



# Zener Barrier

## Z787.H.F

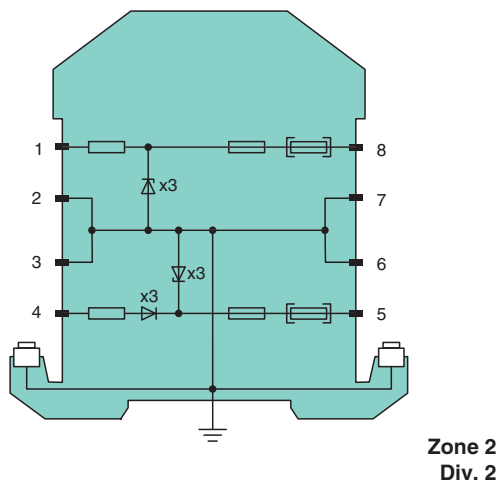
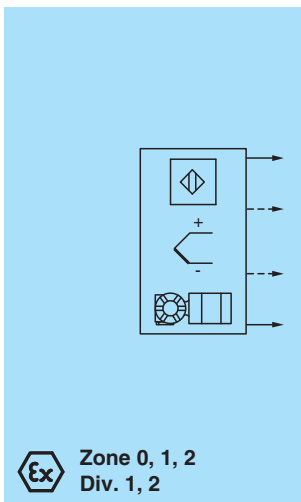
- 2-channel
- DC version, positive polarity
- Working voltage 26.5 V at 10  $\mu$ A
- Series resistance max. 273  $\Omega$
- Fuse rating 50 mA
- DIN rail mountable
- High power version
- Replaceable back-up fuse
- With diode return



### 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 positive polarity, i. e. the anodes of the zener diodes are grounded. Additionally this Zener Barrier is equipped with a replaceable fuse. This high power version has a smaller serial resistance and therefore provides higher voltage to the field device. The Zener Barrier is for evaluation of signals from the hazardous area. The diodes of diode return prevent a current into the hazardous area, therefore the current assumption for intrinsic safety calculations is zero. 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	DC version, positive polarity
Electrical specifications	
Nominal resistance	240 $\Omega$
Series resistance	max. 273 $\Omega$
Fuse rating	50 mA
Hazardous area connection	
Connection	terminals 1, 2; 3, 4

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

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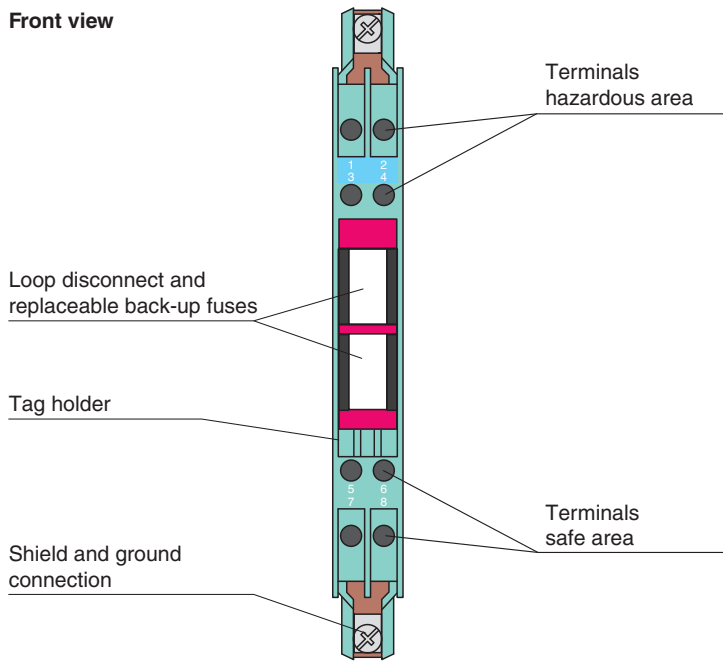
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## Technical Data

<b>Safe area connection</b>			
Connection		terminals 5, 6; 7, 8	
Working voltage			
Supply loop		max. 27 V	
Measurement loop		max. 26.5 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 00 ATEX 7096	
Marking		Ⓜ II (1)G [Ex ia Ga] IIC , Ⓜ II (1)D [Ex ia Da] IIIC , Ⓜ I (M1) [Ex ia Ma] I	
Voltage	U <sub>o</sub>	28 V	
Current	I <sub>o</sub>	120 mA	
Power	P <sub>o</sub>	830 mW	
<b>Supply</b>			
Maximum safe voltage	U <sub>m</sub>	250 V	
Series resistance		min. 235.2 $\Omega$	
Certificate		TÜV 99 ATEX 1484 X	
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		116-0355 (cULus)	
<b>IECEx approval</b>			
IECEx certificate		IECEx BAS 18.0033	
IECEx marking		[Ex ia Ga] IIC , [Ex ia Da] IIIC , [Ex ia Ma] I	
<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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