



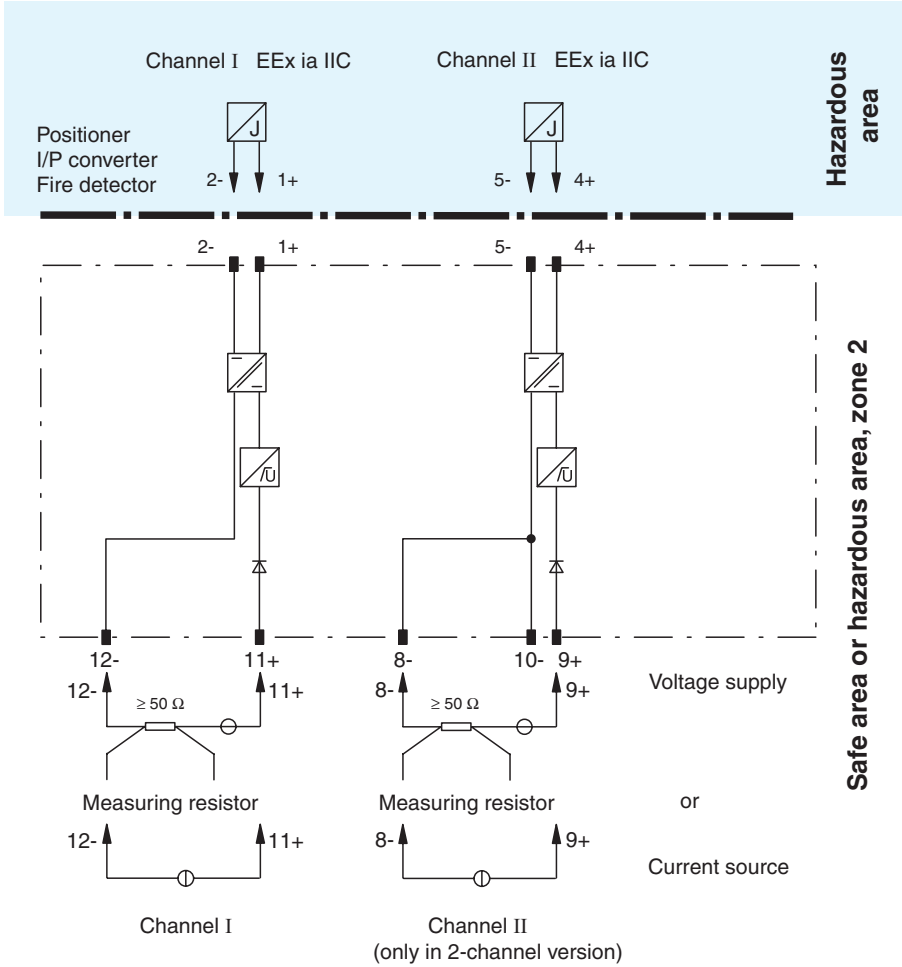
- Output EEx ia IIC
- Device installation permissible in zone 2
- Polarity reversal protected
- Accuracy 0.1 %
- EMC acc. to NAMUR NE 21

**1-channel
KFD0-CS-Ex1.50P**

Application

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

Connection



Composition

Supply	
Rated voltage	loop powered
Power loss	0.2 W
Inputs/Outputs (not intrinsically safe)	
Connection	terminals 12-, 11+; 8-, 10-, 9+
Voltage	10 ... 35 V DC
Safety maximum voltage U_m	250 V _{eff}
Current	4 ... 20 mA
Power loss	at 40 mA and $U_{in} < 26.1$ V: < 700 mW per channel at 40 mA and $U_{in} > 26.1$ V: < 1.2 W per channel
Inputs/Outputs (Intrinsically safe)	
Connection	terminals 1+, 2-; 4+, 5-
Output voltage	for 10 V < U_{in} < 26.1 V: $\geq 0.9 \times U_{in} - (0.4 \times \text{current in mA}) - 0.7$ for $U_{in} > 26.1$ V: ≥ 23 V - (0.4 x current in mA)
Short-circuit current	at $U_{in} > 26.1$ V : ≤ 65 mA
Transfer current	≤ 40 mA
Transfer characteristics	
Deviation	
After calibration	$\leq \pm 20$ μ A; incl. calibration, linearity, hysteresis and load fluctuations at the output up to a load of 1 kOhm at 20 °C (293 K)
Influence of ambient temperature	< 2 μ A/K (0 °C ... +50 °C); < 5 μ A/K (-20 °C ... +60 °C)
Rise time	≤ 5 ms at 4 ... 20 mA and U_{in} = input voltage < 26 V
Electrical isolation	
Input/Output	safe electrical isolation acc. to EN 50020, voltage peak value 375 V
Directive conformity	
Electromagnetic compatibility	standards
Directive 89/336/EC	on request
Standard conformity	
Insulation coordination	acc. to DIN EN 50178
Electrical isolation	acc. to DIN EN 50178
Electromagnetic compatibility	acc. to EN 50081-2 / EN 50082-2, NAMUR NE 21
Climatic conditions	acc. to DIN IEC 721
Ambient conditions	
Ambient temperature	-20 ... 60 °C (253 ... 333 K)
Mechanical specifications	
Protection degree	IP20
Mass	approx. 100 g
Data for application in conjunction with hazardous 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 D [EEx ia] IIC (-20 °C \leq T _{amb} \leq 60 °C)
Voltage U_0	25.2 V
Current I_0	93 mA
Power P_0	585 mW
Type of protection [EEx ia]	
Explosion group	IIA IIB IIC
External capacitance	75 μ F 16.8 μ F 2.41 μ F
External inductance	32 mH 17 mH 4 mH
Statement of conformity	
Group, category, type of protection, temperature classification	Ex II 3 G EEx nA II T4
Electrical isolation	
Input/Output	safe electrical isolation acc. to EN 50020, voltage peak value 375 V
Directive conformity	
Directive 94/9 EC	on request
Entity parameter	
Certification number	4Z6A5.AX
FM control drawing	No. 116-0129
Suitable for installation in division 2	yes
Connection	terminals 1, 2
Input I	
Voltage V_{OC}	28.5 V
Current I_t	96 mA
Explosion group	A&B C&E D, F&G
Max. external capacitance C_a	0.13 μ F 0.41 μ F 1.09 μ F

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Max. external inductance L_a	3.93 mH	15.93 mH	32.21 mH
Safety parameter			
CSA control drawing	LR 65756-13		
Control drawing	No. 116-0132		
Connection	terminals 1, 2		
Input I			
Safety parameter	28 V / 300 Ohm		
Voltage V_{OC}	28 V		
Current I_{SC}	93.3 mA		
Explosion group	A&B	C&E	D, F&G
Max. external capacitance C_a	0.14 μ F	0.42 μ F	1.14 μ F
Max. external inductance L_a	3.1 mH	16.7 mH	34 mH

Function

Each channel (4 terminals per channel) functions like a "DC current isolator". Both channels have separate reverse polarity protection. The input and output are galvanically isolated from each other.

These units are designed for the connection of fire detectors, smoke detectors, temperature sensors, etc. Their increased current range and the higher accuracy allow for differentiation between normal operation, fire alarm, lead breakage and short circuit currents in the safe area. In many cases they may also be used for controlling I/P converters. A separate power supply with auxiliary power is not required. The 2-channel version allows for the connection of 2 independent circuits in a single housing. Due to the input voltage limiting of 24 V, the maximum voltage output is 21 V.

Supplementary information

EC-Type Examination Certificate, Statement of Conformity, Declaration of Conformity and instructions have to be observed. For information see www.pepperl-fuchs.com.