- 2-channel
- Control circuit EEx ia IIC
- Reversible mode of operation
- 1 signal output with 1 NO contact per channel
- Device installation permissible in zone 2
- LB/SC monitoring
- Fault bus output
- Up to SIL2 acc. to IEC 61508

HiC2822

Function

The isolated switch amplifier repeats the status of a voltage-free contact or IS proximity sensor in a hazardous area to a relay output in a safe area.

The control circuit is monitored for lead breakage (LB) and short circuit (SC).

The external faults are indicated according to NAMUR NE44 by a red flashing LED. A fault bus signal is in addition produced on the termination board.

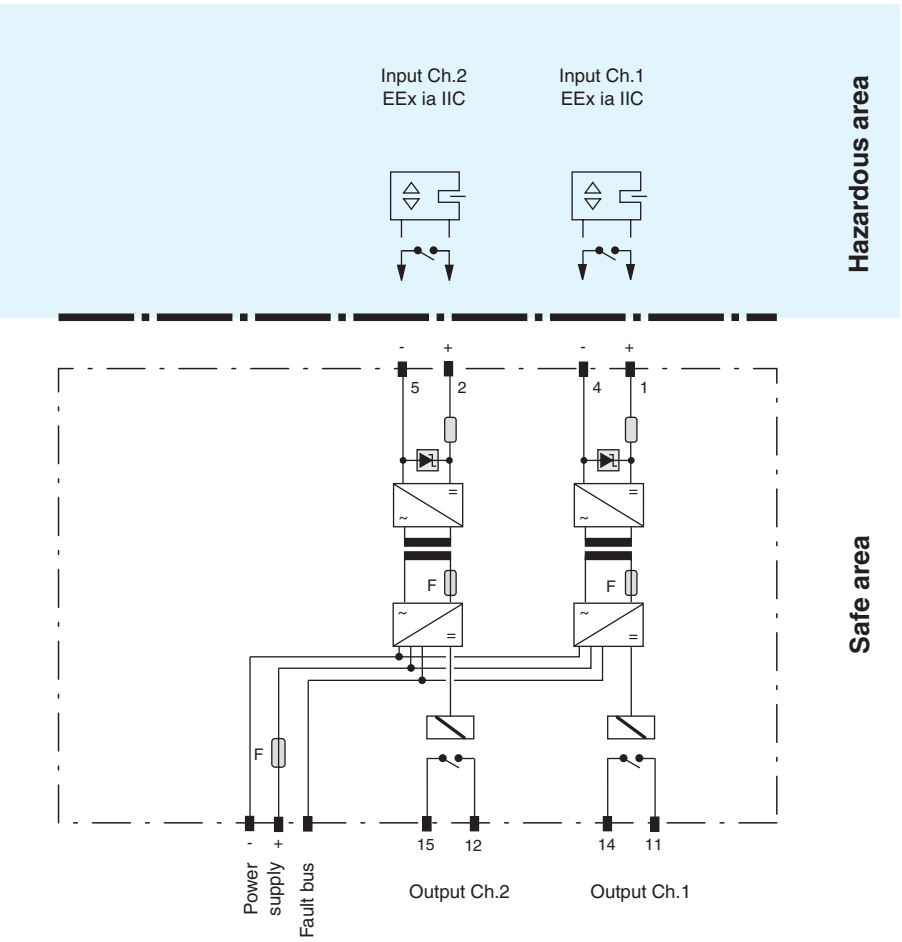
The intrinsically safe inputs are safely isolated from each other, from the outputs and the power supply in accordance with EN 50020. Relay outputs are safely isolated from each other and from the power supply in accordance with IEC 61140.

Application

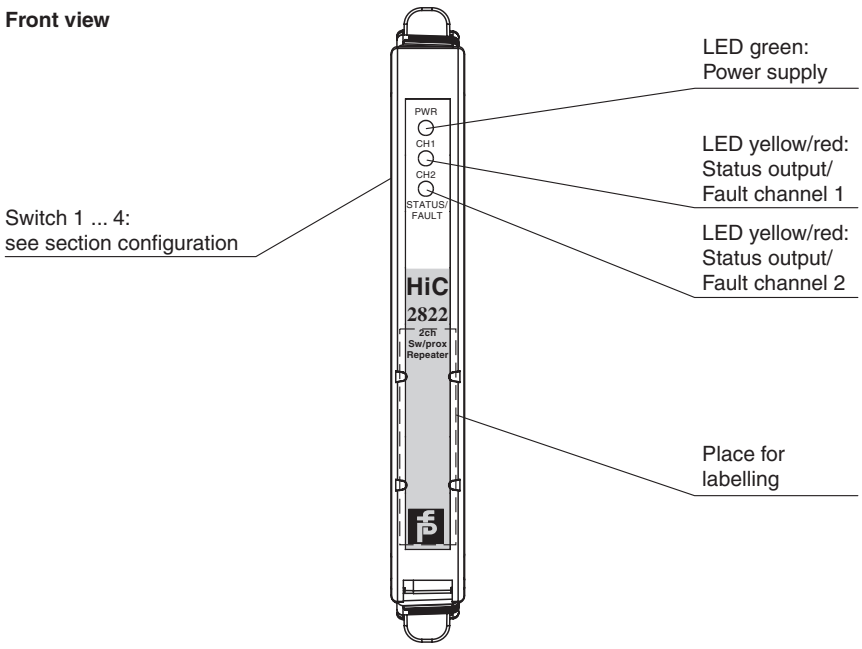
For detection of positions, final positions and switching states in hazardous areas.

Proximity sensors in acc. to EN 60947-5-6 (NAMUR) or mechanical contacts (switches, pushbuttons) are evaluated.

Connection



Composition



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Supply	
Connection	Termination Board
Rated voltage	19 ... 30 V DC
Ripple	≤ 10 %
Rated current	≤ 30 mA
Power loss	≤ 600 mW
Power consumption	≤ 600 mW
Input	
Connection	Termination Board terminals 1+, 4-; 2+, 5-
Rated values	acc. to EN 60947-5-6 (NAMUR), see system description for electrical data
Open-circuit voltage/short-circuit current	approx. 10 V DC / approx. 8 mA
Switching point/Switching hysteresis	1.2 ... 2.1 mA / approx. 0.2 mA
Line fault detection	breakage I ≤ 0.1 mA , short-circuit I ≥ 6.5 mA
Pulse/Pause ratio	≥ 20 ms / ≥ 20 ms
Output	
Connection	Termination Board terminals 11, 14; 12, 15
Output I	signal ; relay
Output II	signal ; relay
Contact loading	50 V DC / 0.5 A
Minimum switch current	2 mA / 24 V DC
Energized/de-energized delay	≤ 20 ms / ≤ 20 ms
Mechanical life	10^7 switching cycles
Transfer characteristics	
Switching frequency	≤ 10 Hz
Electrical isolation	
Output/power supply	basic insulation acc. to EN 50178, rated insulation voltage of 50 V AC
Output/output	basic insulation acc. to EN 50178, rated insulation voltage of 50 V AC
Indicators/settings	
Labelling	place for labelling on the front side
Directive conformity	
Electromagnetic compatibility	
Directive 89/336/EC	EN 61326
Conformity	
Protection degree	IEC 60529
Protection against electric shock	IEC 61140
Ambient conditions	
Ambient temperature	-20 ... 60 °C (253 ... 333 K)
Mechanical specifications	
Protection degree	IP20
Mass	approx. 100 g
Dimensions	12.5 x 128 x 106 mm (0.5 x 5.1 x 4.2 in)
Data for application in conjunction with hazardous areas	
EC-Type Examination Certificate	BASEEFA 06 ATEX 0093 X , for additional certificates see www.pepperl-fuchs.com
Group, category, type of protection	⟨Ex⟩ II (1)GD [Ex ia] IIC; [Ex ia D] [circuit(s) in zone 0/1/2/20/21/22] I (M1) [Ex ia] I
Input	Ex ia/Ex ia D
Voltage U_o	10.5 V
Current I_o	17.1 mA
Power P_o	45 mW (linear characteristic)
Supply	
Safety maximum voltage U_m	253 V AC (Attention! U_m is no rated voltage.)
Permissible connection values [Ex ia]	
Explosion group	I IIA IIB IIC
External capacitance	73.1 µF 75 µF 16.8 µF 2.41 µF
External inductance	1 H 972.7 mH 486.3 mH 121.5 mH
L/R ratio	1.628 µH/Ω 1.628 µH/Ω 1.628 µH/Ω 801 µH/Ω
Output	
Contact loading	50 V DC / 0.5 A
Safety maximum voltage U_m	253 V AC (Attention! The rated voltage can be lower.)
Statement of conformity	Pepperl+Fuchs
Group, category, type of protection, temperature classification	⟨Ex⟩ II 3G Ex nA nC IIC T4 X
Electrical isolation	
Input/output	safe electrical isolation acc. to EN 50020, voltage peak value 375 V

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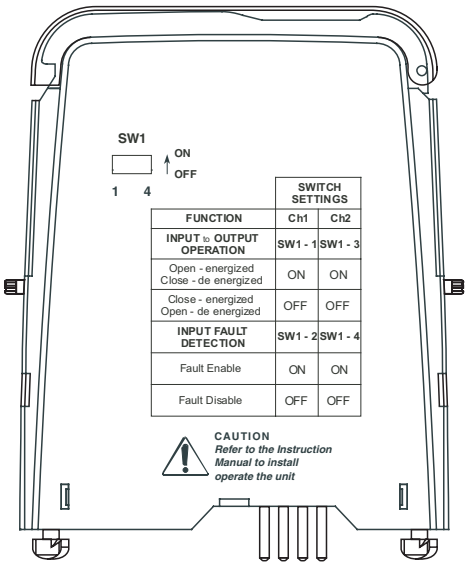
Input/power supply	safe electrical isolation acc. to EN 50020, voltage peak value 375 V
Directive conformity	
Directive 94/9 EC	EN 60079-0, EN 50020, IEC 61241-11, IEC 61241-0, EN 60079-26, EN 60079-15
General information	
Supplementary information	EC-Type Examination Certificate, Statement of Conformity, Declaration of Conformity and instructions have to be observed. For information see www.pepperl-fuchs.com.

Configuration



The configuration is performed in the following way:

- Remove the module from termination board, pulling-up the tab on each side of the module.
- Set the DIP switches according to the figure.

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