IECEx Certificate of Conformity

INTERNATIONAL ELECTROTECHNICAL COMMISSION
IEC Certification System for Explosive Atmospheres

for rules and details of the IECEx Scheme visit www.iecex.com

Certificate No.:	**IECEx TUN 09.0013X**	Page 1 of 4	Certificate history: Issue 0 (2010-03-04)
Status:	**Current**	Issue No: 1	
Date of Issue:	2019-11-06		
Applicant:	**FAFNIR GmbH** Schnackenburgallee 149 c 22525 Hamburg **Germany**		
Equipment:	**Enclosure with and without display type HPH Ex ...**		
Optional accessory:			
Type of Protection:	**Flameproof Enclosure, Protection by Enclosure, Intrinsic Safety**		
Marking:	HPH Ex d ...: Ex db IIC T6...T4 Gb resp. Ex ta IIIC T100 °C Da HPH Ex i D: Ex ia IIC T6...T4 Ga resp. Ex ia IIIC T125 °C Da		

Approved for issue on behalf of the IECEx Certification Body: **Christian Roder**

Position: **Head of IECEx Certification Body**

Signature: (for printed version)

Date: 2019-11-06

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 www.iecex.com or use of this QR Code.

Certificate issued by:

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

IECEx Certificate of Conformity

Certificate No.: **IECEx TUN 09.0013X**

Date of issue: 2019-11-06

Issue No: 1

Manufacturer: **FAFNIR GmbH**
Schnackenburgallee 149 c
22525 Hamburg
Germany

Additional manufacturing locations:

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 equipment 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

IEC 60079-0:2017 Explosive atmospheres - Part 0: Equipment - General requirements
Edition:7.0

IEC 60079-1:2014-06 Explosive atmospheres - Part 1: Equipment protection by flameproof enclosures "d"
Edition:7.0

IEC 60079-11:2011 Explosive atmospheres - Part 11: Equipment protection by intrinsic safety "i"
Edition:6.0

IEC 60079-31:2013 Explosive atmospheres - Part 31: Equipment dust ignition protection by enclosure "t"
Edition:2

This Certificate **does not** indicate compliance with 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/ExTR09.0022/01

Quality Assessment Report:

DE/TUN/QAR06.0013/06

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EQUIPMENT:
Equipment and systems covered by this Certificate are as follows:

The enclosure with or without display type HPH Ex d ... is preferably used in conjunction with a certified flameproof encapsulated safety barrier, e.g. SB 1, to connect intrinsically safe sensors (two-wire) to non-intrinsically safe circuits and, if necessary, to visualise the measured value.

The enclosure with display type HPH Ex i D is preferably used in intrinsically safe sensor circuits to visualise a measured value.

See attachment for technical data.

SPECIFIC CONDITIONS OF USE: YES as shown below:
1. If the type HPH Ex i D is mounted in a plastic enclosure, the danger of ignition by electrostatic generated by friction on the enclosure must be avoided.

2. If the type HPH Ex i D is mounted in an aluminium enclosure, an ignition hazard caused by impact or friction must be avoided.

3. For the electrical connection at type HPH Ex d ..., cable glands certified in the type of protection flameproof enclosure must be used.

4. Repair of flameproof joints of enclosure HPH Ex d ... is not planned.

5. The equipotential bonding connection of a metallic enclosure must be connected to the equipotential bonding of the potentially explosive area (an equipotential bonding must exist for the entire intrinsically safe area).

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DETAILS OF CERTIFICATE CHANGES (for issues 1 and above)
The changes affect the addition of a new type and the dust explosion protection. Furthermore, the equipment was assessed according to the latest standards.

Annex:

Attachment to IECEx TUN 09.0013X Issue 1.pdf

TÜV NORD CERT GmbH
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Temperatures

Type HPH Ex d …

Used as EPL Gb equipment

Temperature class	Ambient temperature
T6	-40 °C to +50 °C
T5	-40 °C to +65 °C
T4	-40 °C to +85 °C
T3	-40 °C to +85 °C
T2	-40 °C to +85 °C
T1	-40 °C to +85 °C

Used as EPL Da equipment

Maximum surface temperature		Ambient temperature range
dust layer ≤ 5 mm	immersed in dust	
T_a + 15 °C	T_a + 15 °C	-40 °C to +85 °C

Type HPH Ex i D

Used as EPL Ga equipment

Temperature class	Ambient temperature range
T6	-40 °C to +40 °C
T5	-40 °C to +55 °C
T4	-40 °C to +60 °C
T3	-40 °C to +60 °C
T2	-40 °C to +60 °C
T1	-40 °C to +60 °C

The process pressure for the media must be between 0.8 bar and 1.1 bar where explosive vapour-air mixtures are present. If no explosive mixtures are present, the equipment may also be operated outside this area according to the manufacturer's specification.

Used as EPL Gb equipment

Temperature class	Ambient temperature range	
	at I_i ≤ 200 mA	at I_i ≤ 100 mA
T6	-40 °C to +40 °C	-40 °C to +40 °C
T5	-40 °C to +55 °C	-40 °C to +55 °C
T4	-40 °C to +65 °C	-40 °C to +85 °C
T3	-40 °C to +65 °C	-40 °C to +85 °C
T2	-40 °C to +65 °C	-40 °C to +85 °C
T1	-40 °C to +65 °C	-40 °C to +85 °C

Used as EPL Da equipment

Maximum surface temperature		Ambient temperature range
dust layer ≤ 5 mm	Immersed in dust	
I_i ≤ 200 mA: T_a + 55 °C I_i ≤ 100 mA: T_a + 40 °C	observe EN 60079-14	I_i ≤ 200 mA: -40 °C … +65 °C I_i ≤ 100 mA: -40 °C … +85 °C

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Electrical data

Type HPH Ex d

Signal and supply circuit (terminal -, +)	in type of protection flameproof enclosure Ex db IIC and protection by enclosure Ex ta IIIC U = 12 V_{DC} … 26 V_{DC} I = 4 mA … 20 mA

Type HPH Ex d D

Signal and supply circuit (terminal -, +)	in type of protection flameproof enclosure Ex db IIC and protection by enclosure Ex ta IIIC U = 16 V_{DC} … 29 V_{DC} I = 4 mA … 20 mA

Type HPH Ex i D

Signal and supply circuit (terminal -, +)	in type of protection intrinsic safety Ex ia IIC/IIIC Maximum values: U_i = 30 V I_i = 200 mA at $T_a \leq +65$ °C resp. 100 mA at $T_a \leq +85$ °C P_i = 1 W L_i = 250 µH C_i = 25 nF