



Zener Barrier

Z787.F

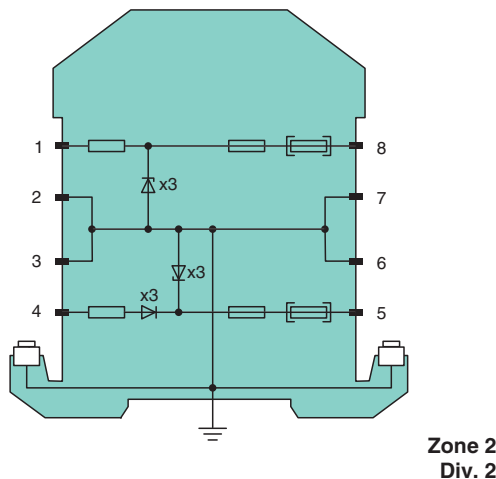
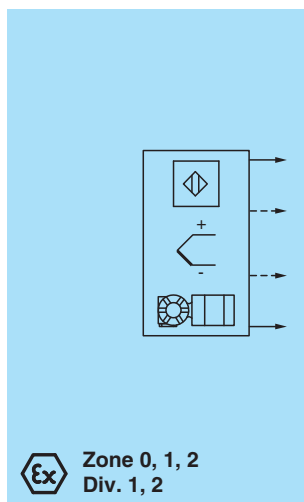
- 2-channel
- DC version, positive polarity
- Working voltage 26.5 V at 10 μ A
- Series resistance max. 341 Ω
- Fuse rating 50 mA
- DIN rail mountable
- Replaceable back-up fuse
- With diode return



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. 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	300 Ω
Series resistance	max. 341 Ω
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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Technical Data

Safe area connection

Connection	terminals 5, 6; 7, 8
Working voltage	
Supply loop	max. 27 V
Measurement loop	max. 26.5 V at 10 µA

Conformity

Degree of protection	IEC 60529
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Ambient conditions

Ambient temperature	-20 ... 60 °C (-4 ... 140 °F)
Storage temperature	-25 ... 70 °C (-13 ... 158 °F)
Relative humidity	max. 75 % , without condensation

Mechanical specifications

Degree of protection	IP20
Connection	screw terminals
Core cross section	max. 2 x 2.5 mm ²
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

Data for application in connection with hazardous areas

EU-type examination certificate	BAS 00 ATEX 7096
Marking	Ⓔ II (1)GD, [Ex ia Ga] IIC, [Ex ia Da] IIIC, (-20 °C ≤ T _{amb} ≤ 60 °C) [circuit(s) in zone 0/1/2]
Voltage	U _o 28 V
Current	I _o 93 mA
Power	P _o 650 mW
Supply	
Maximum safe voltage	U _m 250 V
Series resistance	min. 301 Ω
Certificate	TÜV 99 ATEX 1484 X
Marking	Ⓔ II 3G Ex nA II T4 [device in zone 2]
Directive conformity	
Directive 2014/34/EU	EN IEC 60079-0:2018+AC:2020 , EN 60079-11:2012 , EN 60079-15:2010

International approvals

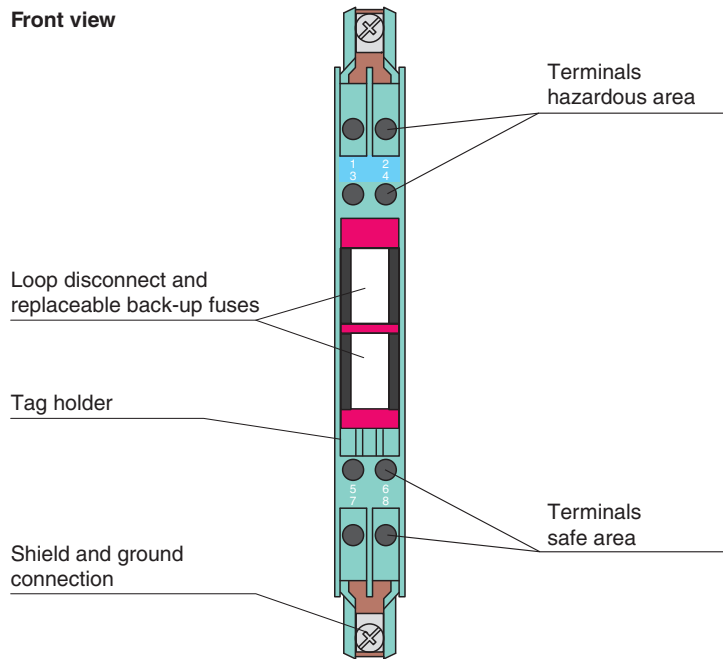
FM approval	
Control drawing	116-0118
UL approval	
Control drawing	116-0355 (cULus)
IECEx approval	
IECEx certificate	IECEx BAS 18.0033
IECEx marking	[Ex ia Ga] IIC , [Ex ia Da] IIIC , [Ex ia Ma] I

General information

Supplementary information	Observe the certificates, declarations of conformity, instruction manuals, and manuals where applicable. For information see www.pepperl-fuchs.com .
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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