



# Zener Barrier

## Z896

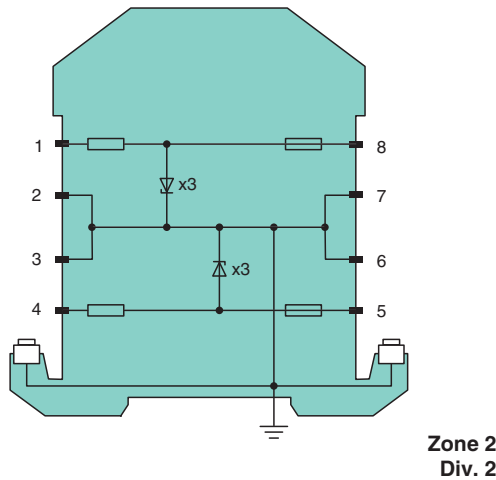
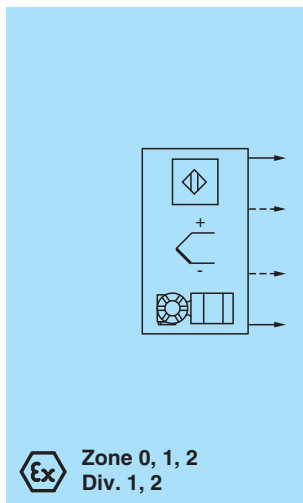
- 2-channel
- DC version, negative polarity
- Working voltage 24 V/18 V at 10  $\mu$ A
- Series resistance max. 340  $\Omega$ /437  $\Omega$
- Fuse rating 50 mA
- DIN rail mountable
- Asymmetrical version



### Function

The Zener Barrier prevents the transfer of unacceptably high energy from the safe area into the hazardous area. The zener diodes in the Zener Barrier are connected in the reverse direction. The breakdown voltage of the diodes is not exceeded in normal operation. If this voltage is exceeded, due to a fault in the safe area, the diodes start to conduct, causing the fuse to blow. The Zener Barrier has a negative polarity, i. e. the cathodes of the zener diodes are grounded. Asymmetrical Zener Barriers are for optimization of applications which have different voltage levels regarding to ground potential. Depending on the application, increased or decreased intrinsic safety parameters apply for serial or parallel connection. For the detailed parameters refer to the Zener Barrier certificate. Application examples can be found in the system description of the Zener Barriers.

### Connection



### Technical Data

Search characteristics	
Additional functions	
Asymmetrical version	yes
General specifications	
Type	DC version, negative polarity
Electrical specifications	
Nominal resistance	terminals 1, 8: 320 $\Omega$ terminals 4, 5: 415 $\Omega$
Series resistance	terminals 1, 8: max. 340 $\Omega$ terminals 4, 5: max. 437 $\Omega$
Fuse rating	50 mA

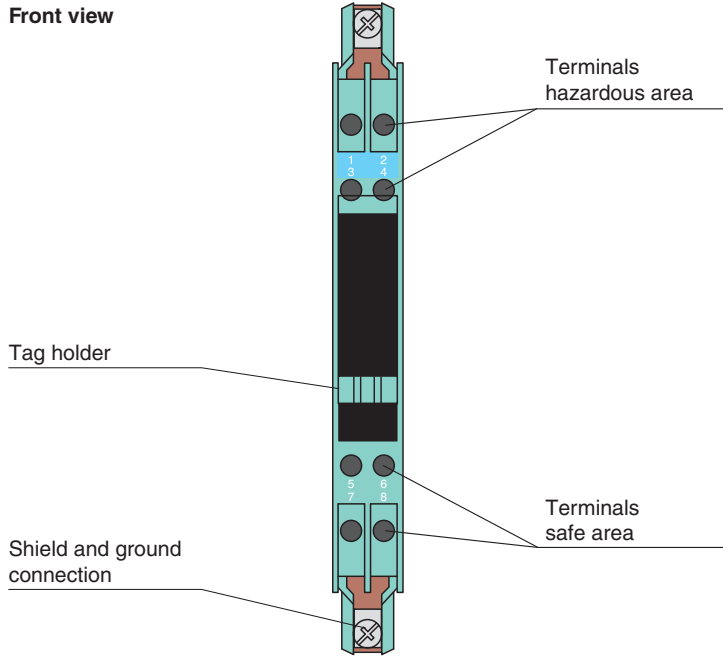
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## Technical Data

<b>Hazardous area connection</b>		
Connection		terminals 1, 2; 3, 4
<b>Safe area connection</b>		
Connection		terminals 5, 6; 7, 8
<b>Working voltage</b>		
Supply loop		terminals 7, 8: max. 24.6 V terminals 5, 6: max. 19 V
Measurement loop		terminals 7, 8: max. 24 V at 10 $\mu$ A terminals 5, 6: max. 18 V at 10 $\mu$ A
<b>Conformity</b>		
Degree of protection		IEC 60529
<b>Ambient conditions</b>		
Ambient temperature		-20 ... 60 °C (-4 ... 140 °F)
Storage temperature		-25 ... 70 °C (-13 ... 158 °F)
Relative humidity		max. 75 % , without condensation
<b>Mechanical specifications</b>		
Degree of protection		IP20
Connection		screw terminals
Core cross section		max. 2 x 2.5 ... mm <sup>2</sup>
Mass		approx. 150 g
Dimensions		12.5 x 115 x 116 mm (0.5 x 4.5 x 4.6 inch) (W x H x D)
Construction type		modular terminal housing , see system description
Mounting		on 35 mm DIN mounting rail acc. to EN 60715:2001
<b>Data for application in connection with hazardous areas</b>		
EU-type examination certificate		BAS 01 ATEX 7005
Marking		⊕ II (1)GD, I (M1) [Ex ia Ga] IIC, [Ex ia Da] IIIC, [Ex ia Ma] I
Voltage	U <sub>o</sub>	terminals 1, 2: 26.6 V; terminals 3, 4: 20.5 V
Current	I <sub>o</sub>	terminals 1, 2: 85 mA; terminals 3, 4: 50 mA
Power	P <sub>o</sub>	terminals 1, 2: 560 mW; terminals 3, 4: 260 mW
<b>Supply</b>		
Maximum safe voltage	U <sub>m</sub>	250 V
Series resistance		terminals 1, 2: min. 314 $\Omega$ ; terminals 3, 4: min. 407 $\Omega$
<b>Certificate</b>		
Marking		⊕ II 3G Ex nA IIC T4 Gc
<b>Directive conformity</b>		
Directive 2014/34/EU		EN IEC 60079-0:2018+AC:2020 , EN 60079-11:2012 , EN 60079-15:2010
<b>International approvals</b>		
<b>FM approval</b>		
Control drawing		116-0118
<b>UL approval</b>		
Control drawing		116-0139 (cULus)
<b>IECEx approval</b>		
IECEx certificate		IECEx BAS 09.0142 IECEx BAS 17.0091X
IECEx marking		[Ex ia Ga] IIC , [Ex ia Da] IIIC , [Ex ia Ma] I Ex ec IIC T4 Gc
<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> .

**Assembly**

Front view



**Matching System Components**

	<b>ZH-ES/LB</b>	Insertion Strip
	<b>ZH-Z.AB/NS</b>	Mounting block for DIN mounting rail
	<b>ZH-Z.AB/SS</b>	Mounting block for grounding rail
	<b>ZH-Z.AK16</b>	Connection terminal for grounding rail
	<b>ZH-Z.AR.125</b>	Spacing Roller
	<b>ZH-Z.BT</b>	Label Carrier
	<b>ZH-Z.ES</b>	Single Socket
	<b>ZH-Z.LL</b>	Ground Rail Feed
	<b>ZH-Z.NLS-Cu3/10</b>	Grounding Rail
	<b>USLKG5</b>	Terminal block for equipotential bonding

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