



## Voltage Repeater

### HiC2065

- 1-channel isolated barrier
- 24 V DC supply (bus powered)
- Voltage input 0 mV ...  $\pm$  50 mV
- Voltage output 0 mV ...  $\pm$  50 mV
- Selectable up/downscale sensor breakage detection
- Fault output signal

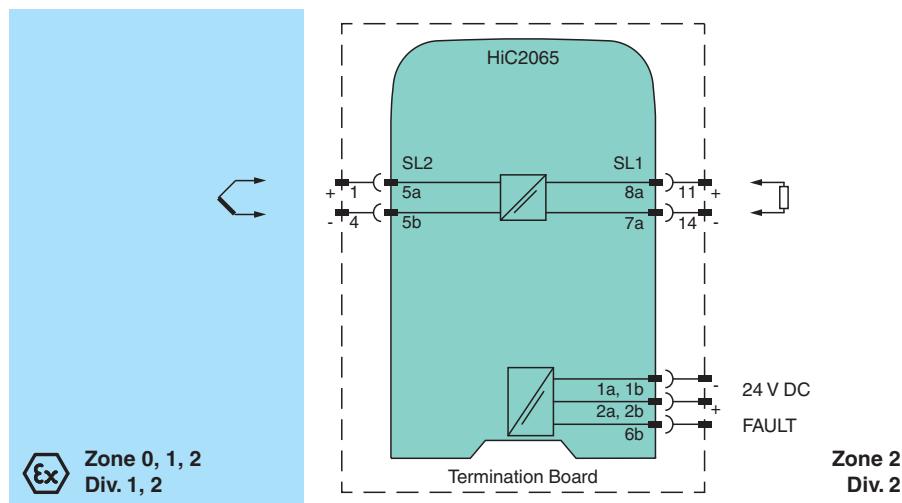


## Function

This isolated barrier is used for intrinsic safety applications. It transfers low voltage signals from thermocouples, load cells, strain gauges, operational amplifiers, and inductive oscillation sensors located in hazardous areas to safe areas. The input voltage of the terminals 5a and 5b is transferred to the terminals 7a and 8a. The input, output, and power supply are galvanically isolated from each other. Upscale or downscale lead breakage monitoring is selectable via switches located on the front panel of the device.

**Note:** This unit requires three minutes after power-up to reach the accuracy cited in the technical data.

## Connection



## Technical Data

### General specifications

Signal type	Analog input	
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### Supply

Connection	SL1: 1a, 1b(-); 2a, 2b(+)	
Rated voltage	$U_r$	20 ... 30 V DC bus powered via Termination Board
Ripple	within the supply tolerance	
Rated current	$I_r$	$\leq 22$ mA
Power dissipation/power consumption	0.7 W max.	
Lockout voltage	$> 11$ V DC	

### Input

Connection side		field side
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## Technical Data

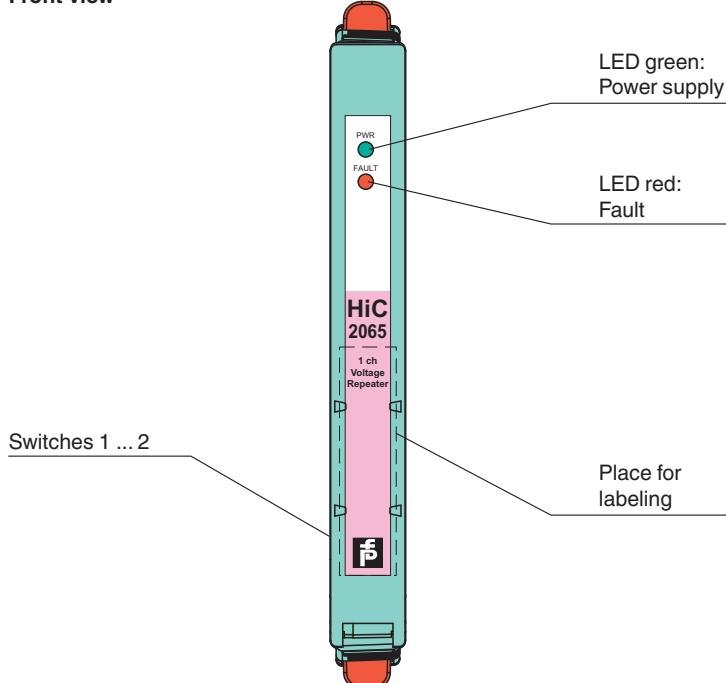
Connection	SL2: 5a(+), 5b(-)
Input resistance	$\geq 16 \text{ M}\Omega$
Transmission range	0 ... $\pm 50 \text{ mV}$
Offset voltage/current	$\leq 5 \mu\text{V} / \leq 5 \text{ nA}$
<b>Output</b>	
Connection side	control side
Connection	SL1: 8a(+), 7a(-)
Voltage	0 ... $\pm 50 \text{ mV}$
Load	Accuracy figures for infinite load impedance. Additional 0.03 % of span for a load resistance of 10 k $\Omega$
Output resistance	max. 3 $\Omega$
Line fault detection	input: $\pm 100 \text{ mV}$ output: +200 mV, -115 mV
<b>Fault indication output</b>	
Connection	SL1: 6b
Output type	open collector transistor (internal fault bus)
Fault voltage	$< V_{co}/2$ (when connected to $V_{cc}$ via 10 k $\Omega$ pull up resistor)
<b>Transfer characteristics</b>	
Deviation	
After calibration	at 20 °C (68 °F): $\pm 3 \mu\text{V}$ up to $\pm 10 \text{ mV}$ / $\pm 0.05 \%$ of the span up to +50 mV / $\pm 0.05 \%$ of the span up to -50 mV
Influence of ambient temperature	$\pm 1 \mu\text{V/K}$ (typical $\pm 0.25 \mu\text{V/K}$ )
Absolute	< 0.25 K at 30 V voltage supply
Bandwidth	DC to > 350 Hz (-3 dB)
Settling time	< 2 ms
Rise time/fall time	$\leq 1 \text{ ms}$
<b>Galvanic isolation</b>	
Output/power supply	functional insulation, rated insulation voltage 50 V AC
<b>Indicators/settings</b>	
Display elements	LEDs
Control elements	DIP switch
Configuration	via DIP switches
Labeling	space for labeling at the front
<b>Directive conformity</b>	
Electromagnetic compatibility	
Directive 2014/30/EU	EN 61326-1:2013 (industrial locations)
<b>Conformity</b>	
Electromagnetic compatibility	NE 21:2006 For further information see system description.
Degree of protection	IEC 60529:2001
Protection against electrical shock	UL 61010-1
<b>Ambient conditions</b>	
Ambient temperature	-20 ... 60 °C (-4 ... 140 °F)
<b>Mechanical specifications</b>	
Degree of protection	IP20
Mass	approx. 100 g
Dimensions	12.5 x 106 x 128 mm (0.5 x 4.2 x 5.1 inch) (W x H x D)
Mounting	on termination board
Coding	pin 2, 3 and 4 trimmed For further information see system description.
<b>Data for application in connection with hazardous areas</b>	
EU-type examination certificate	BASEEFA 10 ATEX 0031X
Marking	Ex II (1)GD, I (M1), [Ex ia] IIC, [Ex iaD], [Ex ia] I (-20 °C $\leq T_{amb} \leq 60 \text{ }^{\circ}\text{C}$ ) [circuit(s) in zone 0/1/2]
Voltage	$U_o$
	5.5 V DC

## Technical Data

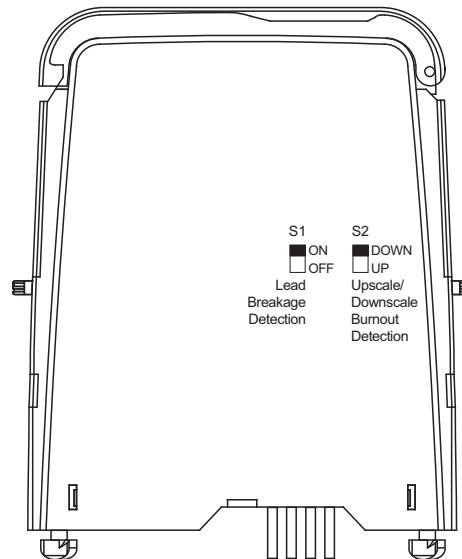
Current	$I_o$	2.4 mA
Power	$P_o$	3.3 mW
Supply		
Maximum safe voltage	$U_m$	253 V (Attention! The rated voltage can be lower.)
Certificate		BASEEFA 10 ATEX 0032X
Marking		Ex II 3G Ex nA II T4
Galvanic isolation		
Input/Output		safe electrical isolation acc. to IEC/EN 60079-11, voltage peak value 375 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		116-0317 (cULus)
IECEx approval		
IECEx certificate		IECEx BAS 10.0012X IECEx BAS 10.0013X
IECEx marking		[Zone 0] [Ex ia] IIC, [Ex iaD], [Ex ia] I Ex nA II T4
General information		
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> .

## Assembly

## Front view



## Configuration



## Configuration

Configure the device in the following way:

- Push the red Quick Lok Bars on each side of the device in the upper position.
- Remove the device from termination board.
- Set the switches according to the figure in the **Configuration** section.

### Note

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