



# Zener Barrier

## Z972

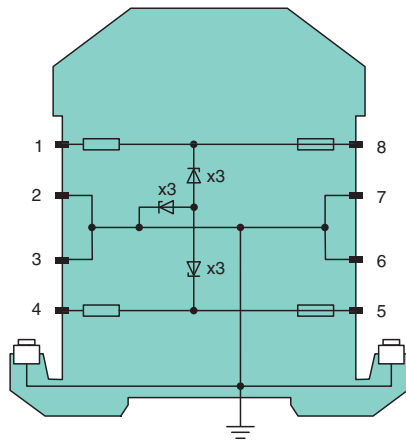
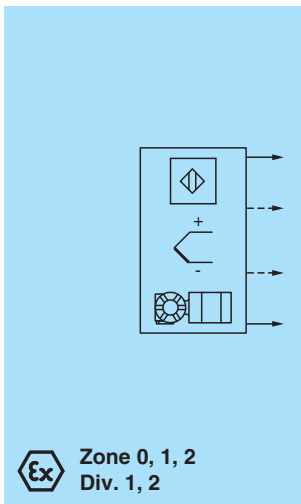
- 2-channel
- AC version
- Working voltage 19 V at 10  $\mu$ A
- Series resistance max. 327  $\Omega$
- Fuse rating 50 mA
- DIN rail mountable
- Star connection



### 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 alternating polarities, i. e. interconnected zener diodes are employed and one side is grounded. The Zener Barrier can be used for both alternating voltage signals and direct voltage signals. 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

#### General specifications

Type AC version

#### Electrical specifications

Nominal resistance 300  $\Omega$   
 Series resistance max. 327  $\Omega$   
 Fuse rating 50 mA

#### Hazardous area connection

Connection terminals 1, 2; 3, 4

#### Safe area connection

Connection terminals 5, 6; 7, 8

Release date: 2022-02-17 Date of issue: 2022-02-17 Filename: 071861\_eng.pdf

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

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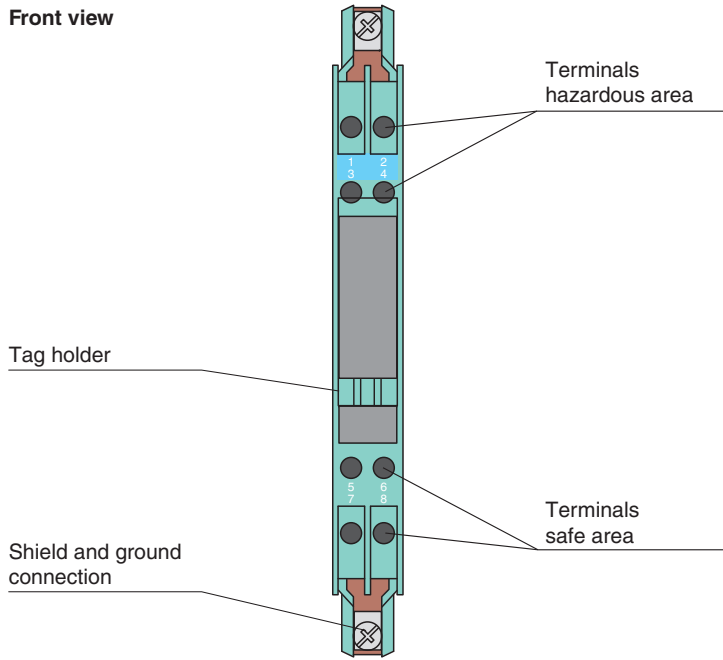
## Technical Data

Working voltage		
Supply loop		max. 19.6 V
Measurement loop		max. 19 V at 10 µA
<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 (-20 °C ≤ T <sub>amb</sub> ≤ 60 °C) [circuit(s) in zone 0/1/2]
Voltage	U <sub>o</sub>	22 V
Current	I <sub>o</sub>	73 mA
Power	P <sub>o</sub>	400 mW
<b>Supply</b>		
Maximum safe voltage	U <sub>m</sub>	250 V
Series resistance		min. 301 Ω
Certificate		TÜV 99 ATEX 1484 X
Marking		Ⓢ II 3G Ex nA IIC T4 Gc [device in zone 2]
<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> .

Release date: 2022-02-17 Date of issue: 2022-02-17 Filename: 071861\_eng.pdf

**Assembly**

Front view



**Matching System Components**

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

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