



- 2-channel
- Control circuit EEx ia IIC
- Device installation permissible in zone 2
- Reversible mode of operation
- One passive electronic output per channel
- EMC acc. to NAMUR NE 21
- LB/SC monitoring
- LB/SC collective error message via Power Rail

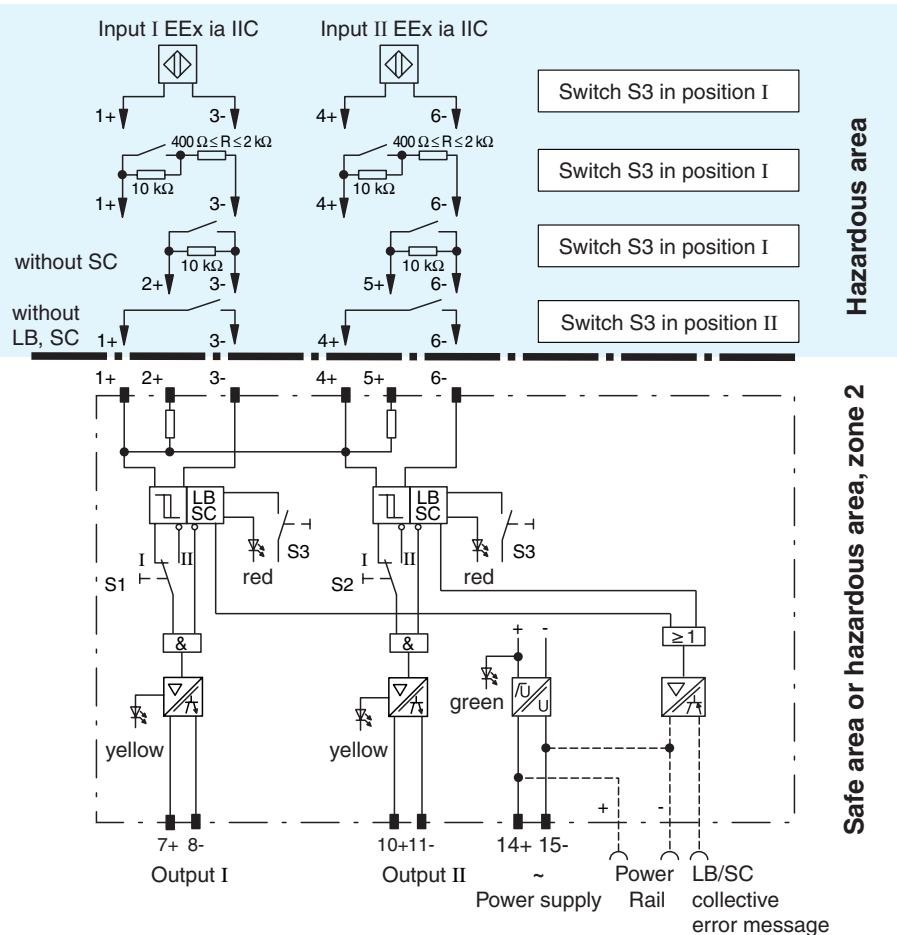
24 V DC

KFD2-SOT2-EX2.IO-Y131864

Function

The transformer isolated barrier transfers digital signals from the hazardous area. Sensors per DIN EN 60947-5-6 (NAMUR) and mechanical contacts may be used as alarms. Control circuits are monitored for lead breakage (LB) and short circuit (SC). The external faults are indicated according to NAMUR NE44 by a red flashing LED. An LB/SC collective error signal is in addition transmitted to the power feed module over the Power Rail. The intrinsically safe inputs are securely separated from the output and mains power in accordance with DIN EN 50020. The two transistor outputs are galvanically connected to each other and separated from the mains power in accordance with DIN EN 50178.

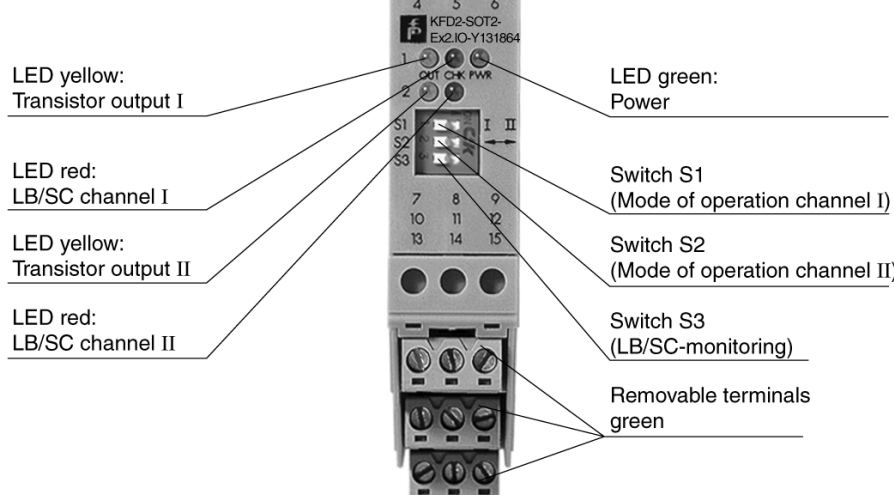
Connection



Composition

Front View

Housing type C (see system description)



Supply	
Connection	Power Rail or terminals 14+, 15-
Rated voltage	20 ... 30 V DC
Ripple	≤ 10 %
Rated current	≤ 50 mA
Input	
Connection	terminals 1+, 2+, 3-; 4+, 5+, 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 , short-circuit I > 6 mA
Output	
Connection	output I: terminals 7+, 8- ; output II: terminals 10+, 11-
Collective error message	Power Rail
Signal level	1-signal: max. 0.85 V for < 2 mA (short-circuit proof) 0-signal: switched off (off-state current ≤ 10 μA)
Output I and II	TTL compatible
Transfer characteristics	
Switching frequency	≤ 5 kHz
Electrical isolation	
Output/power supply	function insulation acc. to DIN EN 50178, rated insulation voltage 50 V _{eff}
Input/input	not available
Output/output	function insulation acc. to DIN EN 50178, rated insulation voltage 50 V _{eff}
Directive conformity	
Electromagnetic compatibility	standards
Directive 89/336/EC	EN 61326, EN 50081-2, NE 21
Standard conformity	
Climatic conditions	acc. to DIN IEC 721
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 00 ATEX 2035 , for additional certificates see www.pepperl-fuchs.com
Group, category, type of protection	⊕ II (1)GD [EEx ia] IIC [circuit(s) in zone 0/1/2]
Input	EEx 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	40 V DC (Attention! The rated voltage can be lower.)
Type of protection [EEx ia and EEx ib]	
Explosion group	IIA IIB IIC
External capacitance	75 μF 16.8 μF 2.4 μF
External inductance	1000 mH 740 mH 200 mH
Output	
Safety maximum voltage U _m	40 V DC (Attention! The rated voltage can be lower.)
Statement of conformity	
Group, category, type of protection, temperature classification	⊕ II 3G EEx nAC IIC T4 [device in zone 2]
Electrical isolation	
Input/output	safe electrical isolation acc. to EN 50020, voltage peak value 375 V
Input/power supply	safe electrical isolation acc. to EN 50020, voltage peak value 375 V
Directive conformity	
Directive 94/9 EC	EN 50014, EN 50020, EN 50021
Entity parameter	
Certification number	J.I.3002773
FM control drawing	No. 116-0035
Suitable for installation in division 2	yes
Connection	terminals 1, 3; 2, 3; 4, 6; 5, 6
Input I	
Voltage V _{OC}	12.9 V
Current I _t	19.8 mA

Release date 2006-05-31 10:01 Date of issue 2006-06-01 131864_ENG.xml

Explosion group	A&B	C&E	D, F&G
Max. external capacitance C_a	1.273 μF	3.82 μF	10.18 μF
Max. external inductance L_a	84.8 mH	254.4 mH	678.4 mH
Safety parameter			
CSA control drawing	LR 36087-19/LR 36087-22		
Control drawing	No. 116-0047		
Connection	terminals 1, 3; 2, 3; 4, 6; 5, 6		
Input I			
Voltage V_{OC}	10.5 V		
Current I_{SC}	13 mA		
Explosion group	A&B	C&E	D, F&G
Max. external capacitance C_a	2.66 μF	7.9 μF	21.3 μF
Max. external inductance L_a	192 mH	671 mH	1000 mH

Supplementary information

EC-Type Examination Certificate, Statement of Conformity, Declaration of Conformity and instructions have to be observed. For information see www.pepperl-fuchs.com.

Accessories

Power Rail PR-03

Power Rail UPR-03

Power feed module KFD2-EB2...

Using Power Rail PR-03 or UPR-03 the devices are supplied with 24 V DC by means of the power feed modules. If no Power Rails are used, power supply of the individual devices is possible directly via their device terminals.

Each power feed module is used for fusing and monitoring groups with up to 100 individual devices. The Power Rail PR-03 is an inset component for the DIN rail. The Power Rail UPR-03 is a complete unit consisting of the electrical inset and an aluminium profile rail 35 mm x 15 mm x 2000 mm. To make electrical contact, the devices are simply engaged.

The Power Rail must not be fed via the device terminals of the individual devices!