

Features

- 1-channel isolated barrier
- 24 V DC supply (bus powered)
- Input for approved dry contacts or SN/S1N sensors
- Active voltage output
- Passive transistor output (resistive acc. to EN 60947-5-6)
- Line fault transparency (LFT)
- Up to SIL3 acc. to IEC 61508

Function

This isolated barrier is used for intrinsic safety applications. The device transfers digital signals (SN/S1N proximity sensors or approved dry contacts) from a hazardous area to a safe area.

The input controls one 24 V DC active voltage output and one passive transistor output with a resistive output characteristic (acc. to EN 60947-5-6).

The passive transistor output has three defined states: 1- Signal = 1.8 kΩ, 0-Signal = 14 kΩ and fault > 100 kΩ.

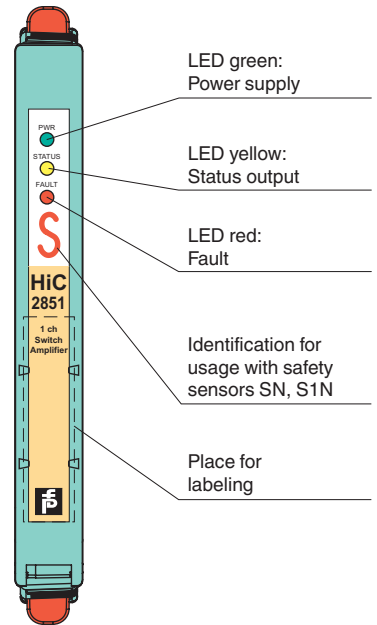
Lead breakage (LB) and short circuit (SC) conditions of the control circuit are continuously monitored.

Unlike a SN/S1N series safety sensor, an approved dry contact requires a 10 kΩ resistor to be placed across the contact in addition to a 1.5 kΩ resistor in series.

This device mounts on a HiC Termination Board.

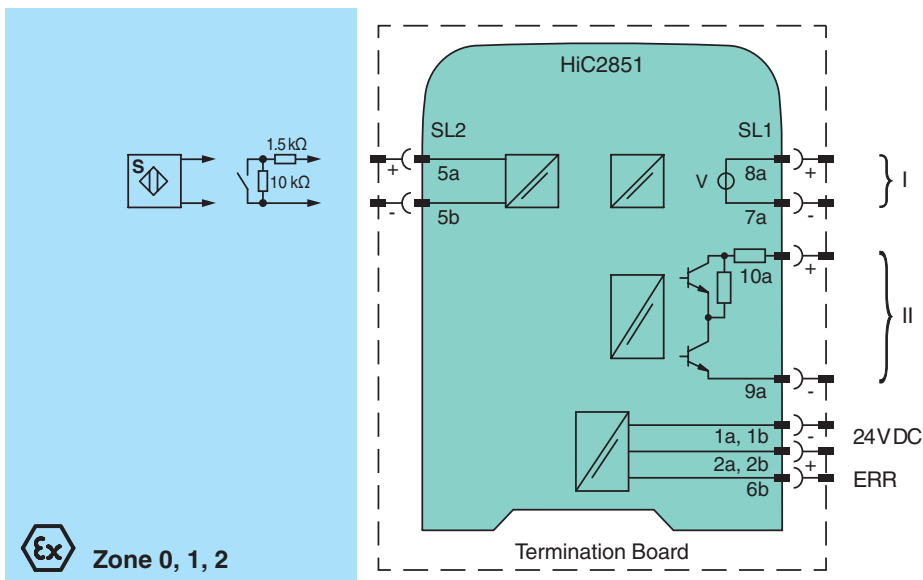
Assembly

Front view



SIL3

Connection



Release date 2013-07-23 12:01 Date of issue 2013-07-23 198449_eng.xml

Refer to "General Notes Relating to Pepperl+Fuchs Product Information".

Pepperl+Fuchs Group
www.pepperl-fuchs.com

USA: +1 330 486 0002
pa-info@us.pepperl-fuchs.com

Germany: +49 621 776 2222
pa-info@de.pepperl-fuchs.com

Singapore: +65 6779 9091
pa-info@sg.pepperl-fuchs.com

General specifications	
Signal type	Digital Input
Supply	
Connection	SL1: 1a(-), 1b(-); 2a(+), 2b(+)
Rated voltage	19 ... 30 V DC
Ripple	≤ 10 %
Rated current	≤ 55 mA
Power loss	≤ 800 mW
Power consumption	≤ 1300 mW
Input	
Connection	SL2: 5a(+), 5b(-)
Open circuit voltage/short-circuit current	approx. 8.4 V DC / approx. 11.7 mA
Lead resistance	≤ 50 Ω , consider capacitances and inductances
Switching point	1-signal: I > 2.8 mA 0-signal: I < 2.1 mA
Response delay	≤ 1 ms
Output	
Connection	SL1: 8a(+), 7a(-); 10a(+), 9a(-)
Rated voltage	output II: typ. 8 V DC, max. 22 V DC
Output I	active voltage output, short-circuit proof 0-signal: 0 V 1-signal: 20 ... 31 V DC at max. 15 mA fault: 0 V
Output II	passive transistor output (resistive) 0-signal: 14 kΩ ± 10 % 1-signal: 1.8 kΩ ± 10 % fault: > 100 kΩ
Error message output	
Connection	SL1: 6b
Output type	open collector transistor (internal fault bus)
Transfer characteristics	
Switching frequency	
Output I	≤ 50 Hz
Output II	≤ 50 Hz
Electrical isolation	
Output/power supply	functional insulation acc. to IEC 62103, rated insulation voltage 50 V _{eff}
Output/Output	functional insulation acc. to IEC 62103, rated insulation voltage 50 V _{eff}
Directive conformity	
Electromagnetic compatibility	
Directive 2004/108/EC	EN 61326-1:2006
Conformity	
Electromagnetic compatibility	NE 21:2006 For further information see system description.
Protection degree	IEC 60529:2001
Ambient conditions	
Ambient temperature	-20 ... 60 °C (-4 ... 140 °F)
Mechanical specifications	
Protection degree	IP20
Mass	approx. 180 g
Dimensions	12.5 x 128 x 106 mm (0.5 x 5.1 x 4.2 in)
Mounting	on Termination Board
Coding	pin 1 and 2 trimmed For further information see system description.
Data for application in connection with Ex-areas	
EC-Type Examination Certificate	BASEEFA 07 ATEX 0302X , for additional certificates see www.pepperl-fuchs.com
Group, category, type of protection	⊕ II (1)G [Ex ia] IIC , ⊕ II (1) D [Ex ia] IIIC , ⊕ I (M1) [Ex ia] I
Input	Ex ia
Voltage	U _o 10.5 V
Current	I _o 17.1 mA
Power	P _o 45 mW (linear characteristic)
Supply	
Maximum safe voltage	U _m 253 V AC (Attention! U _m is no rated voltage.)
Output	
Maximum safe voltage	U _m 253 V AC (Attention! U _m is no rated voltage.)
Statement of conformity	Pepperl+Fuchs

Release date 2013-07-23 12:01 Date of issue 2013-07-23 198449_eng.xml

Refer to "General Notes Relating to Pepperl+Fuchs Product Information".

Pepperl+Fuchs Group
www.pepperl-fuchs.com

USA: +1 330 486 0002
pa-info@us.pepperl-fuchs.com

Germany: +49 621 776 2222
pa-info@de.pepperl-fuchs.com

Singapore: +65 6779 9091
pa-info@sg.pepperl-fuchs.com

Group, category, type of protection, temperature class	⊕ II 3G Ex nA IIC T4 Gc
Electrical isolation	
Input/Output	safe electrical isolation acc. to IEC/EN 60079-11, voltage peak value 375 V
Input/power supply	safe electrical isolation acc. to IEC/EN 60079-11, voltage peak value 375 V
Directive conformity	
Directive 94/9/EC	EN 60079-0:2012 ; EN 60079-11:2012 ; EN 60079-15:2010
International approvals	
FM approval	
Control drawing	16-534FM-12 (cFMus)
UL approval	
Control drawing	116-0364
IECEX approval	IECEX BAS 07.0097X
Approved for	[Ex ia Ga] IIC, [Ex ia] I , [Ex ia] IIIC
General information	
Supplementary information	EC-Type Examination Certificate, Statement of Conformity, Declaration of Conformity, Attestation of Conformity and instructions have to be observed where applicable. For information see www.pepperl-fuchs.com.

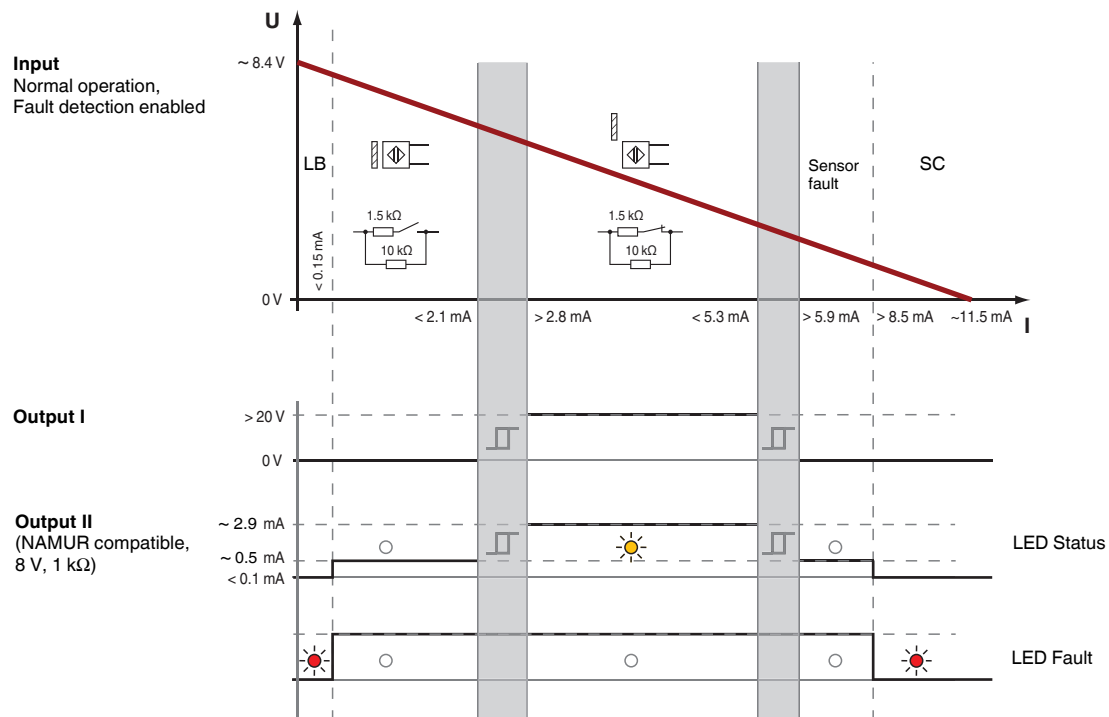
Configuration

No user configuration available for this device.



The pins for this device are trimmed to polarize it according to its safety parameter. Do not change!
For further information see system description.

Trip points



Release date 2013-07-23 12:01 Date of issue 2013-07-23 198449_eng.xml

Refer to "General Notes Relating to Pepperl+Fuchs Product Information".

Pepperl+Fuchs Group
www.pepperl-fuchs.com

USA: +1 330 486 0002
pa-info@us.pepperl-fuchs.com

Germany: +49 621 776 2222
pa-info@de.pepperl-fuchs.com

Singapore: +65 6779 9091
pa-info@sg.pepperl-fuchs.com