



Two-pole surge protection device in modular terminal block system for protection of intrinsically safe fieldbus installations according to IEC 61158-2

- For intrinsically safe PROFIBUS PA and FOUNDATION Fieldbus applications
- Connection acc. to FISCO or Entity
- Installation in zone 1
- Fieldbus cables can be led in zone 0
- Two-part construction, base module DB-LB-I is mounted on DIN rail and forms a feed-through terminal for the protection module DP-LBF-I
- Compact, space-saving construction
- Optional: change of protection module without signal interruption
- Base module with integrated shield terminal
- Safe earthing via base module with snap-on mounting
- Can be used in 4 mA ... 20 mA signal loops with HART, too

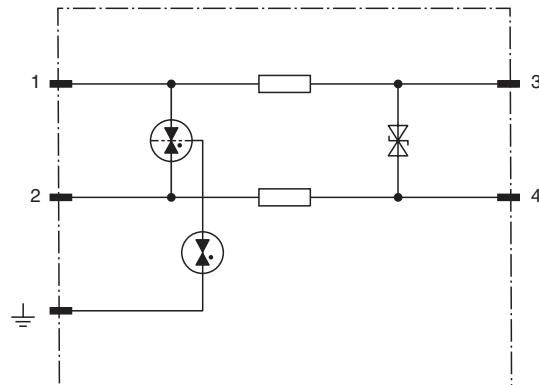
Function

The modular DP-LBF-I Surge Protection Device protects fieldbus field devices and control units safely from damages caused by voltage surges and lightning strikes. They are designed for use in intrinsically safe segments of fieldbus communication topologies according to IEC 61158-2.

They allow the coordinated use in the EMC-orientated Lightning Protection Zones Concept in accordance with IEC 61312-1. The protective effect is adapted to the EMC interference immunity (conducted high-energy interference impulses) for fieldbus measuring, control and data technology equipment.

The Surge Protection Device consists of the protection module DP-LBF-I1.34 and a base module DB-LB-I. These base modules are available separately in different versions, thus allowing the design of the surge protection system with or without signal line interruption by removing the protection module.

Connection



Composition



Complete surge protection device for DIN rail mounting



Base modules
DB-LB-I without signal line interruption
DB-LB-I.I with signal line interruption



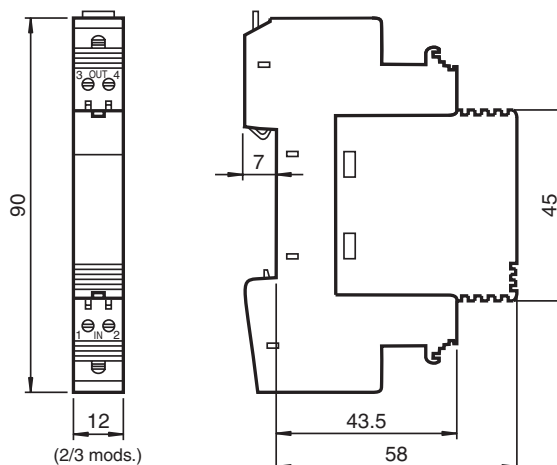
Protection module
DP-LBF-I1.34

Electrical specifications	
Rated voltage	34.8 V
Rated current	500 mA
Surge Current (8/20)	
per Line	10 kA
total	10 kA
Max. Surge Current (8/20)	20 kA
Voltage Protection Level at max. rated current	
Line/Line	60 V
Voltage Protection Level at 1kV/μsec	
Line/Line	50 V
Line/Earth	1 kV
Response times	
Line/Line	≤ 1 ns
Line/Earth	≤ 100 ns
Trip value	6 MHz
Impedance per Line	1.8 Ω
Capacitance	
Line/Line	1.1 nF
Line/Earth	2 pF
Directive conformity	
Electromagnetic compatibility	
Directive 89/336/EC	EN 61326
Standard conformity	
Electromagnetic compatibility	NAMUR NE 21
Protection degree	IEC 60529
Fieldbus standard	IEC 61158-2
Climatic conditions	IEC 60721
Surge protection	IEC 61643-21
Ambient conditions	
Ambient temperature	-50 ... 80 °C (223 ... 353 K)
Storage temperature	-50 ... 85 °C (223 ... 358 K)
Relative humidity	≤ 95 % non-condensing
Mechanical specifications	
Connection type	screw terminals
Core cross-section	signal 2.5 mm ² , shield ≤ 4 mm ²
Housing material	Polyamide PA 6.6
Protection degree	IP20
Mass	protection module 20 g , base module 40 g
Mounting	DIN rail
Data for application in conjunction with hazardous areas	
EC-Type Examination Certificate	PTB 03 ATEX 2248
Group, category, type of protection, temperature classification	Ⓔ II 2(1)G EEx ia IIC T4/T5/T6
Voltage U _i	34.8 V
Current I _i	500 mA
Internal capacitance C _i	negligible 0 nF
Internal inductance L _i	negligible 0 μH
Directive conformity	
Directive 94/9 EC	EN 50014, EN 50020

Supplementary information

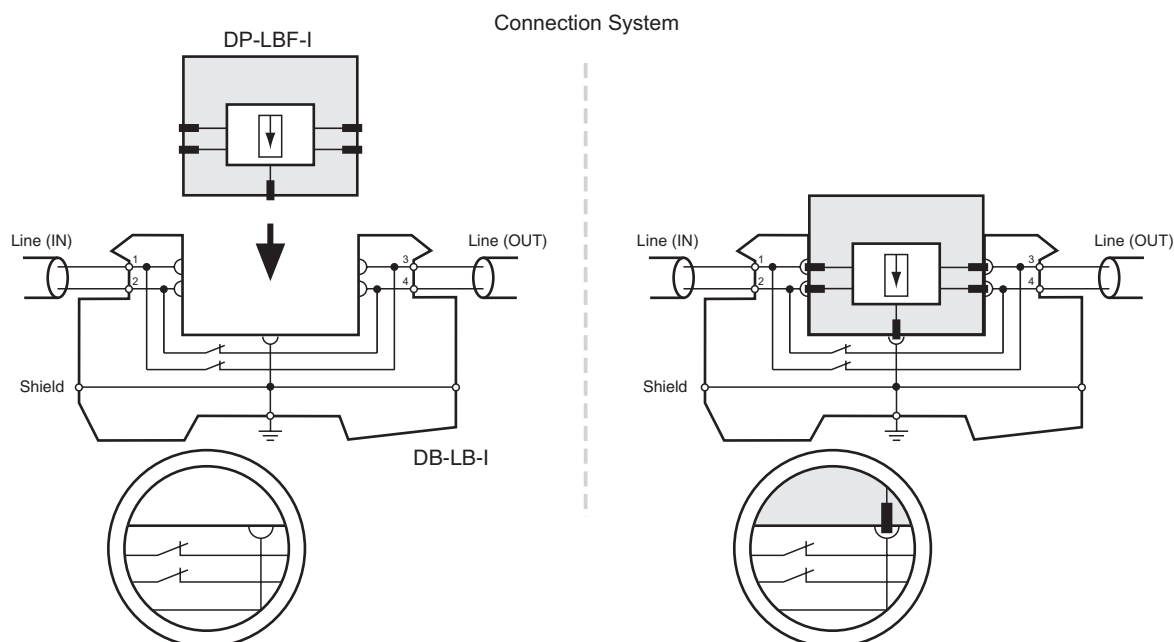
EC-Type Examination Certificate, Statement of Conformity, Declaration of Conformity and instructions have to be observed. For information see www.pepperl-fuchs.com.

Dimensions



Installation notes

see also system description



The above picture shows the removal of protection module DP-LBF-I without interruption of the signal line by using the base module DB-LB-I. Base module DB-LB-I.I allows signal line interruption by removing the protection module.

Accessories

to be ordered separately

- Base module without signal interruption: DB-LB-I
- Base module with signal interruption: DB-LB-I.I
- EMC spring terminal for shield earthing: AUX-DCC
- Shield earthing via gas discharge tube: GDT

