



# IECEx Certificate of Conformity

**INTERNATIONAL ELECTROTECHNICAL COMMISSION**  
**IEC Certification Scheme for Explosive Atmospheres**  
for rules and details of the IECEx Scheme visit [www.iecex.com](http://www.iecex.com)

Certificate No.:  issue No.:

Status:

Date of Issue:  Page 1 of 3

Applicant: **FAFNIR GmbH**  
Bahrenfelder Straße 19  
22765 Hamburg  
Germany

Electrical Apparatus: **Safety barrier type SB 1**  
Optional accessory:

Type of Protection: **Intrinsic Safety, Flameproof Enclosure**

Marking: **Ex d [ia] IIC T4 Ga/Gb**

Approved for issue on behalf of the IECEx  
Certification Body:

Position:

Signature:  
(for printed version)

Date:

2010-07-07

1. This certificate and schedule may only be reproduced in full.
2. This certificate is not transferable and remains the property of the issuing body.
3. The Status and authenticity of this certificate may be verified by visiting the [Official IECEx Website](http://www.iecex.com).

Certificate issued by:

**TÜV NORD CERT GmbH**  
Hanover Office  
Am TÜV 1  
30519 Hannover  
Germany





# IECEx Certificate of Conformity

Certificate No.: IECEx TUN 10.0003X

Date of Issue: 2010-07-07

Issue No.: 0

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Manufacturer: **FAFNIR GmbH**  
Bahrenfelder Straße 19  
22765 Hamburg  
Germany

Manufacturing location(s):

This certificate is issued as verification that a sample(s), representative of production, was assessed and tested and found to comply with the IEC Standard list below and that the manufacturer's quality system, relating to the Ex products covered by this certificate, was assessed and found to comply with the IECEx Quality system requirements. This certificate is granted subject to the conditions as set out in IECEx Scheme Rules, IECEx 02 and Operational Documents as amended.

#### STANDARDS:

The electrical apparatus and any acceptable variations to it specified in the schedule of this certificate and the identified documents, was found to comply with the following standards:

<b>IEC 60079-0 : 2004</b> Edition: 4.0	Electrical apparatus for explosive gas atmospheres - Part 0: General requirements
<b>IEC 60079-0 : 2007-10</b> Edition: 5	Explosive atmospheres - Part 0: Equipment - General requirements
<b>IEC 60079-1 : 2007-04</b> Edition: 6	Explosive atmospheres - Part 1: Equipment protection by flameproof enclosures "d"
<b>IEC 60079-11 : 2006</b> Edition: 5	Explosive atmospheres - Part 11: Equipment protection by intrinsic safety "i"
<b>IEC 60079-26 : 2006</b> Edition: 2	Explosive atmospheres - Part 26: Equipment with equipment protection level (EPL) Ga

*This Certificate **does not** indicate compliance with electrical safety and performance requirements other than those expressly included in the Standards listed above.*

#### TEST & ASSESSMENT REPORTS:

*A sample(s) of the equipment listed has successfully met the examination and test requirements as recorded in*

Test Report:

[DE/TUN/ExTR10.0005/00](#)

Quality Assessment Report:

[DE/TUN/QAR06.0013/01](#)



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## Schedule

### EQUIPMENT:

*Equipment and systems covered by this certificate are as follows:*

The safety barrier SB 1 is used particularly in conjunction with a certificated flameproof enclosure (e.g. HPH Ex D) to connect intrinsic safety sensor to not intrinsic safe circuit. The equipment is made for installations in explosive hazardous locations (zone 1). It can also be installed on its own outside explosive hazardous location.

### CONDITIONS OF CERTIFICATION: YES as shown below:

See Technical\_data\_IECEx\_TUN\_10\_0003X.pdf

## IECEX TUN 10.0003X

### Technical data

Permitted range of ambient temperature is -40 °C to +85 °C.

Supply circuit

$U = 24 \text{ V d.c.}$   
 $U_m = 253 \text{ V}$

Output circuit

in type of protection Intrinsic Safety Ex ia IIC/IIB

Maximum values:

$U_o \leq 28.4 \text{ V}$   
 $I_o \leq 100 \text{ mA}$   
 $P_o \leq 708 \text{ mW}$   
 $R_{fi} \geq 285 \Omega$

Characteristic line: linear

Maximum permissible outer capacitance and inductance:

	Ex ia IIC		Ex ia IIB	
$L_o$	390 $\mu\text{H}$	0.2 mH	2 mH	0.2 mH
$C_o$	71 nF	79 nF	280 nF	560 nF

Special conditions for safe use

The safety barrier SB 1 can be installed only in conjunction with a certificated flameproof enclosure (e.g. HPH Ex d) inside zone 1.

Maximum permissible pressure is 12.9 bar.

The PA wire has to be connected with the potential compensation of the explosion hazardous area.

The intrinsically safe circuit is galvanically connected with the earth potential, potential compensation has to exist in the complete course of the erection of the intrinsically safe circuit.