

**Features**

- 1-channel signal conditioner
- 24 V DC supply (loop powered)
- Logic input 19 V DC ... 27.6 V DC
- Relay contact output for de-energized to safe function
- Test pulse immunity
- Up to SIL 3 acc. to IEC 61508
- Up to PL e acc. to EN/ISO 13849

**Function**

This signal conditioner provides the galvanic isolation between field circuits and control circuits.

The device is a relay module that is suitable for safely switching applications of a load circuit. The device isolates load circuits up to 30 V and the 24 V control circuit.

The de-energized to safe (DTS) function is permitted for SIL 3 and PL e applications.

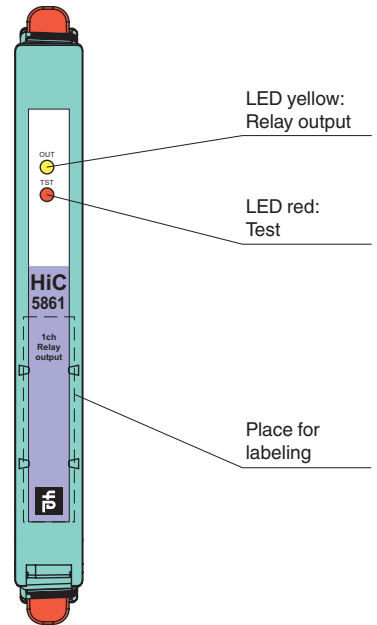
The relays are of diverse design, but have a common effect on the individual switching output.

For testing of the relays, test terminals can be used. The test mode will be indicated by a LED according to NAMUR NE44.

The output is protected against contact welding by a fuse.

**Assembly**

Front view

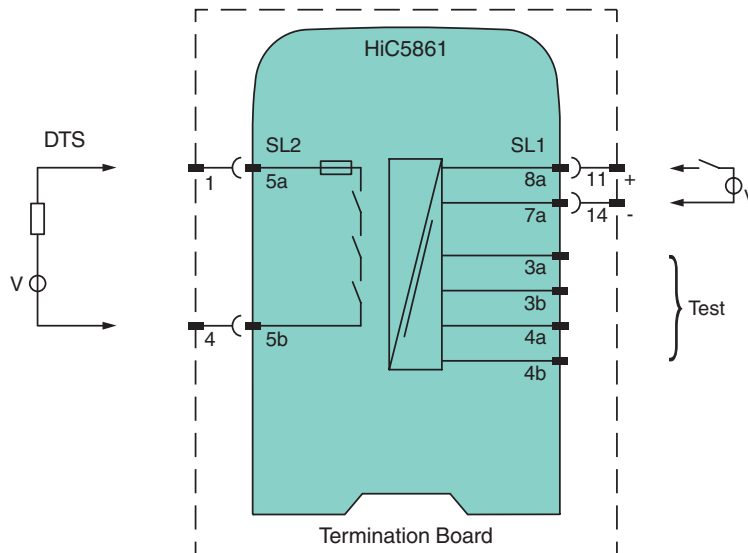


CE

SIL 3

PL e

**Connection**



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

<b>General specifications</b>		
Signal type		Digital Output
<b>Functional safety related parameters</b>		
Safety Integrity Level (SIL)		SIL 3
Performance level (PL)		PL e
<b>Supply</b>		
Connection		loop powered
Rated voltage	$U_r$	19 ... 30 V DC loop powered
Power dissipation		< 1.3 W
Power consumption		< 1.3 W
<b>Input</b>		
Connection side		control side
Connection		Input SL1: 8a(+), 7a(-) ; test input SL1: 3a(-), 3b(+), 4a(+), 4b(+)
Pulse/Pause ratio		150 ms / 150 ms
Test pulse length		≤ 4 ms from DO card
Test input		see Functional Safety Manual
Signal level		0-signal: -5 ... 5 V 1-signal: 19 ... 27.6 V
Rated voltage	$U_r$	19 ... 27.6 V loop powered
Rated current	$I_r$	0-signal: typ. 1.6 mA at 1.5 V DC; typ. 8 mA at 3 V DC (maximum leakage current DO card) 1-signal: ≥ 36 mA (minimum load current DO card)
<b>Output</b>		
Connection side		field side
Connection		SL2: 5a, 5b
Contact loading		30 V DC/1 A resistive load
Minimum switch current		10 mA / 24 V DC
Energized/De-energized delay		150 ms / 150 ms
Mechanical life		2 x 10 <sup>7</sup> switching cycles
Fuse rating		1.5 A
<b>Transfer characteristics</b>		
Switching frequency		< 3 Hz
<b>Galvanic isolation</b>		
Input/Output		reinforced insulation according to IEC/EN 61010-1, rated insulation voltage 253 V <sub>eff</sub>
Output/Output		reinforced insulation according to IEC/EN 61010-1, rated insulation voltage 253 V <sub>eff</sub>
<b>Indicators/settings</b>		
Display elements		LEDs
Labeling		space for labeling at the front
<b>Directive conformity</b>		
Electromagnetic compatibility		
Directive 2014/30/EU		EN 61326-1:2013 (industrial locations)
Low voltage		
Directive 2014/35/EU		EN 61010-1:2010
Machinery Directive		
Directive 2006/42/EC		EN 62061:2005 , EN/ISO 13849-1:2008
<b>Conformity</b>		
Electromagnetic compatibility		NE 21:2012 , EN 61326-3-1:2008 , EN 61326-3-2:2008
Degree of protection		IEC 60529:2013
<b>Ambient conditions</b>		
Ambient temperature		-20 ... 60 °C (-4 ... 140 °F) Observe the temperature range limited by derating, see section derating.
<b>Mechanical specifications</b>		
Degree of protection		IP20
Mass		approx. 100 g
Dimensions		12.5 x 128 x 106 mm (0.5 x 5.1 x 4.2 inch)
Mounting		on Termination Board
Coding		no pin trimmed For further information see system description.
<b>Data for application in connection with hazardous areas</b>		
Certificate		PF 17 CERT 4192 X
Marking		⊕ II 3G Ex nC ec IIC T4 Gc
Directive conformity		
Directive 2014/34/EU		EN 60079-0:2012+A11:2013 , EN 60079-7:2015 , EN 60079-15:2010
<b>International approvals</b>		
UL approval		E106378

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

<b>General information</b>	
Supplementary information	Observe the certificates, declarations of conformity, instruction manuals, and manuals where applicable. For information see <a href="http://www.pepperl-fuchs.com">www.pepperl-fuchs.com</a> .

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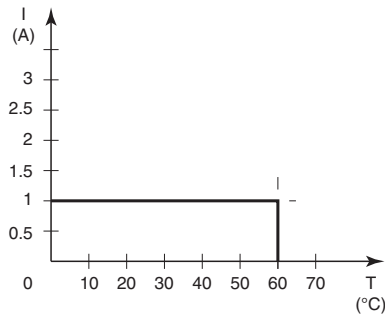
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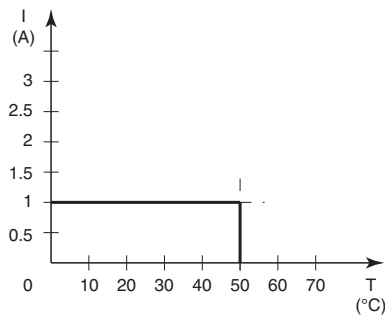
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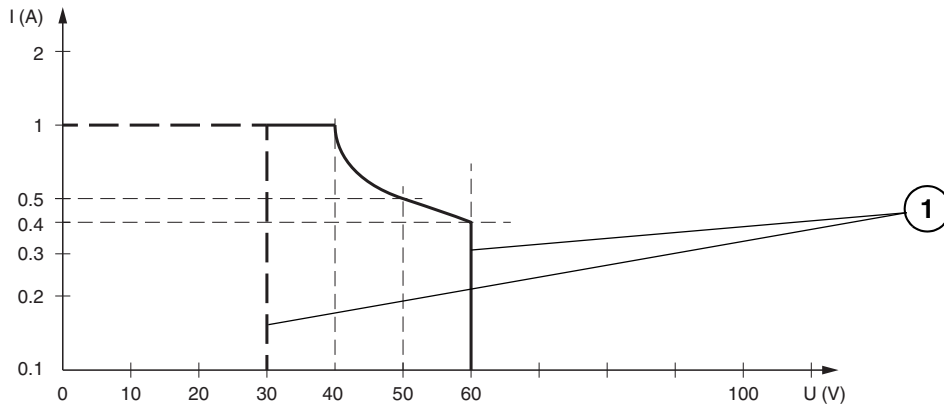
Derating



Derating for Zone 2 Application



Maximum Switching Power of Output Contacts



- Resistive load DC
- - - Resistive load AC
- 1 max.  $45 \times 10^4$  switching cycles

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