## Features

- 1-channel isolated barrier
- 24 V DC supply (bus powered)
- Input for approved dry contacts or SN/S1N sensors
- Application-specific outputs
- Active voltage output
- Passive transistor output (resistive)
- Line fault transparency (LFT)
- Up to SIL 3 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.

The passive transistor output has three defined states: 1-Signal = 5 kΩ, 0-Signal = 15 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.

## Application

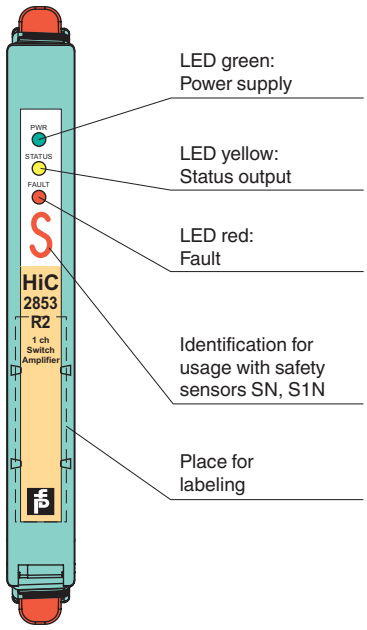
This device is compatible to the control:

- Honeywell Safety Manager RIO I.S.

Compatibility check to other ESD/DCS systems on request.

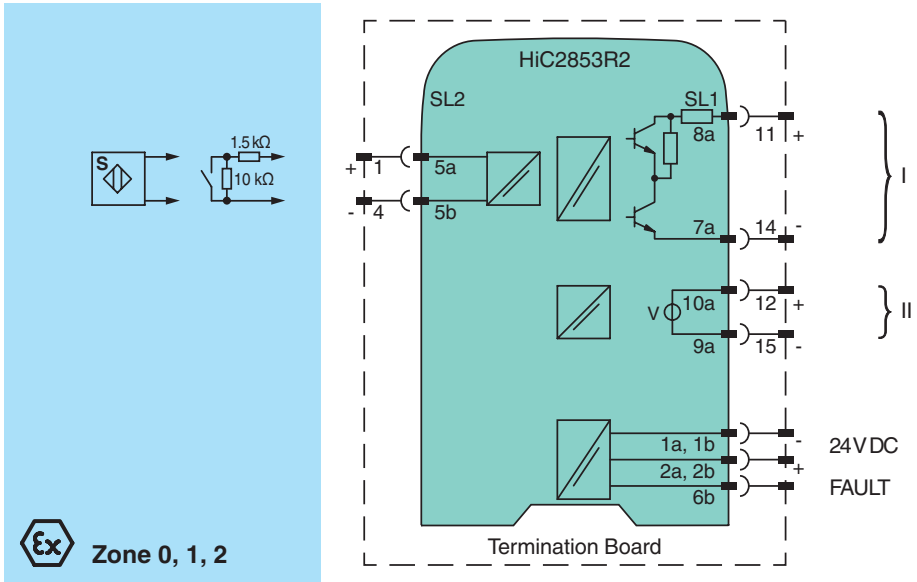
## Assembly

**Front view**




SIL 3

## Connection

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| | | |
|---|---|---|
| **General specifications** | | |
| Signal type | | Digital Input |
| **Functional safety related parameters** | | |
| Safety Integrity Level (SIL) | | SIL 3 |
| **Supply** | | |
| Connection | | SL1: 1a(-), 1b(-); 2a(+), 2b(+) |
| Rated voltage | $U_r$ | 19 ... 30 V DC bus powered via Termination Board |
| Ripple | | ≤ 10 % |
| Rated current | $I_r$ | ≤ 55 mA |
| Power dissipation | | ≤ 800 mW |
| Power consumption | | ≤ 1300 mW |
| **Input** | | |
| Connection side | | field side |
| 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<br>0-signal: I < 2.1 mA |
| Response delay | | ≤ 1 ms |
| **Output** | | |
| Connection side | | control side |
| Connection | | SL1: 8a(+), 7a(-); 10a(+), 9a(-) |
| Rated voltage | $U_n$ | output I: 19 ... 30 V DC |
| Output I | | passive transistor output (resistive)<br>0-signal: 15 kΩ ± 5 %<br>1-signal: 5 kΩ ± 5 %<br>fault: > 100 kΩ |
| Output II | | active voltage output, short-circuit proof<br>0-signal: 0 V<br>1-signal: 20 ... 31 V DC at max. 15 mA<br>fault: 0 V |
| **Fault indication output** | | |
| Connection | | SL1: 6b |
| Output type | | open collector transistor (internal fault bus) |
| **Transfer characteristics** | | |
| Switching frequency | | |
| Output I | | ≤ 50 Hz |
| Output II | | ≤ 50 Hz |
| **Galvanic 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 $V_{eff}$ |
| **Indicators/settings** | | |
| Display elements | | LEDs |
| Labeling | | space for labeling at the front |
| **Directive conformity** | | |
| Electromagnetic compatibility | | |
| Directive 2014/30/EU | | EN 61326-1:2013 (industrial locations) |
| **Conformity** | | |
| Electromagnetic compatibility | | NE 21:2006<br>For further information see system description. |
| Degree of protection | | IEC 60529:2001 |
| **Ambient conditions** | | |
| Ambient temperature | | -20 ... 60 °C (-4 ... 140 °F) |
| **Mechanical specifications** | | |
| Degree of protection | | IP20 |
| Mass | | approx. 180 g |
| Dimensions | | 12.5 x 128 x 106 mm (0.5 x 5.1 x 4.2 inch) |
| Mounting | | on Termination Board |
| Coding | | pin 1 and 2 trimmed<br>For further information see system description. |
| **Data for application in connection with hazardous areas** | | |
| EU-Type Examination Certificate | | BASEEFA 07 ATEX 0302X |
| Marking | | ⟨Ex⟩ II (1)G [Ex ia] IIC , ⟨Ex⟩ II (1) D [Ex ia] IIIC , ⟨Ex⟩ I (M1) [Ex ia] I |
| Input | | Ex ia |
| Voltage | $U_o$ | 10.5 V |

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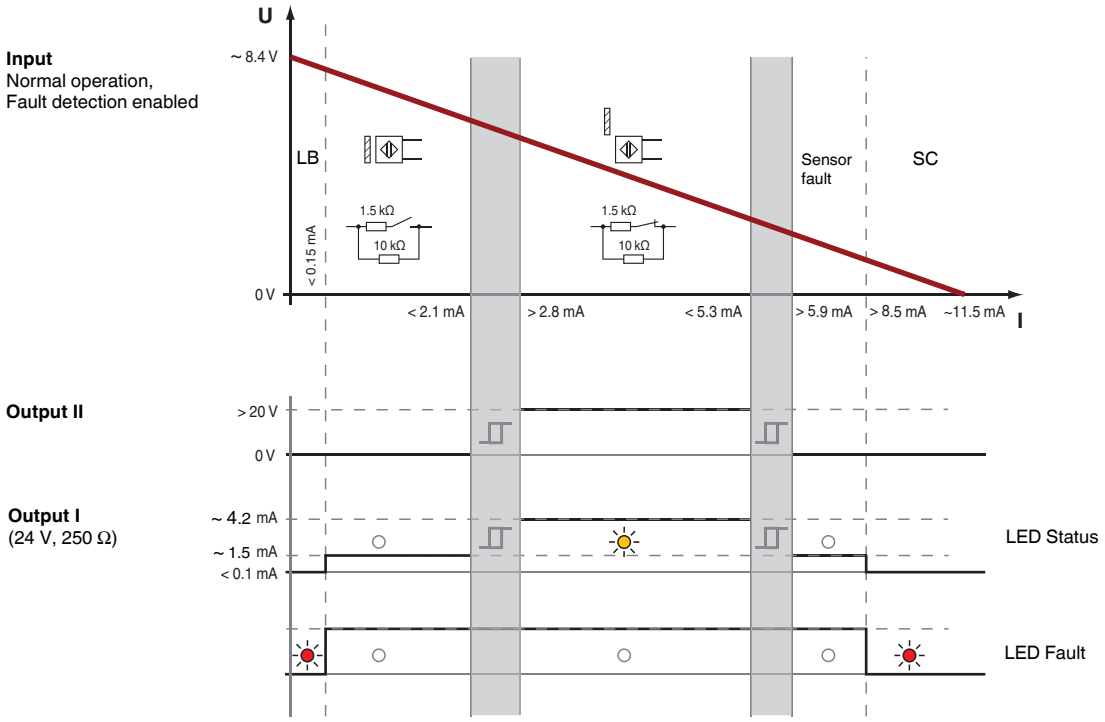
| | | |
|---|---|---|
| Current | $I_o$ | 17.1 mA |
| Power | $P_o$ | 45 mW (linear characteristic) |
| Supply | | |
| Maximum safe voltage | $U_m$ | 253 V AC (Attention! $U_m$ is no rated voltage.) |
| Output | | |
| Maximum safe voltage | $U_m$ | 253 V AC (Attention! $U_m$ is no rated voltage.) |
| Certificate | | PF 09 CERT 1440 X |
| Marking | | Ex II 3G Ex nA IIC T4 Gc |
| Galvanic 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 2014/34/EU | | EN 60079-0:2012+A11:2013 , EN 60079-11:2012 , EN 60079-15:2010 |
| **International approvals** | | |
| 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 | | Observe the certificates, declarations of conformity, instruction manuals, and manuals 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

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