

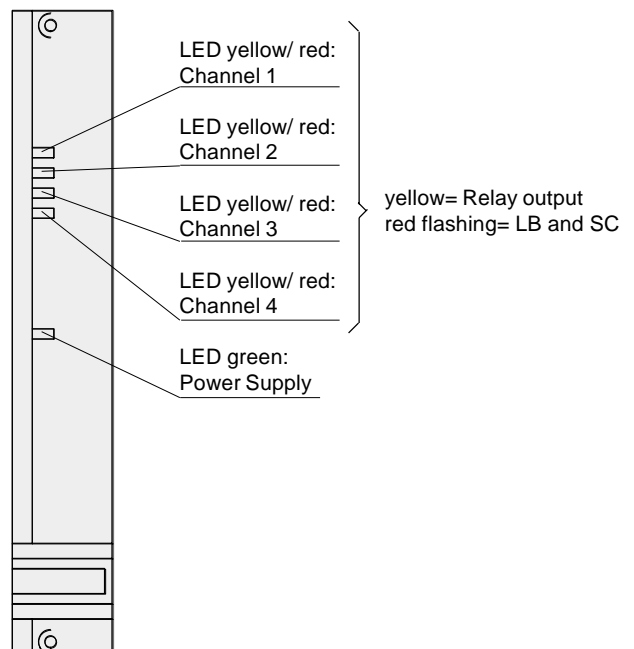
ED2-SR-Ex2.13

ED2-SR-Ex4.13

- 2-Channel Model: ED2-SR-Ex2.13
- 4-Channel Model: ED2-SR-Ex4.13
- Control circuit EEx ia IIC.
- DC 24 V Power supply nominal voltage.
- LED's per NAMUR NE 44.
- Version: closed circuit
- 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 Catalogue Eurocards page 11)



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<p>Technical Data Power supply Nominal voltage Maximum voltage U_m Ripple Nominal current</p>	<p>DC 20 V ... 35 V 40 V $\leq 10\%$ $\leq 100\text{ mA}$</p> <p>Connections d14 (L+), z14 (L-)</p>																
<p>Inputs (intrinsically safe) Input I : Input II : Input III : Input IV : Nominal values Open circuit voltage / short circuit current Switch point / switch hysteresis Input pulse length / pulse interval Lead monitoring</p>	<p>Connections d2-; z2+ Connections d4-; z4+ Connections d6-; z6+ Connections d8-; z8+</p> <p>IEC 60947-5-6 about DC 8 V / about 8 mA 1.2 mA ... 2.1 mA / about 0.2 mA $\geq 0.5\text{ ms}$ / $\geq 0.5\text{ ms}$ Breakage $J \leq 0.1\text{ mA}$ Short circuit $J > 6\text{ mA}$</p>																
<p>Certificates EC-type Examination Certificate Category, Type of protection</p>	<p>PTB 99 ATEX 2163 X; for additional certifications refer to the certificates II (1) G [EEx ia] IIC Declaration of conformity has to be considered</p>																
<p>Peak Values Voltage U_0 Current I_0 Power P_0 Allowable circuit values Ignition protection method, category Max. external inductance L_0 Max. external capacitance C_0</p>	<p>9.6 V 16 mA 38 mW</p> <table border="0"> <tr> <td>EEx ia, ib</td> <td>EEx ia, ib</td> <td>EEx ia, ib</td> <td></td> </tr> <tr> <td>IIA</td> <td>IIB</td> <td>IIC</td> <td></td> </tr> <tr> <td>900 mH</td> <td>530 mH</td> <td>140 mH</td> <td>For further values see</td> </tr> <tr> <td>210 μF</td> <td>26 μF</td> <td>3.6 μF</td> <td>EC-Type Examination Certificate</td> </tr> </table>	EEx ia, ib	EEx ia, ib	EEx ia, ib		IIA	IIB	IIC		900 mH	530 mH	140 mH	For further values see	210 μF	26 μF	3.6 μF	EC-Type Examination Certificate
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<p>Outputs (not intrinsically safe) Output I, II : Output III, IV : Output V, VI : Output VII, VIII : Output IX : combined faultsignal Contact load Mechanical life Energized-/De-energized delay Maximum voltage U_m</p>	<p>Connections d18, z18, b18; d20, z20, b20 Connections d22, z22, b22; d24, z24, b24 Connections d26, z26, b26, d28, z28, b28 Connections d30, z30, b30; d32, z32, b32 Connections b16, z16, d16</p> <p>AC: 50 V / 0.5 A / $\cos \varphi > 0.7$; DC: 30 V / 2 A Ohm load max. 60 W $> 10^6$ switchings $< 4\text{ ms}$ / $< 4\text{ ms}$ 125 V</p>																
<p>Transfer characteristics Switch frequency</p>	<p>25 Hz</p>																
<p>Galvanic isolation Output I...VIII from each other Output I...VIII from power supply Output I...VIII and power supply from inputs</p>	<p>Function isolation per DIN EN 50 178, design isolation voltage 50 V_{eff} Function isolation per DIN EN 50 178, design isolation voltage 50 V_{eff} Safe galvanic isolation per EN 50 020, voltage peak value 375 V</p>																
<p>Conformity to standards Explosion protection Input Isolation co-ordination Galvanic isolation Climatic conditions EMC / Electromagnetic compatibility</p>	<p>EN 50 014, EN 50 020 IEC 60947-5-6 per DIN EN 50 178 per DIN EN 50 178 per DIN IEC 721 per EN 50 081-2 / EN 50 082-2, NAMUR NE 21</p>																
<p>Ambient temperature Ex-application Connection method Coding Weight</p>	<p>-25 °C ... +65 °C (248 K ... 338 K) -20 °C ... +65 °C (243 K ... 338 K) 48-pin plug connector per DIN 41 612, Series 2, Type F; z, b and d provided a1 / a9 about 115 g</p>																

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Note:

The mode of operation in quiescent current i.e. in case of undamped sensor resp. closed contact the output relays are de-energized (Logic-0). On lead breakage the relay outputs switch to the safe state (Logic-0) independent from the condition of the sensors.

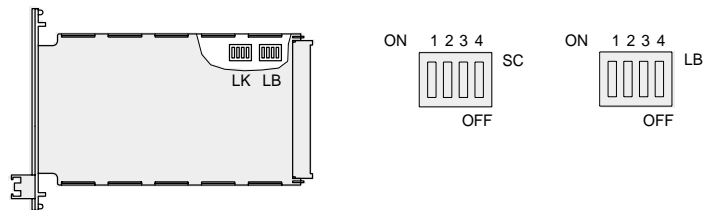
Table: Mode of Operation

Input		Output (Transistor / Relays)	LED	Lead Breakage Monitoring (LB)
		Logic-0/ de-energized	off	with
		Logic-1/ energized	on	with
		Logic-0/ de-energized	off	with

Attention:

When using a mechanical contact as a pulse generator for lead breakage monitoring, the contact should be switched with a resistor of 10 kOhm in parallel and 1 kOhm in series.

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.