1-channel

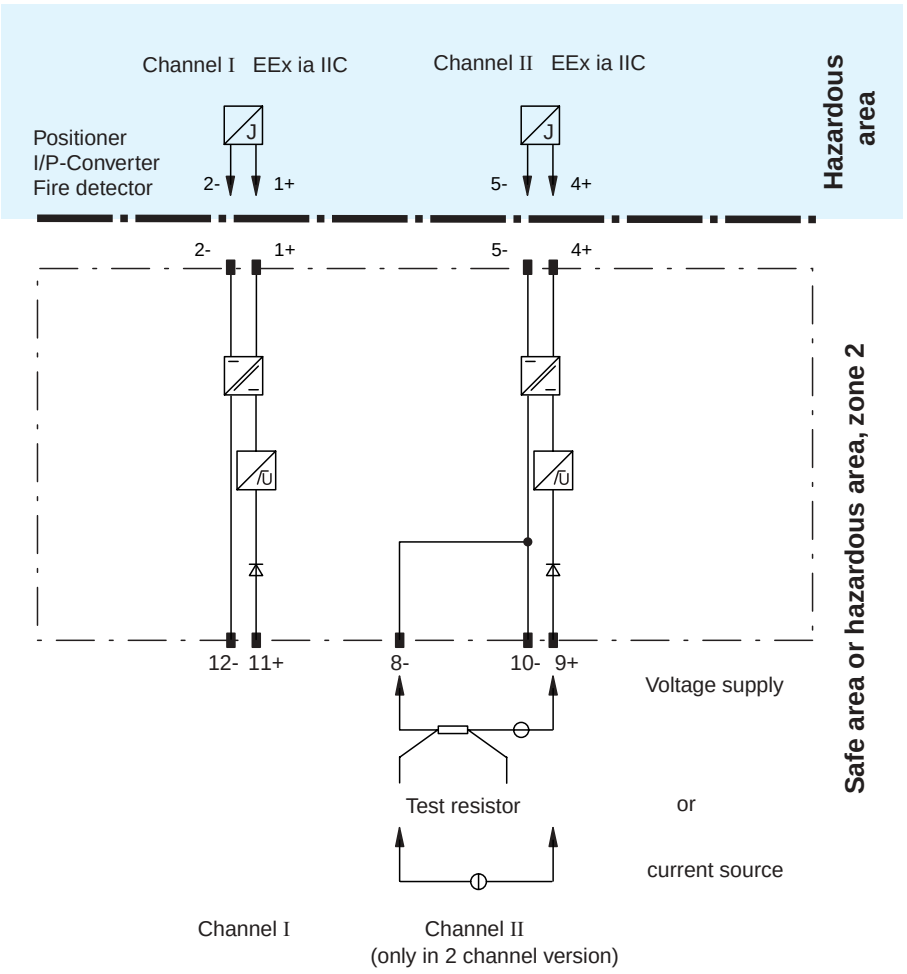
- Output EEx ia IIC
- Device installation permissible in zone 2
- Polarity reversal protected
- Accuracy 1 %
- EMC acc. to NAMUR NE 21

Function

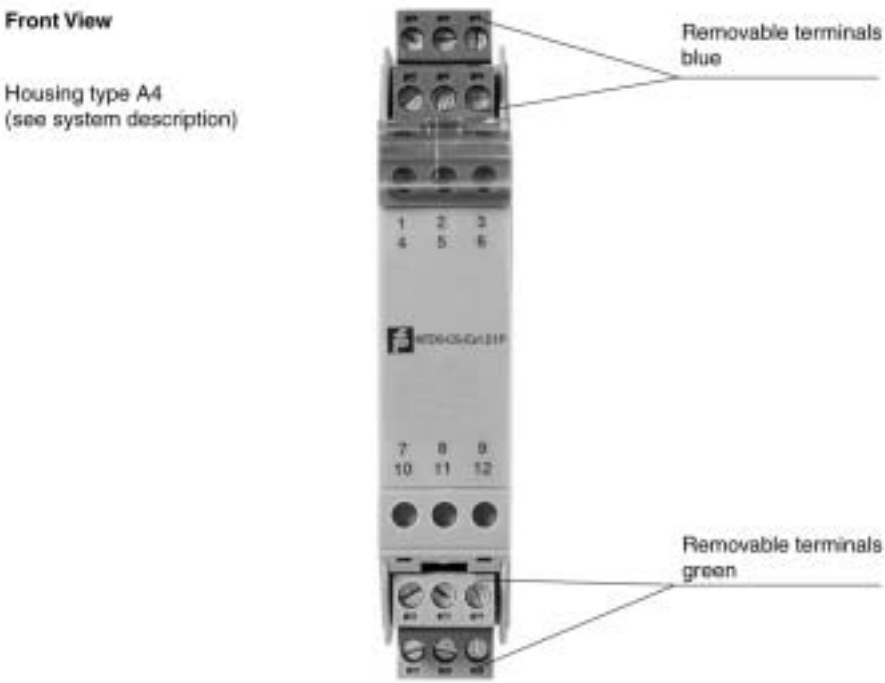
Each channel (4 terminals per channel) functions like a "DC current isolator". Both channels have separate reverse polarity protection. The input and output are galvanically isolated from each other.
These units are designed for the connection of fire detectors, smoke detectors, temperature sensors, 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.

Application

- The isolation of power loops for the control of positioners, 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.



Construction



06.03.2002
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Power supply			
Power loss	0.2 W		
Inputs/Outputs (not intrinsically safe)			
Connection type	terminals 12-, 11+; 8-, 10-, 9+		
Voltage	4 ... 35 V DC		
Safety maximum voltage U_m	-		
Current	0 ... 40 mA		
Power loss	at 40 mA and U_{in} < 24 V: 700 mW per channel at 40 mA and UE > 24 V: 1.2 W per channel		
Connection type	terminals 1+, 2-; 4+, 5-		
Output voltage	for 4 V < U_{in} < 24 V: ≥ U_{in} - (0.4 x current in mA) - 1 for U_{in} > 24 V: ≥ 23 V - (0.4 x current in mA)		
Short-circuit current	at U_{in} > 24 V: ≤ 65 mA		
Transfer current	≤ 40 mA		
Details of certificate of conformity			
Certification number	BAS No. Ex 96D2152 ; for additional certifications refer to the approval list		
Group, category, ignition protection method	[EEx ia] IIC (T_{amb} = 60°C)		
Voltage U_0	28 V		
Current I_0	93 mA		
Power P_0	0.65 W		
Allowable circuit values			
Ignition protection class, category [EEx ia]			
Explosion group	IIA	IIB	IIC
External capacitance	1.04 µF	0.39 µF	0.13 µF
External inductance	33.6 mH	12.6 mH	4.2 mH
Entity parameter			
Certification number	4Z6A5.AX		
FM control drawing	No. 116-0129		
Suitable for installation in division 2	yes		
Connection type	terminals 2, 1		
Input I			
Voltage V_{OC}	28.5 V		
Current I_{SC}	96 mA		
Explosion group	A&B	C&E	D, F&G
Max. external capacitance C_a	0.13 µF	0.41 µF	1.09 µF
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 type	terminals 2, 1		
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 µF	0.42 µF	1.14 µF
Max. external inductance L_a	3.1 mH	16.7 mH	34 mH
Approved for zone 2	TÜV 99 ATEX 1499 X (observe conformity statement) ⟨Ex⟩ II 3 G EEx n A II T4		
Transfer characteristics			
Deviation			
After calibration	≤ ± 200 µA; incl. calibration, linearity, hysteresis and load fluctuations at the output up to a load of 1 kOhm at 20 °C (293 K)		
Temperature	< 2 µA/K (0 °C ... +50 °C); < 5 µA/K (-20°C ... +60 °C)		
Rise time	≤ 20 ms at 4 ... 20 mA and 250 Ohm load		
Galvanic isolation			
Input/Output	safe galvanic isolation acc. to EN 50020, voltage peak value 375 V		
Ambient conditions			
Ambient temperature	-20 ... 60 °C (253 ... 333 K)		
Standard conformity			

06.03.2002
071984_eng

Coordination of insulation	accord. to DIN EN 50178
Galvanic isolation	accord. to DIN EN 50178
Climatic conditions	accord. to DIN IEC 721
Electromagnetic compatibility	accord. to EN 50081-2 / EN 50082-2, NAMUR NE 21
Mechanical specifications	
Mass	approx. 100 g

06.03.2002

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071984_eng 06.03.2002