



# Transformer Isolated Barrier KFD2-SR2-Ex2.W

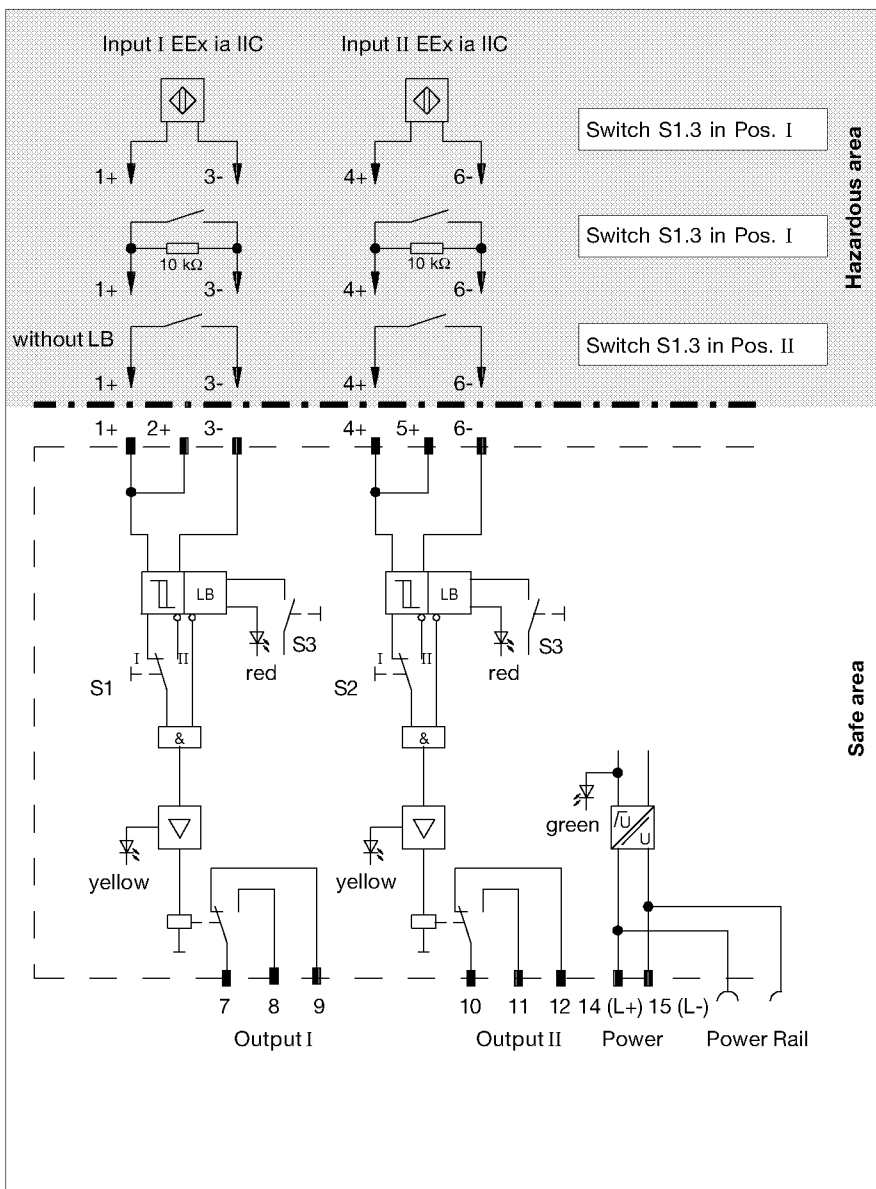


Output: Relay

- 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.



### Front View

Housing type C  
(see page 23)

LED  
Relay output I (yellow)

LED channel I  
LB (red)

LED  
Relay output II (yellow)

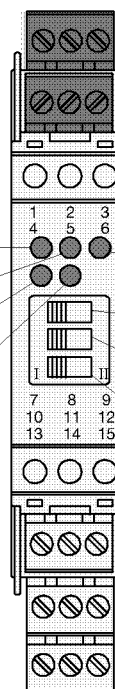
LED channel II  
LB (red)

LED  
Power (green)

Switch S1  
(mode of operation)

Switch S2  
(mode of operation)

Switch S3  
(LB Monitoring)




**Technical Data**
**Power supply**

Nominal voltage

Ripple

Max. current consumption

**Field circuit (Intrinsically safe)**

Nominal data

Open circuit voltage / Short circuit current

Switch point / Switching hysteresis

Input pulse length / Input pulse pause

Lead monitoring

**Details of Certificate of Conformity**

 Voltage  $U_0$ 

 Current  $I_0$ 

 Power  $P_0$ 
**Permissible circuit values**
**Ignition protection class, category**

Explosion group

Max. external capacitance

Max. external inductance

**Fail-safe maximum voltage  $U_m$** 

Power supply

**Entity Parameters**

Non incandive

 Voltage  $V_{oc}$ 

 Current  $I_{sc}$ 

 Voltage  $V_t$ 

 Current  $I_t$ 

Explosion group

 Max. external capacitance ( $C_e$ )

 Max. external inductance ( $L_e$ )

**Safety Parameters**
**Output (Not intrinsically safe)**
**Output I:**
**Output II:**

Contact load

Mechanical service life

Response time:

Energising delay / De-energising delay

**Transfer characteristics**

Switching frequency

**Conformity to standard**

Input

Isolation co-ordination

Galvanic isolation

Climatical condition

EMC

**Weight**
**Ambient temperature**
**Max. wire size**

Power Rail or Terminals 14 (L+), 15 (L-)

DC 20 V ... 30 V

 $\leq 10 \%$ 

50 mA

Terminals 1+, 3-; 4+, 6-

to DIN 19 234 resp. NAMUR

 $\approx DC 8 V / \approx 8 mA$ 
 $1.2 mA \dots 2.1 mA / \approx 0.2 mA$ 
 $\geq 20 ms / \geq 20 ms$ 

 Breakage  $I \leq 0.1 mA$ 
**PTB No. Ex-94.C.2086**

10.5 V

13 mA

34 mW

Other international approvals see page 454

**[EEx ia]**

IIB

/ IIC

 2.1  $\mu F$ 

 / 0.62  $\mu F$ 

7 mH

/ 3 mH

**[EEx ib]**

IIB

/ IIC

 22.0  $\mu F$ 

 / 3.0  $\mu F$ 

740 mH

/ 200 mH

DC 40 V

**FM "in preparation"**

Yes / No

V

mA

V

mA

A&amp;B

C&amp;E

D, F&amp;G

 $\mu F$ 
 $\mu F$ 
 $\mu F$ 

mH

mH

mH

Terminals

**CSA "in preparation"**

Terminals

Terminals 7, 8, 9

Terminals 10, 11, 12

 AC: 253 V / 2 A /  $\cos \varphi > 0.7$ ; DC: 40 V / 2 A resistance load

 $10^8$  operations

 $\approx 20 ms / \approx 20 ms$ 
 $\leq 10 Hz$ 

to DIN 19234 (NAMUR)

to EN 50 178

to EN 50 178

to IEC 721

to EN 50 081-2 / EN 50 082-2, NAMUR NE 21

 $\approx 150 g (\approx 5.3 oz)$ 
 $-20 ^\circ C \dots +60 ^\circ C (-4 ^\circ F \dots +140 ^\circ F)$ 
 $2.5 mm^2 (14 AWG)$