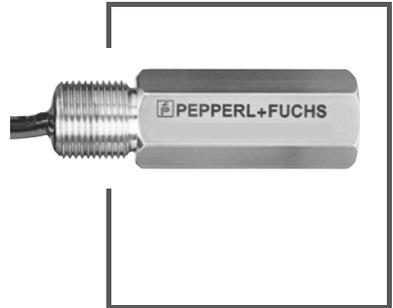


INSTRUCTION MANUAL

FIELD BUS SURGE PROTECTOR

F*-LBF-I1.32

F*-LBF-D1.32





With regard to the supply of products, the current issue of the following document is applicable: The General Terms of Delivery for Products and Services of the Electrical Industry, published by the Central Association of the Electrical Industry (Zentralverband Elektrotechnik und Elektroindustrie (ZVEI) e.V.) in its most recent version as well as the supplementary clause: "Expanded reservation of proprietorship"

1	Explanation of symbols.....	2
2	Intended use.....	3
3	Use of the flameproof version	4
4	Use of the intrinsically safe version.....	4
5	Marking	5
6	Data for application in connection with Ex-areas.....	5
7	Installation and commissioning	6
7.1	General information.....	6
7.2	Flameproof version	7
7.3	Intrinsically safe version.....	7
8	Mounting and dismantling.....	8
9	Service and maintenance.....	8
10	Troubleshooting.....	8
11	Disposal	8

1 Explanation of symbols



Warning

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 or from damage to equipment to destruction.



Attention

This symbol warns of a possible fault. Failure to observe the instructions given in this warning may result in the device and any connected facilities or systems to it develop a fault or fail completely.



This symbol brings important information to your attention.

2 Intended use

These manual serve for the installation and commissioning of the following Fieldbus Surge Protectors:

FS-LBF-I1.32	intrinsically safe with connecting thread M20 x 1.5
FN-LBF-I1.32	intrinsically safe with connecting thread ½" NPT
FS-LBF-D1.32	flameproof enclosure with connecting thread M20 x 1.5
FN-LBF-D1.32	flameproof enclosure with connecting thread ½" NPT

These manual is valid only in combination with the corresponding data sheets.

The data sheet including the electrical data of the EC-Type-Examination certificate and additional information, it is part of these operating instructions.



The data sheets are available at www.pepperl-fuchs.com.

The Fieldbus Surge Protector is used in bus systems (PROFIBUS PA or FOUNDATION Fieldbus) according to the FISCO model or the ENTITY Model. It is manufactured in a flameproof version and an intrinsically safe version and is clearly identified by the labelling on the rating plate.



Warning

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

Laws and/or regulations governing the use or intended usage must be adhered to.



Attention

The Fieldbus Surge Protectors have been approved for proper handling according to their intended use only. Improper handling will void any claim made under the warranty and any manufacturer's liability.

3 Use of the flameproof version

The flameproof Fieldbus Surge Protector may be used as follows:

- Installation in a panel of a piece of equipment or housing suitable for this purpose, ignition protection class "flameproof enclosure" of Groups IIA, IIB and IIC.
- Installation in a panel of a piece of equipment or housing suitable for this purpose, ignition protection class "increased safety".

4 Use of the intrinsically safe version

The intrinsically safe Fieldbus Surge Protector may be installed as follows:

- Installation in a housing panel of a piece of equipment (device) suitable for this purpose, ignition protection class "intrinsic safety ia" in Category 2G (Zone1) or 3G (Zone2).
- Installation in the housing panel of a piece of equipment (device) suitable for this purpose, ignition protection class "intrinsic safety ib" in Category 2G (Zone1) or 3G (Zone2).
- In intrinsically safe electric circuits of group IIA, IIB or IIC.
- Installation in a panel of a piece of equipment or housing suitable for this purpose, ignition protection class "flameproof enclosure", connection in circuits of ignition protection class "intrinsic safety ia or ib", Category 2G (Zone1) or 3G (Zone2).
- Installation in a panel of a piece of equipment or housing suitable for this purpose, ignition protection class "increased safety", connection in circuits of ignition protection class "intrinsic safety ia or ib", Category 2G (Zone1) or 3G (Zone2).

5 Marking

Flameproof version

Pepperl + Fuchs
D-68307 Mannheim
F*-LBF-D1.32

Intrinsically safe version

Pepperl + Fuchs
D-68307 Mannheim
F*-LBF-I1.32

* in place of the stars a combination of characters depending on the different versions will be added.

6 Data for application in connection with Ex-areas

	F*-LBF-D1.32	F*-LBF-I1.32
Rated voltage	32 V	32 V
Rated current		550 mA
EC-Type Examination Certificat	KEMA 04 ATEX 2318X	KEMA 04 ATEX 1317X
Group, category, type of protection, temperature classification	 II 2G Ex d IIC T5/T6 Gb	 II 2(1) G Ex ia IIC T4/T5/T6
Voltage U_i		Entity 30 V, FISCO 17.5 V
Current I_i		Entity 550 mA, FISCO 380 mA
Power P_i		Entity 3 W, FISCO 5,32 W
Internal capacitance C_i		negligible 0 nF
Internal inductance L_i		negligible 0 μ H
Directive 94/9/EC	EN 60079-0:2012, EN 60079-1:2007	EN 60079-0:2012, EN 60079-11:2012, EN 60079-26:2007
IECEX approval Approved for	IECEX KEM 09.0067X Ex d IIC T5/T6 Gb	IECEX KEM 09.0081X Ex ia [ia Ga] IIC T5/T6 Gb

7 Installation and commissioning

7.1 General information

The electric circuits must be installed in accordance with the acknowledged rules of technology and applicable regulations for installers.



Attention

The Fieldbus Surge Protectors comply with protection class IP67 and must therefore be properly protected if used under adverse ambient conditions.



Warning

The EC-Type-Examination certificate and the Declaration of Conformity must be adhered to. Additionally, the "special conditions" in the EC-Type-Examination certificate are of particular importance.

Potential equalisation must be ensured by the way the device is attached.



Warning

The Fieldbus Surge Protectors must be installed in accordance with EN 60079-14/IEC 60079-14. For the Federal Republic of Germany, the "National Forword" of DIN 60079-14/VDE 0165, Section 1, must also be adhered to.

7.2 Flameproof version

According to its marking, the F*-LBF-D1.32 Fieldbus Surge Protector is suitable for installation in Zone 1 or Zone 2.



Warning

*Opening the encapsulation to the Ex d space is prohibited.
To install the F*-LBF-D1.32 Fieldbus Surge Protector, the system must be voltage-free.
The system must be checked by a qualified electrician upon completion of the installation!*

There must be at least 5 thread turns in mechanical connection for installation in a flameproof housing. A suitable mechanism is required to prevent the device from coming loose in the threading as well as one to ensure the IP protection class. This can be achieved as follows:

- Use of lock nuts with seals or
- Use of Loctite medium-strong adhesive in threaded holes.

For installation in a housing with the "increased safety" ignition protection class, there must be suitable mechanisms to ensure IP protection and that the device does not turn out of the threadings. This can be achieved as follows:

- Use of lock nuts with seals or
- Use of Loctite medium-strong adhesive in threaded holes.

7.3 Intrinsically safe version

According to its marking, the F*-LBF-I1.32 Fieldbus Surge Protector is suitable for installation in Zones 1 or Zone 2.



Warning

*When interconnecting intrinsically safe electric circuits, EN 60079-14 / IEC 60079-14 must be adhered to. For the Federal Republic of Germany, the "National Foreword" of DIN EN 60079-14/VDE 0165, Section 1, must also be adhered to.
The system must be checked by a qualified electrician upon completion of the installation!
The dielectric strength of at least 500 V of the intrinsically safe circuits of the the F*-LBF-I1.32 is limited only by the overvoltage protection.*

There must be at least 5 thread turns in mechanical connection for installation in a flameproof housing. There must be a suitable mechanism to prevent the device from coming loose in the threading as well as one to ensure the IP protection class. This can be achieved as follows:

- Use of lock nuts with seals or
- Use of Loctite medium-strong adhesive in threaded holes.

For installation in a housing with the "increased safety" ignition protection class, there must be suitable mechanisms to ensure IP protection and that the device does not turn out of the threadings. This can be achieved as follows:

- Use of lock nuts with seals or
- Use of Loctite medium-strong adhesive in threaded holes.

8 Mounting and dismantling



Warning

The acknowledged rules of technology and applicable regulations for installers must be adhered to for mounting and dismantling. Especially when working on electrical systems, special safety requirements must be complied with.

The following items are of particular importance within the framework of commissioning:

- *The Fieldbus Surge Protector must be installed according to all applicable instructions and regulations,*
- *the Fieldbus Surge Protector must not be damaged,*
- *the connection area is clean,*
- *IP protection is ensured*
- *the Fieldbus Surge Protector is installed in such a way to ensure that the device does not turn out of the threadings,*
- *the Fieldbus Surge Protector and the lock nuts have been properly tightened,*
- *no parts of the flameproof enclosure are damaged,*
- *the threaded joint limiting areas of the flameproof Fieldbus Surge Protector version must neither be treated nor painted afterwards.*

9 Service and maintenance

As the transmission behaviour of the Fieldbus Surge Protectors remains stable even over long periods, e.g. adjustment at regular intervals is not required. Other maintenance tasks do not need to be performed either.

10 Troubleshooting



Warning

Devices being operated in connection with hazardous areas may not be changed or manipulated. In case of defect, the device must be removed and replaced with a new one.

11 Disposal



The packing and the Fieldbus Surge Protectors must be disposed of according to the local regulations of the country in which the Fieldbus Surge Protector is installed.

PROCESS AUTOMATION – PROTECTING YOUR PROCESS



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