



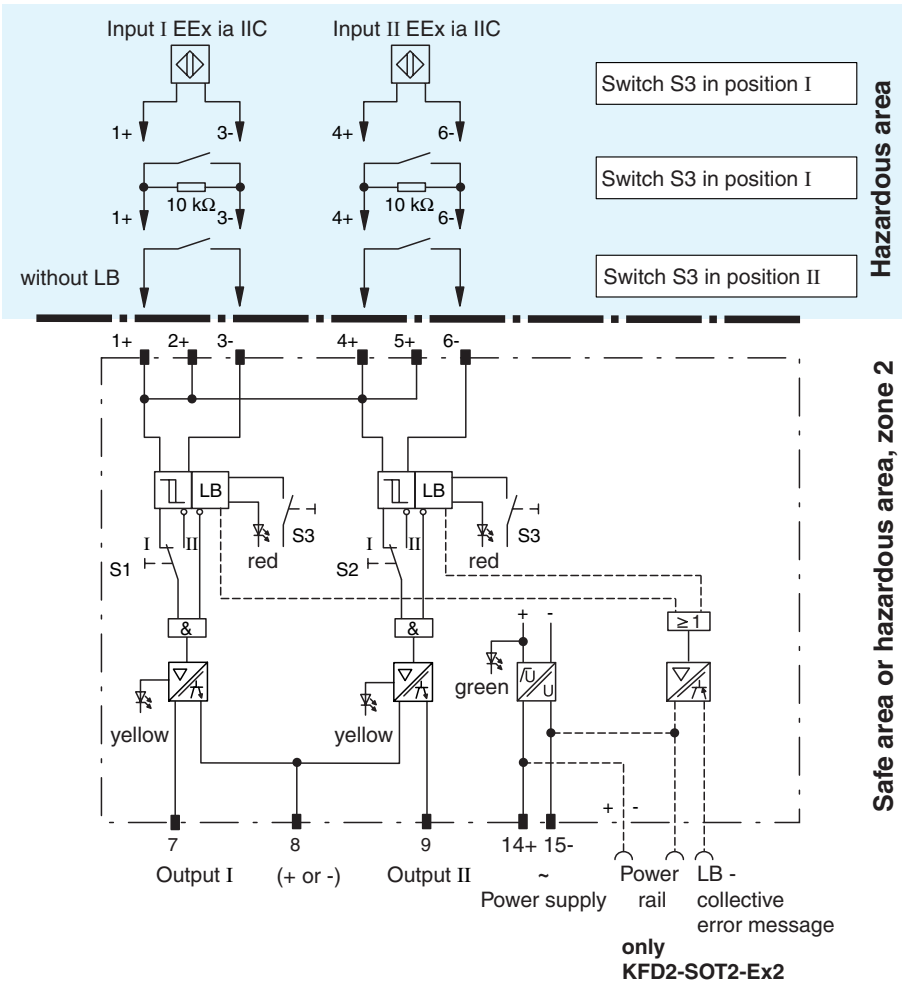
- 2-channel
- Control circuit EEx ia IIC
- 24 V DC nominal supply voltage; voltage "ON": LED green
- Reversible mode of operation
- Lead monitoring (interruption) with LED indicator (red flashing) and (only KFD2-SOT2-Ex2) signal on Power Rail
- 1 passive electronic output per channel (non-polarized)
- EMC acc. to NAMUR NE 21
- Usable up to SIL2 acc. to IEC 61508

115 V AC:

KFA5-SOT2-Ex2

Replaces model KHA5-OT1-Ex2

Connection



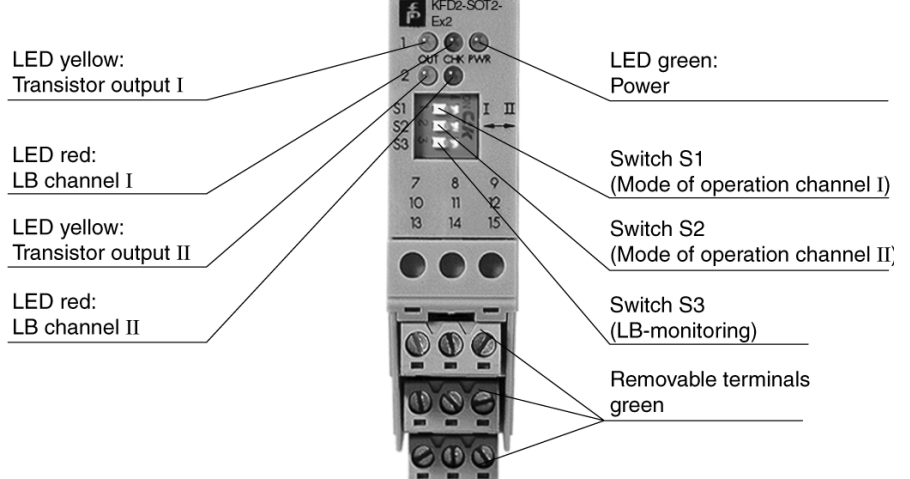
Hazardous area

Safe area or hazardous area, zone 2


Composition

Front View

Housing type C
(see system description)



Release date 2009-06-30 15:26 Date of issue 2009-06-30 04:39:34_ENG.xml

General specifications	
Signal type	Digital input
Supply	
Connection	terminals 14, 15
Rated voltage	103.5 ... 126.5 V AC
Power loss	1 W
Power consumption	≤ 1.5 W
Input	
Connection	terminals 1+, 3-; 4+, 6-
Rated values	acc. to EN 60947-5-6 (NAMUR), see system description for electrical data
Open circuit voltage/short-circuit current	approx. 8 V DC / approx. 8 mA
Switching point/switching hysteresis	1.2 ... 2.1 mA / approx. 0.2 mA
Lead monitoring	breakage I ≤ 0.1 mA
Output	
Connection	output I: terminals 7, 8 ; output II: terminals 8, 9
Collective error message	Power Rail (only on KFD2-SOT2-Ex2)
Safety maximum voltage U_m	40 V
Signal level	1-signal: (external voltage) - 2.5 V max. for 10 mA or 3 V max. for 100 mA (100 mA, short-circuit proof) 0-signal: switched off (off-state current ≤ 10 μA)
Output I, II	signal ; electronic output, passive
Transfer characteristics	
Switching frequency	≤ 5 kHz
Electrical isolation	
Input/output	safe electrical isolation acc. to EN 50020
Input/power supply	safe electrical isolation acc. to EN 50020
Output/power supply	according to DIN EN 50178, rated insulation voltage 50 V _{eff} AC
Directive conformity	
Electromagnetic compatibility	standards
Directive 89/336/EEC	on request
Standard conformity	
Insulation coordination	acc. to DIN EN 50178
Electrical isolation	acc. to DIN EN 50178
Electromagnetic compatibility	acc. to EN 50081-2 / EN 50082-2, NAMUR NE 21
Climatic conditions	acc. to DIN IEC 721
Input	acc. to EN 60947-5-6 (NAMUR), see system description for electrical data
Ambient conditions	
Ambient temperature	-20 ... 60 °C (253 ... 333 K)
Mechanical specifications	
Protection degree	IP20
Mass	approx. 150 g
Data for application in conjunction with hazardous areas	
EC-Type Examination Certificate	PTB 98 ATEX 2164 ; for additional certificates refer to the approval list
Group, category, type of protection	 II (1)G [Ex ia] IIC
Voltage U_o	10.5 V
Current I_o	13 mA
Power P_o	34 mW (linear characteristic)
Supply	
Safety maximum voltage U_m	253 V DC
Electrical isolation	
Input/output	safe electrical isolation acc. to EN 50020
Input/power supply	safe electrical isolation acc. to EN 50020
Directive conformity	
Directive 94/9/EC	standards on request

Function

The transformer isolated barrier transfers digital signals from the hazardous area. Sensors per DIN EN 60947-5-6 (NAMUR) or mechanical contacts may be used as alarms.

The control circuit is monitored for lead breakage (LB). AC units have a low heat build-up due to voltage peak value generation. This technical solution has been submitted for a patent.

The input is safely isolated from the output and the power supply in accordance with DIN EN 50020. The outputs and the power supply are galvanically isolated per DIN EN 50178 for a design isolation voltage of AC 253 V.

The mode of operation for Output I (S1) and Output II (S2) are reversible.

Notes**Lead breakage monitoring**

The output is cut-off when the current in the control circuit is $J < 0,1 \text{ mA}$ (per lead breakage monitoring).

(only with KFD2-SOT2-Ex2)

In the case of an error, a fault signal is switched on the Power Rail (UPR-03). The power feed module evaluates and passes on the fault signal by means of a potentially free contact.

Accessories

Power rail UPR-03
Power feed module 24 V DC KFD2-EB ...