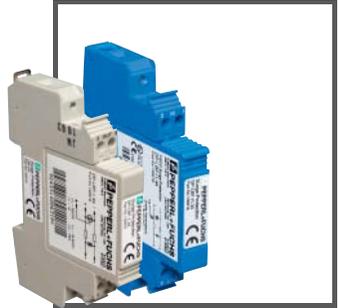


MANUAL

SURGE PROTECTORS

DP-LBF-1.34 AND
DP-LBF-I1.34



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1 Used Symbols

Safety-relevant Symbols



Danger!

This symbol indicates a warning about a possible danger.

In the event the warning is ignored, the consequences may range from personal injury to death



Warning!

This symbol indicates a warning about a possible fault or danger.

In the event the warning is ignored, the consequences may cause personal injury or heaviest property damage



Caution!

This symbol warns of a possible fault.

Failure to observe the instructions given in this warning may result in the devices and any connected facilities or systems develop a fault or fail completely.

Informative Symbols



Note!

This symbol brings important information to your attention.



Action

1. This symbol marks an acting paragraph.



2 General Safety Information

The operator of the system is responsible in terms of planning, mounting, commissioning, operating and maintenance.

Installation and commissioning of all devices must be performed by a trained professional only.

Protection of operating personnel and the system is not ensured if the product is not used in accordance with its intended purpose.

The Statement of Conformity and any included "special conditions for safe use" must be observed.

The devices must be protected from electrostatic charge.

Devices which are operated in conjunction with hazardous areas must not be modified. If there is a defect, the product must always be replaced with an original part.

If devices are operated in general electrical systems, they must thereafter not be operated in electrical systems that are connected with hazardous areas.

3 Introduction

This manual describes the following Fieldbus Surge Protectors:

DB-LBF-1.34	Two-wire Surge Protector in modular terminal block system for protection of fieldbus equipment.
DB-LBF-I.1.34	Two-wire Surge Protector in modular terminal block system for protection of intrinsically safe fieldbus circuits.

The Declaration of Conformity, Certificate of Compliance and data sheets are an integral part of this document. The data sheet contains the electrical data of the Declaration of Conformity and the Certificate of Compliance.

The documents mentioned are available from <http://www.pepperl-fuchs.com> or contact your local Pepperl+Fuchs representative.

These operating instructions assume technical knowledge and experience with FOUNDATION Fieldbus and PROFIBUS technology as well as explosion protection. Laws and regulations applicable to the usage or planned purpose of usage must be observed. Devices are only approved for proper usage in accordance with intended purpose. Improper handling will result in voiding of any warranty or manufacturer's responsibility.

3.1 Declaration of Conformity

All products have been developed and manufactured taking into consideration applicable European standards and regulations.



Note!

A corresponding declaration of conformity may be requested from the manufacturer.

The manufacturer of this product, Pepperl+Fuchs GmbH in D-68301 Mannheim, Germany, has a certified quality assurance system in conformity with ISO 9001.



4 Product Specifications

4.1 Intended Use

The modular DP-LBF* Surge Protectors protect fieldbus equipment safely from damages caused by surge voltages or lightning strikes. They are designed for use in fieldbus communication topologies according to IEC 61158-2.

The intrinsically safe version **DP-LBF-I1.34** of the Surge Protector is suitable for mounting in Zone 1 or Zone 2. The associated apparatus circuit may be led into Zone 0 corresponding to II 2(1)G. It can also be used in intrinsically safe fieldbus installations in accordance with the FISCO and Entity model.

The Surge Protectors are mountable on a DIN mounting rail only.

4.2 Marking

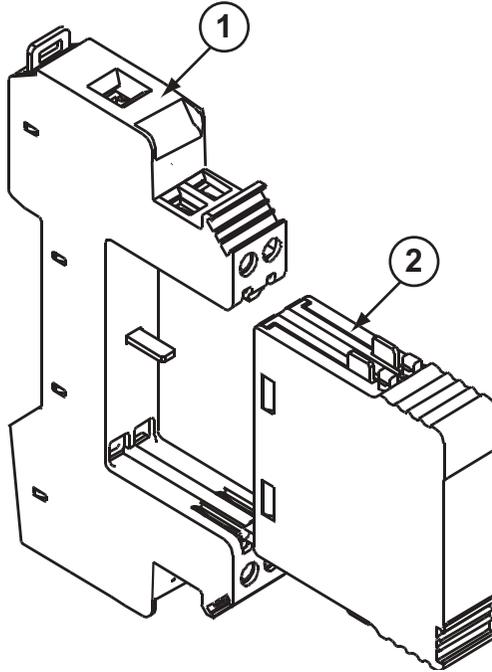
Non-intrinsically safe version	Intrinsically safe version
Pepperl+Fuchs	Pepperl+Fuchs Fisco Surge Protection
DP-LBF-1.34	DP-LBF-I1.34 PDB 03 ATEX 2248 X
	 II 2(1) G EEx ia IIC T4 CE 0102

4.3 Component Overview

The modular Surge Protectors DP-LBF* consists allways of two parts:

- Base part
- Protection module

Each protection module may be combined with two different base modules with or without communication interruption while the protection module is removed.



- 1 Base part
- 2 Protection module

DP-LBF-1.34 component overview

Order reference	Description
DP-LBF-1.34	Protection module, general use
DB-LB	Base part without signal interruption while the protection module is removed.
DB-LB.I	Base part with signal interruption while the protection module is removed.

DP-LBF-I1.34 component overview

Order reference	Description
DP-LBF-I1.34	Protection module, intrinsically safe
DB-LB-I	Base part, intrinsically safe version without signal interruption while the protection module is removed.
DB-LB-I.I	Base part, intrinsically safe version with signal interruption while the protection module is removed.

Accessories

Order reference	Description
AUX-DCC	EMC spring terminal for shield earthing.
GDT	Indirect shield earthing via gas discharge tube.

4.4 Service and Maintenance

The transmission properties of the devices are stable over long periods of time. For this reason, regular adjustment or service or the like is unnecessary. Details for the service and maintenance of the housing used can be found in the corresponding user's manuals.

5 Installation and commissioning

5.1 Mounting



Warning!

Electrostatic charge

Electrostatic charged surfaces may cause an ignition spark.

Clean surfaces with a damp cloth to prevent electrostatic charge.



Caution!

Transport damage

Damaged devices may cause malfunction.

- Check out devices for external damages before mounting.
- Mount only proper devices.

Special Conditions for Mounting the Intrinsically Safe Version DP-LBF-I1.34 within hazardous areas

The device has to be installed into a metal housing, or into a housing which is certified for this kind of use.

If the device is used in areas with flammable dust, it has to be installed in a protection class IP6X housing.

If intrinsically safe and non-intrinsically safe circuits are mounted within the same enclosure keep a minimum space of 50 mm (thread measure) between the non-intrinsically safe and the intrinsically safe connectors or mount a suitable separating plate acc. to EN 50020, section 6.3.1.

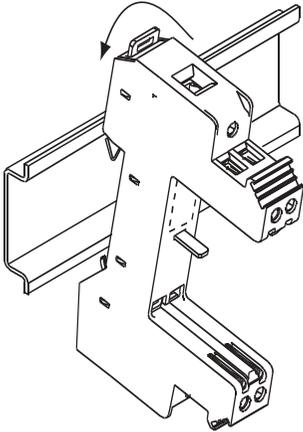
If devices are operated in general electrical systems, they must thereafter not be operated in electrical systems that are connected with hazardous areas.



Mounting Base Part on a DIN Rail

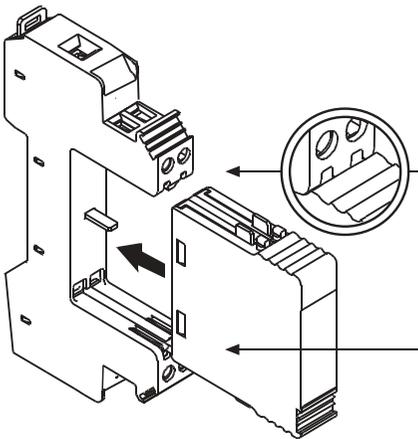
The Surge Protectors are to be mounted on a 35 mm Din rail compliant with EN 50022

1. Place the base part on the DIN rail
2. Gently press the base part to the DIN rail till it is locked in place



Mounting Protection Module

1. Carefully parenthesis the protection module into the base part till the stop position.
2. Make sure, that there is no more space between protection module and base part.



5.2 Connection

Special Conditions for Connection of the Intrinsically Safe Version DP-LBF-11.34

The lines connected to the Surge Protector must be shielded or covered by a metal coating or be passed within a metal pipe.



Note!

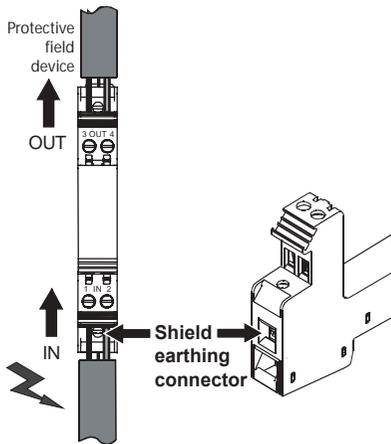
Observe all special conditions of EN 60079-14, section 12.3. before connecting the output of the intrinsically safe version DP-LBF-11.34 to Zone 0.

Cable diameters

Connectors	Max. Diameter
In	2.5 mm ²
Out	2.5 mm ²
Shield earthing connector	4 mm ²

Screw Tightening Torque

Connectors	Tightening Torque
In	0.5 Nm
Out	0.5 Nm
Shield earthing connector	0.8 Nm



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Note!

Keep cables to protective field device as short as possible.

5.3 Grounding, Shield earthing

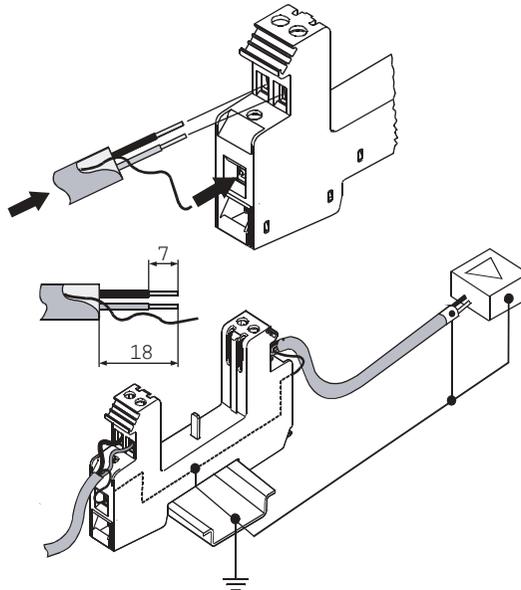
Special Conditions for Mounting the Intrinsically Safe Version DP-LBF-I1.34 within Hazardous Areas

The connection between Surge Protector and local ground must have a minimum cross section of 4 mm². All connections with the ground must be backed up.

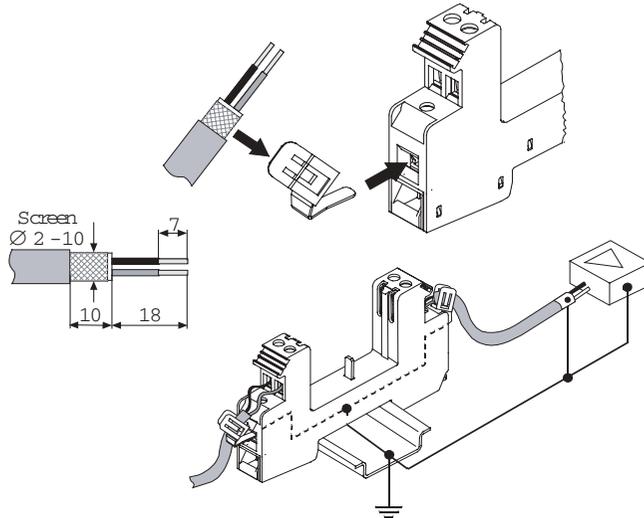
During installation and operation, it must be ensured that direct or indirect grounding of the shield causes no danger.

If it is necessary to mount the shield bonding separately for operational reasons, indirect grounding of the shield is recommended (on page 13).

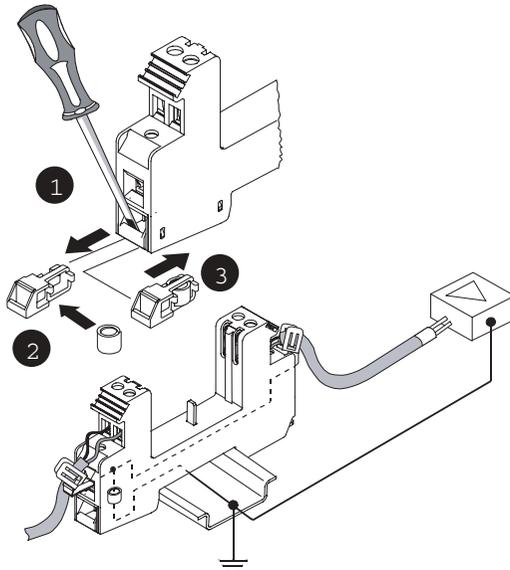
5.3.1 Direct Shield earthing



5.3.2 Direct Shield Earthing by EMC Spring Terminal



5.3.3 Indirect Shield Earthing by Gas Discharge Tube (GDT)



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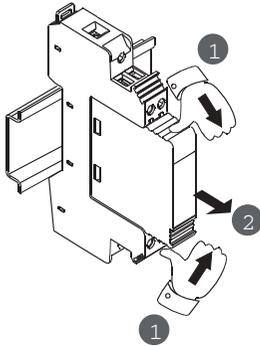
6 Dismounting and Disposal

6.1 Dismounting the Surge Protector



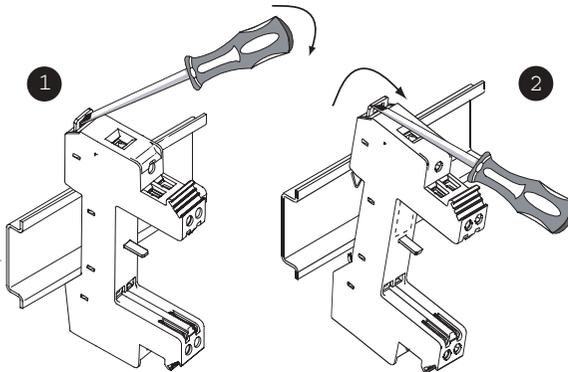
Dismounting the Protection Module

1. Press the protection module up and down to loosen it out of the base part
2. Finally pull the protection module off



Dismounting the Base Part

1. Lift up the latch with a screwdriver
2. Pull off the base part from the DIN rail



6.2 Disposal

Disposal of devices and their packaging material must be performed in compliance with the applicable laws and guidelines of the corresponding country.

The devices do not contain batteries which need to be disposed of separately from the products.



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