



# Zener Barrier

## Z787.H

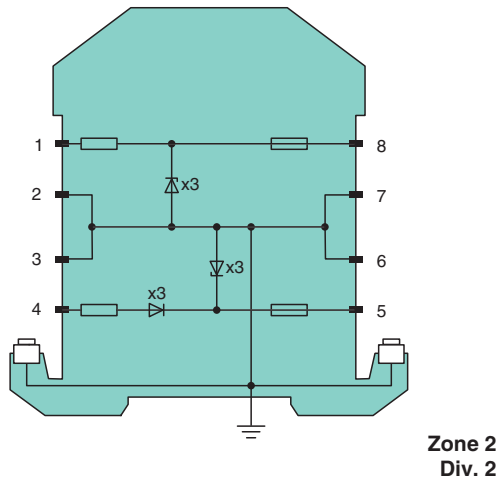
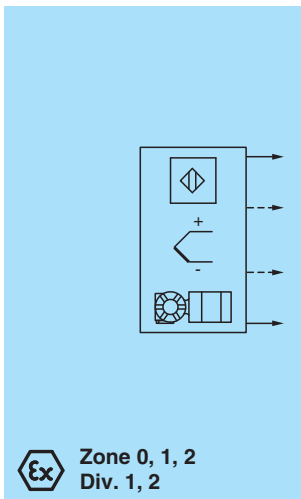
- 2-channel
- DC version, positive polarity
- Working voltage 26.5 V at 10  $\mu$ A
- Series resistance max. 250  $\Omega$
- Fuse rating 80 mA
- DIN rail mountable
- High power version
- With diode return



### 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. 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

<b>General specifications</b>	
Type	DC version, positive polarity
<b>Electrical specifications</b>	
Nominal resistance	240 $\Omega$
Series resistance	max. 250 $\Omega$
Fuse rating	80 mA
<b>Hazardous area connection</b>	
Connection	terminals 1, 2; 3, 4
<b>Safe area connection</b>	

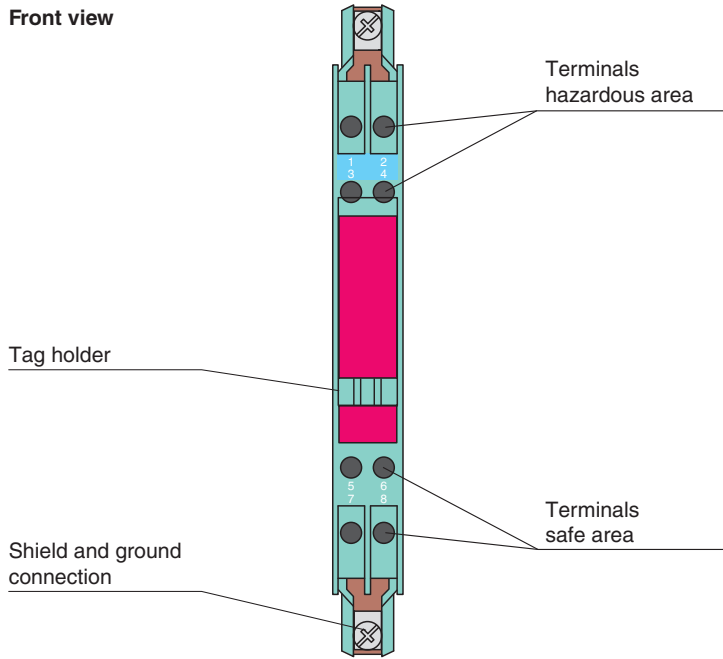
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## Technical Data











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 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>	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 $\Omega$		
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	116-0139 (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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