics		
Deviation		
After calibration		≤ ± 200 µA; incl. calibration, linearity, hysteresis and load fluctuations at the output up to a load of 1 kΩ and current ≤ 20 mA at 20 °C (68 °F)
Influence of ambient temperature		≤ ± 2 µA/K at U_{in} ≤ 20 V; ≤ ± 5 µA/K at U_{in} > 20 V
Rise time		≤ 5 ms at bounce from 4 ... 20 mA and U_{in} < 24 V
Electrical isolation		
Field circuit/control circuit		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 21:2006
Degree of protection		IEC 60529:2001
Protection against electrical shock		UL 61010-1
Ambient conditions		
Ambient temperature		-20 ... 60 °C (-4 ... 140 °F)
Mechanical specifications		
Degree of protection		IP20
Mass		approx. 100 g
Dimensions		20 x 107 x 115 mm (0.8 x 4.2 x 4.5 in) , housing type B1
Mounting		on 35 mm DIN mounting rail acc. to EN 60715:2001
Data for application in connection with Ex-areas		
EC-Type Examination Certificate		BAS 98 ATEX 7343 , for additional certificates see www.pepperl-fuchs.com
Group, category, type of protection		⟨Ex⟩ II (1)G [Ex ia Ga] IIC, II (1)D [Ex ia Da] IIIC, I (M1) [Ex ia Ma] I (-20 °C ≤ T_{amb} ≤ 60 °C)
Voltage	U_o	25.2 V
Current	I_o	93 mA
Power	P_o	585 mW
Control circuit		
Maximum safe voltage	U_m	250 V_{eff} (Attention! The rated voltage can be lower.)
Field circuit		
Maximum safe voltage	U_m	250 V_{eff} (Attention! The rated voltage can be lower.)
Statement of conformity		TÜV 99 ATEX 1499 X , observe statement of conformity
Group, category, type of protection, temperature class		⟨Ex⟩ II 3G Ex nA II T4 [device in zone 2]
Electrical isolation		
Field circuit/control circuit		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, EN60079-15:2005
International approvals		
FM approval		
Control drawing		116-0129
UL approval		
Control drawing		116-0173 (cULus)
IECEx approval		IECEx BAS 05.0004
Approved for		[Zone 0] [Ex ia] IIC, [Ex iaD], [Ex ia] I
General information		

Release date 2015-08-10 10:56 Date of issue 2015-08-10 072147_eng.xml

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 2015-08-10 10:56 Date of issue 2015-08-10 072147_eng.xml

Application

The device is used for isolation of power loops for the control of positioner, I/P converters etc. A current source is connected to the safe area terminals.

The device is used for isolation of a current signal from fire detectors or similar sensors. In this case, a voltage source can be connected to the safe area terminals. A specific measurement current across a passive sensor can be measured in the safe area with a series resistor (min. 50 Ω). When a voltage supply is used, the measuring resistor can also provide current limitations.

Release date 2015-08-10 10:56 Date of issue 2015-08-10 072147_eng.xml