

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

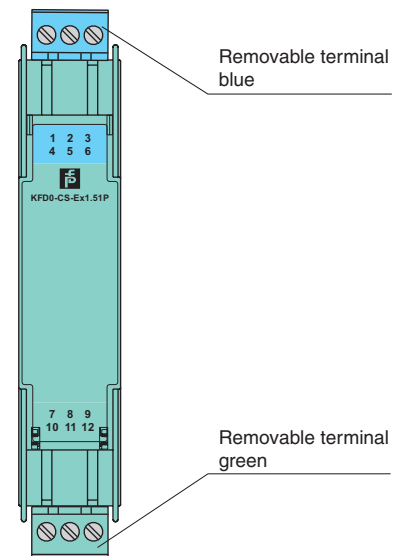
This isolated barrier is used for intrinsic safety applications. It transfers DC signals from fire alarms, smoke alarms, and temperature sensors in hazardous areas. It can also be used to control I/P converters, power solenoids, LEDs, and audible alarms.

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

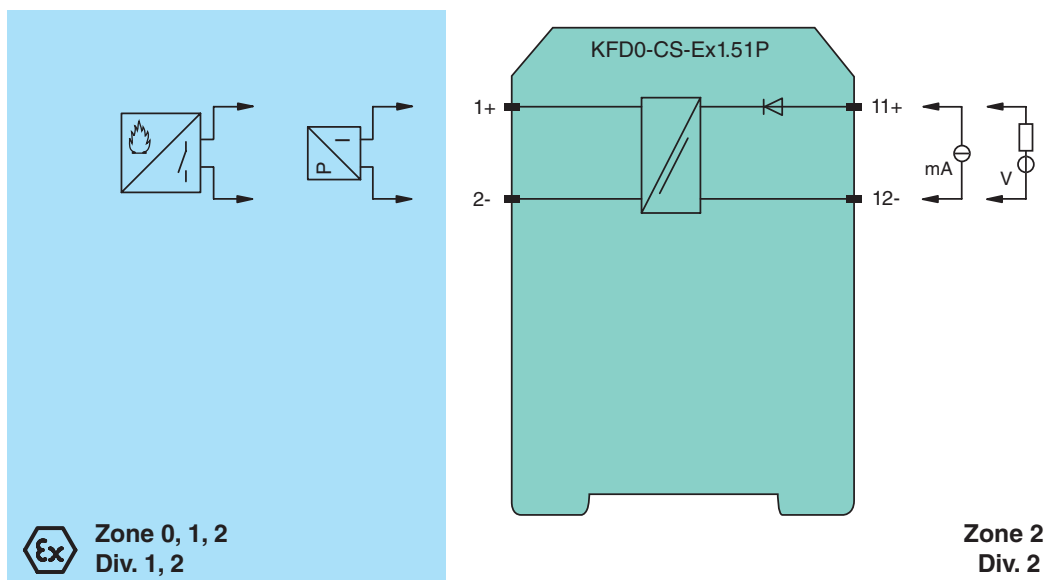


CE



SIL2

Connection



General specifications		
Signal type		Analog output
Supply		
Rated voltage		loop powered
Control circuit		
Connection		terminals 12-, 11+
Voltage		4 ... 35 V DC
Current		0 ... 40 mA
Power loss		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 $4 \text{ V} < U_{in} < 24 \text{ V}$: $\geq U_{in} - (0.37 \times \text{current in mA}) - 1.0$ for $U_{in} > 24 \text{ V}$: $\geq 21 \text{ V} - (0.36 \times \text{current in mA})$
Short-circuit current		at $U_{in} > 24 \text{ V}$: $\leq 65 \text{ mA}$
Transfer current		$\leq 40 \text{ mA}$
Transfer characteristics		
Deviation		
After calibration		$\leq \pm 200 \mu\text{A}$; incl. calibration, linearity, hysteresis and load fluctuations at the output up to a load of $1 \text{ k}\Omega$ and current $\leq 20 \text{ mA}$ at 20°C (68°F)
Influence of ambient temperature		$\leq \pm 2 \mu\text{A/K}$ at $U_{in} \leq 20 \text{ V}$; $\leq \pm 5 \mu\text{A/K}$ at $U_{in} > 20 \text{ V}$
Rise time		$\leq 5 \text{ ms}$ at $4 \dots 20 \text{ mA}$ step and $U_{in} < 24 \text{ V}$
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
Protection degree		IEC 60529
Protection against electric shock		UL 61010-1
Ambient conditions		
Ambient temperature		$-20 \dots 60^\circ\text{C}$ ($-4 \dots 140^\circ\text{F}$)
Mechanical specifications		
Protection degree		IP20
Mass		approx. 100 g
Dimensions		$20 \times 107 \times 115 \text{ mm}$ ($0.8 \times 4.2 \times 4.5 \text{ in}$), housing type B1
Mounting		on 35 mm DIN mounting rail acc. to DIN EN 60715
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 ($-20^\circ\text{C} \leq T_{\text{amb}} \leq 60^\circ\text{C}$)
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		
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)
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 .

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.