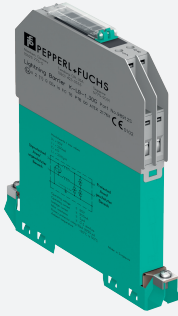


# Surge Protection Barrier

## K-LB-1.6G



- 1-channel
- Mounting on DIN mounting rail
- For intrinsically safe or non-intrinsically safe 6 V applications
- Protects field or control circuit inputs
- Max. surge current (8/20  $\mu$ s) 20 kA
- Uninterruptable operation (auto reset)
- Up to SIL 3 acc. to IEC/EN 61508



**SIL 3**



### Function

The device limits induced transients of different causes, e. g. lightning or switching operations. The limitation is achieved by diverting the current to earth and limiting the signal loop voltage during the duration of the overvoltage pulse.

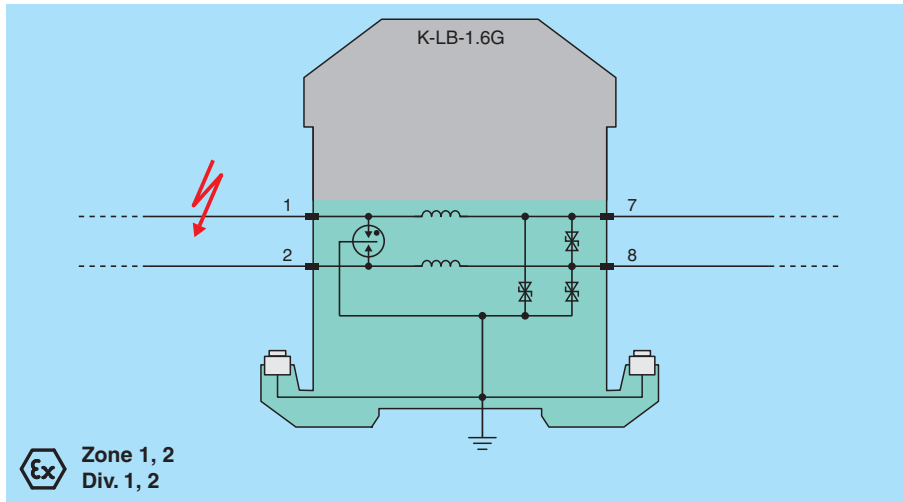
The device is HART transparent.

The device is mounted on a 35 mm DIN mounting rail according to EN 60715.

**Note:**

Always connect the device to high-quality ground connections. The device must have the same potential as the devices it protects. Install the ground system in accordance with the applicable regulations.

### Connection



### Technical Data

General specifications	
Number of protected signal lines	2
Topology	grounded
Functional safety related parameters	
Safety Integrity Level (SIL)	SIL 3
Electrical specifications	
Connection	protected area: terminals 7, 8 unprotected area: terminals 1, 2
Rated current	$I_r$ 250 mA
Leakage current	< 10 $\mu$ A at 1 V and 25 °C (77 °F) , line-line

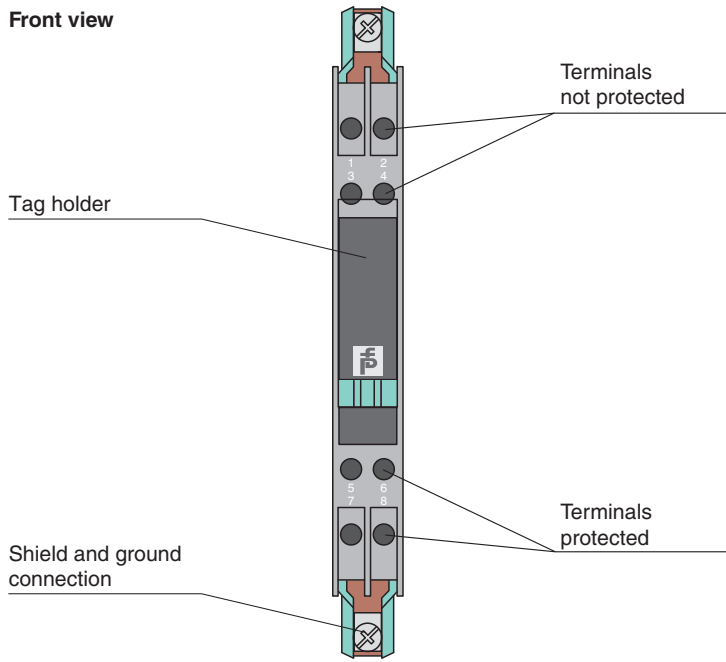
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## Technical Data

Nominal voltage		1 V DC
Maximum continuous operating voltage	$U_c$	6 V DC
Series resistance		< 0.5 $\Omega$ per line
Impulse rating		10 kV/5 kA (category C2) 2 kV/2 kA (category D1)
Impulse discharge current (10/350 $\mu$ s)	$I_{imp}$	2 kA per line (2x)
Nominal discharge current (8/20 $\mu$ s)	$I_n$	5 kA per line (10x)
Rated surge current (8/20 $\mu$ s)	$I_{SM}$	10 kA per line (1x)
Total discharge current (8/20 $\mu$ s)	$I_{total}$	20 kA (1x)
Voltage protection level	$U_p$	max. 90 V line-line for nominal discharge current $I_n$ max. 25 V line-earth for nominal discharge current $I_n$
Impulse reset time		< 30 ms
Insertion loss		$\leq$ 0.05 dB, at 0 ... 4 kHz, in 600 $\Omega$ -System $\leq$ 3 dB, at 0 ... 174 kHz, in 100 $\Omega$ -System
<b>Indicators/settings</b>		
Labeling		space for labeling at the front
<b>Conformity</b>		
Degree of protection		IEC 60529:2013
Surge protective devices for low voltage		EN 61643-21:2001+A1:2009+A2:2013 IEC 61643-21:2001+A1:2008+A2:2012
<b>Operating conditions</b>		
Installation conditions		
Mounting location		indoor
<b>Ambient conditions</b>		
Ambient temperature		-30 ... 80 $^{\circ}$ C (-22 ... 176 $^{\circ}$ F) For usage in hazardous area observe EC-type examination certificate.
Relative humidity		5 ... 95 %
<b>Mechanical specifications</b>		
Degree of protection		IP20
Connection		screw terminals
Core cross section		2 x 2.5 mm <sup>2</sup>
Mass		approx. 100 g
Dimensions		12.5 x 115 x 116 mm (0.5 x 4.5 x 4.6 inch) (W x H x D)
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		PTB 00 ATEX 2176 X
Marking		Ⓜ II 2(1)G Ex ia IIC T6/T5/T4
Temperature class		T6 for ambient temperature $\leq$ 50 $^{\circ}$ C T5 for ambient temperature $\leq$ 70 $^{\circ}$ C T4 for ambient temperature $\leq$ 80 $^{\circ}$ C
Voltage	$U_i$	6 V
Current	$I_i$	250 mA
Internal capacitance	$C_i$	negligible
Internal inductance	$L_i$	200 $\mu$ H
Certificate		PF 16 CERT 4065 X
Marking		Ⓜ II (3)D [Ex ic Dc] IIIC
Directive conformity		
Directive 2014/34/EU		EN 60079-0:2012+A11:2013 , EN 60079-11:2012
<b>International approvals</b>		
CSA approval		
Control drawing		116-0187 (cCSAus)
IECEx approval		
IECEx certificate		IECEx BAS 14.0010X
<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



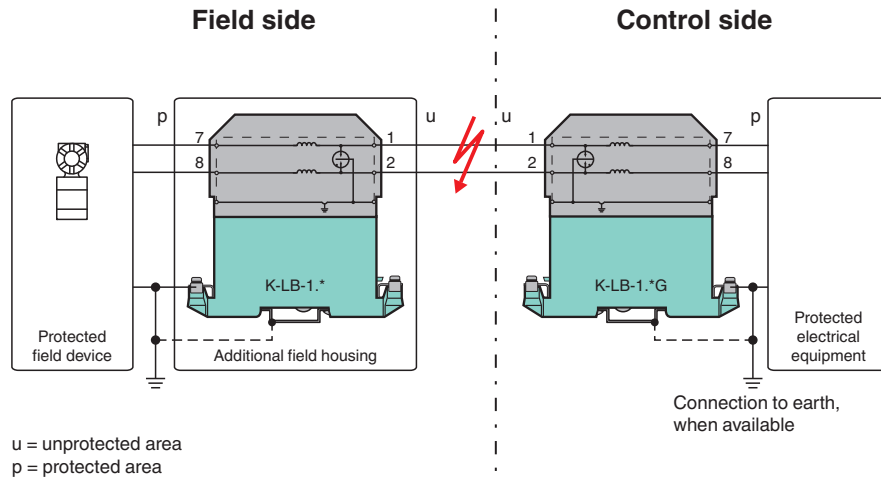
**Matching System Components**

<b>USLKG5</b>	Terminal block for equipotential bonding
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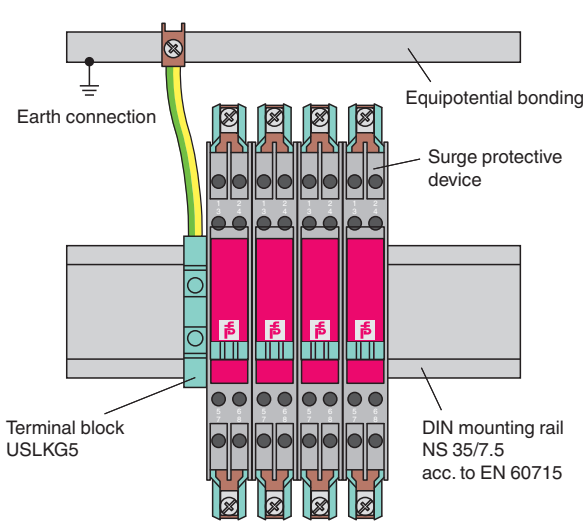
**Connection**

**Topology**

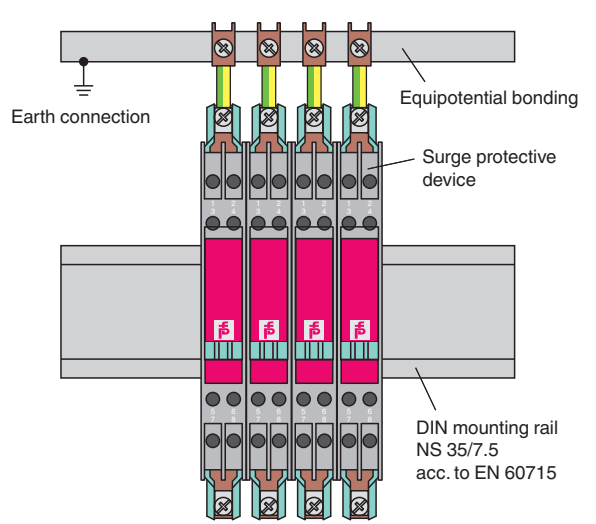


**Installation**

**Installation examples**



**Insulated mounting (group grounding)**



**Insulated mounting (individual grounding)**

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