



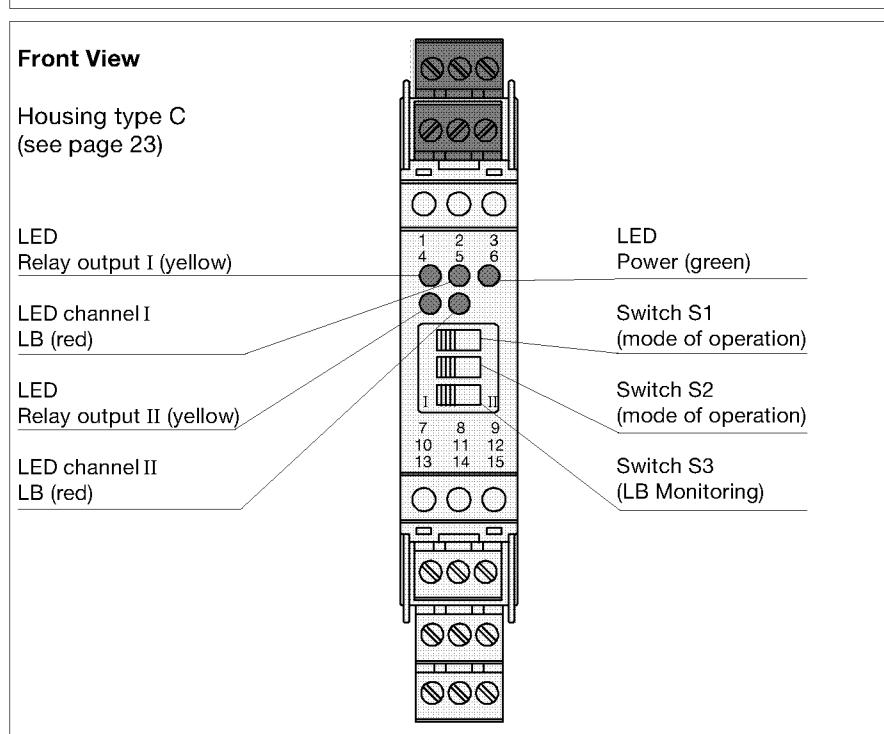
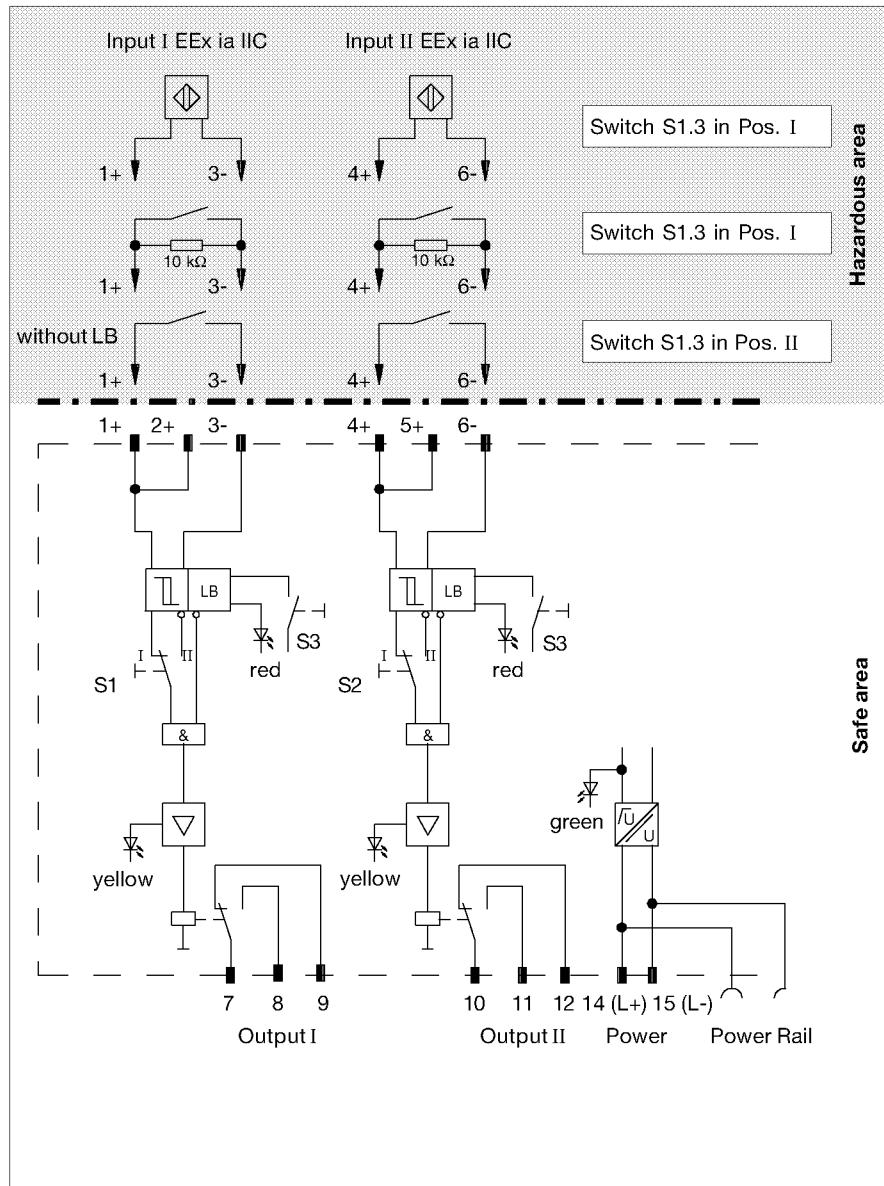
- Dual Channel
- Hazardous Field Circuit EEx ia IIC and Class I, Div 1, Groups A-G
- DC 24 V Nominal Power Supply
- Selectable Mode of Operation
- 1 Signal Output with 1 Form 'C' Relay per Channel
- Optional Lead Breakage (LB) Monitoring
- EMC in acc. with NAMUR NE 21

**This Model will replace
KFD2-SR-EX2**

This device is a dual-channel, transformer-isolated intrinsic safety barrier with a built-in amplifier which isolates and transfers discrete signals (NAMUR sensors/mechanical contacts) from a hazardous area to a safe area.

It may also be used to act as an amplifier/interface for discrete signals in non-explosive applications.

Barrier output changes state when the input signal changes state. The normal output state can be reversed through the mode of operation switch.





| | | | | | |
|---|---|--|--|--|--|
| Technical Data | | | | | |
| Power supply | Power Rail or Terminals 14 (L+), 15 (L-) | | | | |
| Nominal voltage | DC 20 V ... 30 V | | | | |
| Ripple | ≤ 10 % | | | | |
| Max. current consumption | 50 mA | | | | |
| Field circuit (Intrinsically safe) | | | | | |
| Nominal data | Terminals 1+, 3-; 4+, 6- | | | | |
| Open circuit voltage / Short circuit current | to DIN 19 234 resp. NAMUR | | | | |
| Switch point / Switching hysteresis | ≈ DC 8 V / ≈ 8 mA | | | | |
| Input pulse length / Input pulse pause | 1.2 mA ... 2.1 mA / ≈ 0.2 mA | | | | |
| Lead monitoring | ≥ 20 ms / ≥ 20 ms | | | | |
| | Breakage I ≤ 0.1 mA | | | | |
| Details of Certificate of Conformity | | | | | |
| Voltage U_0 | PTB No. Ex-94.C.2086 | Other international approvals see page 454 | | | |
| Current I_0 | 10.5 V | | | | |
| Power P_0 | 13 mA | | | | |
| | 34 mW | | | | |
| Permissible circuit values | | | | | |
| Ignition protection class, category | [EEx ia] | [EEx ib] | | | |
| Explosion group | IIB / IIC | IIB / IIC | | | |
| Max. external capacitance | 2.1 μF / 0.62 μF | 22.0 μF / 3.0 μF | | | |
| Max. external inductance | 7 mH / 3 mH | 740 mH / 200 mH | | | |
| Fail-safe maximum voltage U_m | | | | | |
| Power supply | DC 40 V | | | | |
| Entity Parameters | | | | | |
| Non incendive | FM "in preparation" | Terminals | | | |
| Voltage V_{oc} | Yes / No | | | | |
| Current I_{sc} | V | | | | |
| Voltage V_t | mA | | | | |
| Current I_t | V | | | | |
| Explosion group | mA | | | | |
| Max. external capacitance (C_a) | A&B C&E D, F&G | | | | |
| Max. external inductance (L_a) | μF μF μF | | | | |
| | mH mH mH | | | | |
| Safety Parameters | | | | | |
| Output (Not intrinsically safe) | | | | | |
| Output I: | Terminals 7, 8, 9 | | | | |
| Output II: | Terminals 10, 11, 12 | | | | |
| Contact load | AC: 253 V / 2 A / cos φ > 0.7; DC: 40 V / 2 A resistance load | | | | |
| Mechanical service life | 10 ⁸ operations | | | | |
| Response time: | ≈ 20 ms / ≈ 20 ms | | | | |
| Energising delay / De-energising delay | | | | | |
| Transfer characteristics | | | | | |
| Switching frequency | ≤ 10 Hz | | | | |
| Conformity to standard | | | | | |
| Input | to DIN 19234 (NAMUR) | | | | |
| Isolation co-ordination | to EN 50 178 | | | | |
| Galvanic isolation | to EN 50 178 | | | | |
| Climatical condition | to IEC 721 | | | | |
| EMC | to EN 50 081-2 / EN 50 082-2, NAMUR NE 21 | | | | |
| Weight | ≈ 150 g (≈ 5.3 oz) | | | | |
| Ambient temperature | -20 °C ... +60 °C (-4 °F ... +140 °F) | | | | |
| Max. wire size | 2.5 mm ² (14 AWG) | | | | |