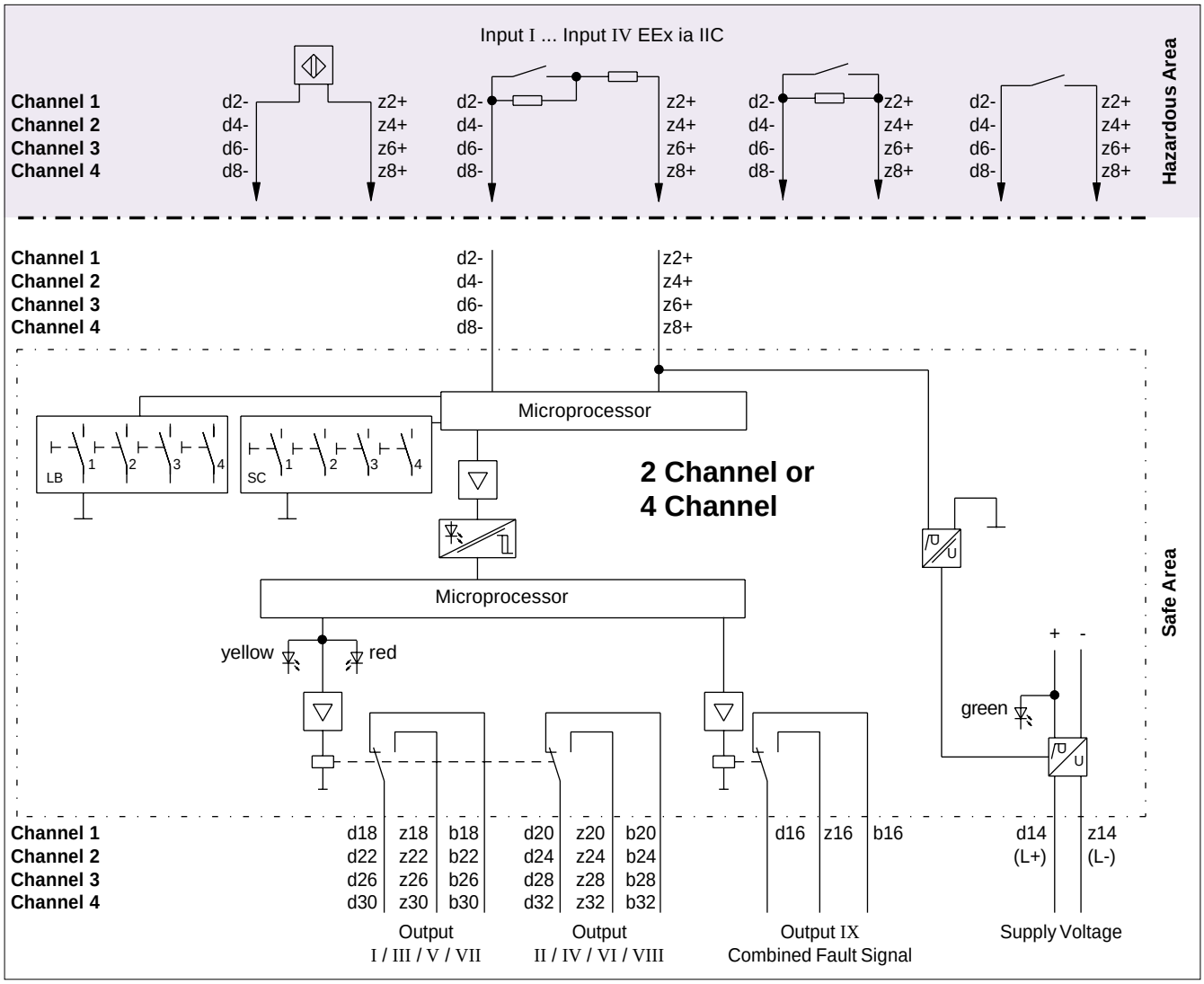
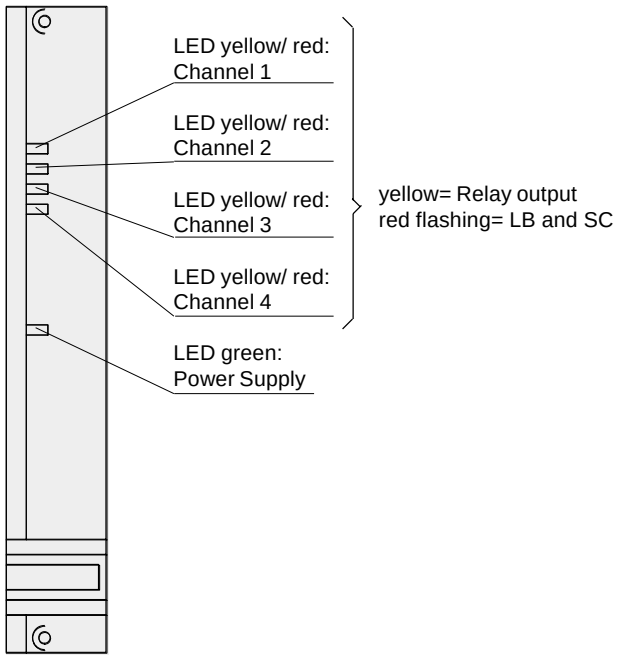


ED2-SR-Ex2.04
ED2-SR-Ex4.04

- **2-Channel Model: ED2-SR-Ex2.04**
- **4-Channel Model: ED2-SR-Ex4.04**
- **Control circuit EEx ia IIC.**
- **DC 24 V Power supply nominal voltage.**
- **LED´s per NAMUR NE 44.**
- **Version: load current**
- **Optional Short circuit (SC) and lead breakage (LB) monitoring**
- **1 Signal output with 2 changeover contacts per channel.**
- **1 Relay output: combined fault signal.**
- **EMV per NAMUR NE 21**

Front View

Type New Eurocard Housing
(dimensions see Calogue Eurocards page 11)



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Technical Data				
Power supply				Connections d14 (L+), z14 (L-)
Nominal voltage	DC 20 V ... 35 V			
Maximum voltage U_m	40 V			
Ripple	≤ 10 %			
Nominal current	≤ 100 mA			
Inputs (intrinsically safe)				
Input I :				Connections d2-; z2+
Input II :				Connections d4-; z4+
Input III :				Connections d6-; z6+
Input IV :				Connections d8-; z8+
Nominal values	IEC 60947-5-6			
Open circuit voltage / short circuit current	about DC 8 V / about 8 mA			
Switch point / switch hysteresis	1.2 mA ... 2.1 mA / about 0.2 mA			
Input pulse length / pulse interval	≥ 0.5 ms / ≥ 0.5 ms			
Lead monitoring	Breakage J ≤ 0.1 mA			Short circuit J > 6 mA
Certificates				
EC-type Examination Certificate	**PTB 99 ATEX 2163 X**; for additional certifications refer to the certificates			
Category, Type of protection	⟨Ex⟩ II (1) G [EEx ia] IIC			
	Declaration of conformity has to be considered			
Peak Values				
Voltage U_0	9.6 V			
Current I_0	16 mA			
Power P_0	38 mW			
Allowable circuit values				
Ignition protection method, category	EEx ia, ib IIA	EEx ia, ib IIB	EEx ia, ib IIC	
Max. external inductance L_0	900 mH	530 mH	140 mH	For further values see
Max. external capacitance C_0	210 µF	26 µF	3.6 µF	EC-Type Examination Certificate
Outputs (not intrinsically safe)				
Output I, II :				Connections d18, z18, b18; d20, z20, b20
Output III, IV :				Connections d22, z22, b22; d24, z24, b24
Output V, VI :				Connections d26, z26, b26, d28, z28, b28
Output VII, VIII :				Connections d30, z30, b30; d32, z32, b32
Output IX : combined faultsignal				Connections b16, z16, d16
Contact load	AC: 50 V / 0.5 A / cos φ > 0.7; DC: 30 V / 2 A Ohm load max. 60 W			
Mechanical life	> 10^6 switchings			
Energized-/De-energized delay	< 4 ms / < 4 ms			
Maximum voltage U_m	125 V			
Transfer characteristics				
Switch frequency	25 Hz			
Galvanic isolation				
Output I...VIII from each other	Functional isolation per DIN EN 50 178, design isolation voltage 50 V_{eff}			
Output I...VIII from power supply	Functional isolation per DIN EN 50 178, design isolation voltage 50 V_{eff}			
Output I...VIII and power supply from inputs	Safe galvanic isolation per EN 50 020, voltage peak value 375 V			
Conformity to standards				
Explosion protection	EN 50 014, EN 50 020			
Input	IEC 60947-5-6			
Isolation co-ordination	per DIN EN 50 178			
Galvanic isolation	per DIN EN 50 178			
Climatic conditions	per DIN IEC 721			
EMC/Electromagnetic compatability	per EN 50 081-2 / EN 50 082-2, NAMUR NE 21			
Ambient temperature	-25 °C ... +65 °C (248 K ... 338 K)			
Ex-application	-20 °C ... +65 °C (243 K ... 338 K)			
Connection method	48-pin plug connector per DIN 41 612, Series 2, Type F; z, b and d provided			
Coding	a1 / a9			
Weight	about 115 g			

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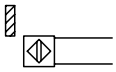
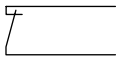
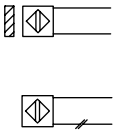
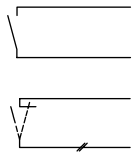
Note:

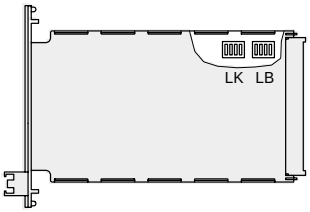
The mode of operation in load current i.e. in case of undamped sensor resp. closed contact the output relays are energized (Logic-1).

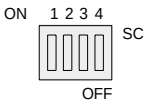
Table: Mode of Operation

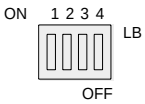
Input		Output (Transistor / Relays)	LED	Lead Breakage Monitoring (LB)
		Logic-1/ energized	on	without
		Logic-0/ de-energized	off	without

Attention:
All other combinations are technically useless and can lead to faults.

Side View







DIP-Switches SC, SC1 ... SC4	Short circuit monitoring with "ON" or "OFF" switch settings.
DIP-Switches LB, LB1 ... LB4	Lead breakage monitoring with "ON" or "OFF" switch settings.

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