



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

Certificate No.: **IECEX TUN 04.0006X** issue No.: **4**

Status: **Current**

Date of Issue: **2014-04-01**

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Certificate history:

Issue No. 4 (2014-4-1)
Issue No. 3 (2012-6-12)
Issue No. 2 (2006-11-23)

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

Electrical Apparatus: **Level gauge**
Optional accessory: **TORRIX Ex ... and TORRIX Ex ... SC ...**

Type of Protection: **Intrinsic safety**

Marking: **Ex ia IIC T4 Ga resp. Ex ia IIC T6 Ga/Gb resp. Ex ia IIC T6 Gb**

Approved for issue on behalf of the IECEx
Certification Body:

Karl-Heinz Schwedt

Position:

Head of the IECEx Certification Body

Signature:
(for printed version)

Date:

2014-04-01

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





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

Additional Manufacturing location
(s):

FAFNIR GmbH
Bahrenfelder Straße 19
22765 Hamburg
Germany

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:

IEC 60079-0 : 2011 Edition: 6.0	Explosive atmospheres - Part 0: General requirements
IEC 60079-11 : 2011 Edition: 6.0	Explosive atmospheres - Part 11: Equipment protection by intrinsic safety "i"
IEC 60079-26 : 2006 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

IECEx ATR:
DE/TUN/04/551164
DE/TUN/ExTR12.0019/00
DE/TUN/ExTR12.0019/01

File Reference:
04 YEX 551164
12 217 100332
14 217 139555



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Schedule

EQUIPMENT:

Equipment and systems covered by this certificate are as follows:

The level gauge type TORRIX Ex ... or TORRIX Ex ... SC ... consists of a housing with the evaluating electronics, the sensor, the tube and float. The tube with the float is placed within the liquid. A permanent magnet, situated in the float, twists the sensor - a magnetostrictive wire. The evaluating electronics calculate the filling level from the running times of this mechanical shaft. The level gauge has to be supplied with intrinsically safe circuits.

The data can be found in the "Attachment to IECEx TUN 04.0006X Issue 4".

CONDITIONS OF CERTIFICATION: YES as shown below:

1. If titanium floats are used, care must be taken during the installation and the operation that these floats cannot cause any frictional and impact sparks.
2. The level gauge isn't marked with the permitted ambient temperature and the liquid temperature. The relation between the temperature class, the permitted ambient temperature (T_a) and the permitted liquid temperature (T_F) shows the instruction manual or in the "Attachment to IECEx TUN 04.0006X Issue 4".



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DETAILS OF CERTIFICATE CHANGES (for issues 1 and above):

Issue 1 and issue 2 were withdrawn.

For this issue 4 the types TORRIX Ex HART ..., TORRIX Ex TAG... and TORRIX Ex ... Flex ... were added. Further the internal electronic structure has been changed.

The permissible ambient temperature ranges as well as the medium temperature in dependence of the temperature class have to be taken from the following tables:

TORRIX Ex ... and TORRIX Ex ... SC ...

Use as EPL Ga apparatus

Temperature class	Ambient temperature range/Medium temperature
T1 to T4	-20 °C to +60 °C

The process pressure of the media has to be from 0.8 bar to 1.1 bar when potentially explosive mist air mixtures exist. If no potential explosive mixtures exist, the device may also be operated outside of this stated range according to the specification of the manufacturer.

TORRIX Ex ...

Use as EPL Ga/Gb apparatus

Temperature class	Ambient temperature range	Medium temperature
T6	-40 °C to +40 °C	-20 °C to +60 °C
T5	-40 °C to +55 °C	-20 °C to +60 °C
T4 to T1	-40 °C to +85 °C	-20 °C to +60 °C

The process pressure of the media has to be from 0.8 bar to 1.1 bar when potentially explosive mist air mixtures exist. If no potential explosive mixtures exist, the device may also be operated outside of this stated range according to the specification of the manufacturer.

TORRIX Ex ... SC ...

Use as EPL Ga/Gb apparatus

Temperature class	Ambient temperature range	Medium temperature
T6	-40 °C to +50 °C	-20 °C to +60 °C
T5	-40 °C to +65 °C	-20 °C to +60 °C
T4 to T1	-40 °C to +75 °C	-20 °C to +60 °C

The process pressure of the media has to be from 0.8 bar to 1.1 bar when potentially explosive mist air mixtures exist. If no potential explosive mixtures exist, the device may also be operated outside of this stated range according to the specification of the manufacturer.

TORRIX Ex ...

Use as EPL Gb apparatus

Temperature class	Ambient temperature range	Medium temperature
T6	-40 °C to +40 °C	-40 °C to +85 °C
T5	-40 °C to +55 °C	-40 °C to +100 °C
T4	-40 °C to +85 °C	-40 °C to +135 °C
T3	-40 °C to +85 °C	-40 °C to +200 °C
T2	-40 °C to +85 °C	-40 °C to +300 °C
T1	-40 °C to +85 °C	-40 °C to +450 °C

TORRIX Ex ... SC ...

Use as EPL Gb apparatus

Temperature class	Ambient temperature range	Medium temperature
T6	-40 °C to +50 °C	-40 °C to +85 °C
T5	-40 °C to +65 °C	-40 °C to +100 °C
T4	-40 °C to +75 °C	-40 °C to +135 °C
T3	-40 °C to +75 °C	-40 °C to +200 °C
T2	-40 °C to +75 °C	-40 °C to +300 °C
T1	-40 °C to +75 °C	-40 °C to +450 °C

Electrical data

Type TORRIX Ex ...

Signal- and supply circuit
 (terminals +, -)

in type of protection “Intrinsic safety“ Ex ia IIC
 only for the connection to certified intrinsically safe circuits with
 the following maximum values:

Maximum values: $U_i = 30 \text{ V}$
 $I_i = 200 \text{ mA}$
 $P_i = 1 \text{ W}$
 $C_i = 5 \text{ nF}$
 $L_i = 50 \text{ } \mu\text{H}$

Type TORRIX Ex ... SC ...

Signal- and supply circuit
 (terminals +, -, A, B)

in type of protection “Intrinsic safety“ Ex ia IIC
 only for the connection to certified intrinsically safe circuits with
 the following maximum values:

Maximum values: $U_i = 15 \text{ V}$
 $I_i = 60 \text{ mA}$
 $P_i = 100 \text{ mW}$
 $C_i = 10 \text{ nF}$
 $L_i = 100 \text{ } \mu\text{H}$