



- 1-channel
- Control circuit EEx ia IIC
- 24 V DC nominal supply voltage
- Reversible mode of operation
- Adjustable pulse extension
- Lead breakage (LB) monitoring and short-circuit (SC) monitoring
- 4 signal outputs, 1 NO contact each
- Error message output, NO contact

230 V AC

KHA6-SR-Ex1.4S.LK

Function

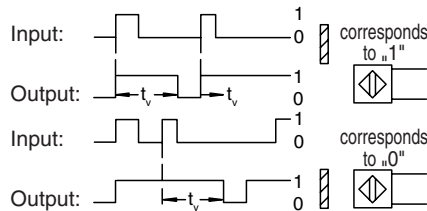
Transfer of digital signals from the hazardous area. Sensors per DIN EN 60947-5-6 (NAMUR) or mechanical contacts may serve as alarms. The output pulse length is adjustable via potentiometer. The input is safely isolated from the outputs and the power supply in accordance with DIN EN 50178.

Pulse Extension

The outputs I ... IV are controlled in parallel by means of an adjustable pulse duration. A pulse extension (50 ms ... 1 s), designed to retrigger, is set with a potentiometer. The maximum input frequency is 10 Hz for a pulse duration of 50 ms. Input pulses from 0.1 ms up are detected.

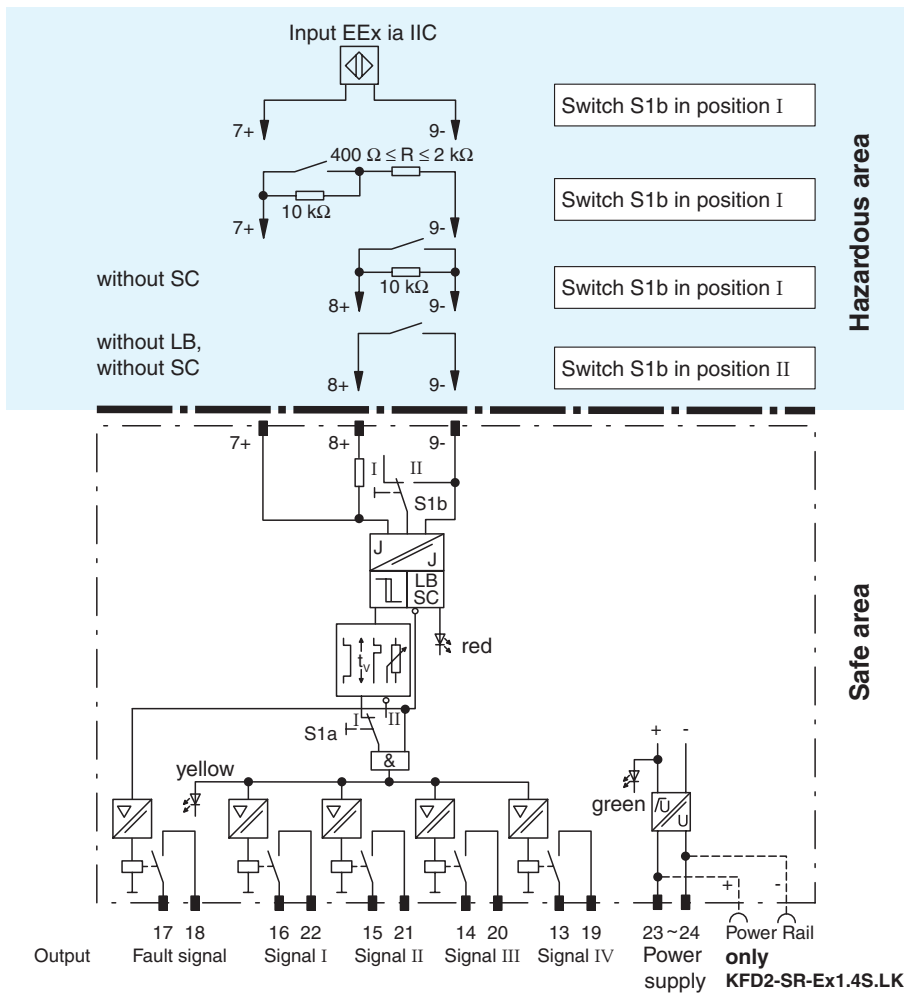
Lead fault

The signal outputs are cut-off if the input current is $J < 0.1 \text{ mA}$ or $J > 6 \text{ mA}$. In either case, a fault signal output occurs, energising the relay and the red fault LED.



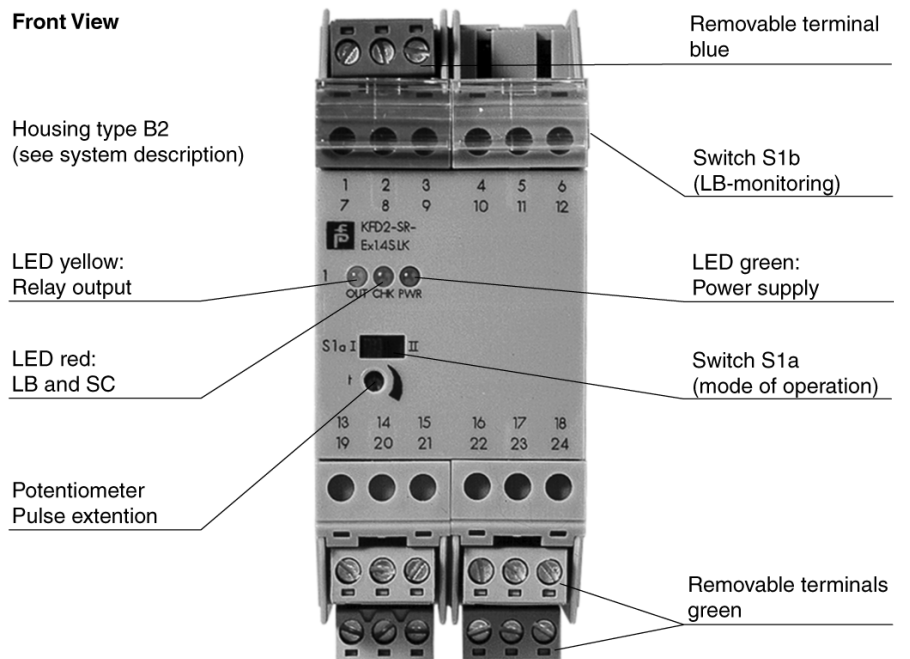
In the case of output diagrams "1" signifies relay energised. The output function can be reversed by changing the mode of operation.

Connection



Composition

Front View



05/26/04 030072_ENG.xml

Supply	
Connection	terminals 23, 24
Rated voltage	195,5 ... 253 V AC, 45 ... 65 Hz
Ripple	-
Rated current	-
Power loss	2,2 W
Input	
Connection	terminals 7+, 9-, 8+
Rated values	acc. to IEC 60947-5-6 (NAMUR, DIN 19234), 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
Pulse/Pause ratio	≥ 0,1 ms / ≥ 0,1 ms
Lead monitoring	breakage I ≤ 0,1 mA , short-circuit I > 6 mA
Output	
Connection	signal I ... signal IV: terminals 16, 22; 15, 21; 14, 20; 13, 19 fault signal: terminals 17, 18
Fault signal	relay
Output I up to IV	signal , relay
Contact loading	253 V AC / 1 A / cos φ > 0.7
Energised/De-energised delay	approx. 20 ms / approx. 20 ms
Mechanical life	5 x 10 ⁷ switching cycles
Transfer characteristics	
Switching frequency	≤ 10 Hz
Electrical isolation	
Output/Power supply	function insulation acc. to DIN EN 50178, rated insulation voltage 300 V _{eff}
Output/Output	function insulation acc. to DIN EN 50178, rated insulation voltage 300 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 Nr. Ex-89.C.2073 , for additional certificates see www.pepperl-fuchs.com
Group, category, type of protection	[EEx ia] IIC
Input	EEx ia IIC
Voltage U ₀	12,7 V
Current I ₀	20 mA
Power P ₀	63,5 mW
Type of protection [EEx ia]	
Explosion group	IIB IIC
External capacitance	1100 nF 415 nF
External inductance	5 mH 2 mH
Type of protection [EEx ib]	
Explosion group	IIB IIC
External capacitance	5000 μF 1200 μF
External inductance	330 mH 90 mH
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
Entity parameter	
Certification number	-
FM control drawing	-
Suitable for installation in division 2	-
Input I	
Explosion group	
Safety parameter	
UL control drawing	-
CSA control drawing	-
Control drawing	-

05/26/04 030072_ENG.xml

Input I

Explosion group

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.