



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.: **2** Certificate history: _____

Status: **Current**

Date of Issue: **2006-11-23** Page 1 of 5

Applicant: **FAFNIR GmbH**
Bahrenfelder Strasse 19
D-22765 Hamburg
Germany

Electrical Apparatus: **Level gauge**
Optional accessory: **TORRIX, TORRIX-B, TORRIX...HART, TORRIX...TAG and TORRIX...FLEX**

Type of Protection: **Intrinsic safety**


Marking: **Ex ia IIC T6...T2**

Approved for issue on behalf of the IECEx Certification Body: **Karl-Heinz Schwedt**

Position: **Head of IECExCB**

Signature:
(for printed version)

Date:



2006-11-23

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 & Co. KG
Am TÜV1
D-30519 Hannover
Germany





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Manufacturer: **FAFNIR GmbH**
Bahrenfelder Strasse 19
D-22765 Hamburg
Germany

Manufacturing location(s):

FAFNIR GmbH
Bahrenfelder Strasse 19
D-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 : 2000 Electrical apparatus for explosive gas atmospheres - Part 0: General requirements
Edition: 3.1

IEC 60079-11 : 1999 Electrical apparatus for explosive gas atmospheres - Part 11: Intrinsic safety 'i'
Edition: 4

*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/06/333058

File Reference:
04 YEX 551164
06 YEX 333058



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Schedule

EQUIPMENT:

Equipment and systems covered by this certificate are as follows:

The level gauge type TORRIX or TORRIX-B 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 connection between the temperature code, the permitted ambient temperature (T_a) and the admissible liquid temperature (T_F), can be taken from the following table:

Temperature code	T_a	T_F
T6	-20 °C to 40 °C	up to 85 °C
T5	-20 °C to 55 °C	up to 100 °C
T4	-20 °C to 85 °C	up to 135 °C
T3	-20 °C to 85 °C	up to 200 °C
T2	-20 °C to 85 °C	up to 250 °C

Electrical data

Signal- and supplier circuit (terminals +, -)	in type of protection "Intrinsic Safety" Ex ia IIC only for a connection to a certified intrinsically safe circuit with the following maximum values: $U_i = 30 \text{ V}$ $I_i = 200 \text{ mA}$ $P_i = 1 \text{ W}$ $L_i = 250 \text{ } \mu\text{H}$ $C_i = 5 \text{ nF}$
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CONDITIONS OF CERTIFICATION: YES as shown below:

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.

The level gauge isn't signed with the permitted ambient temperature and the liquid temperature. The relation between the temperature code, the permitted ambient temperature (T_a) and the permitted liquid temperature (T_F) shows the above table or the operation manual.



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EQUIPMENT(continued):

Electrical data	
Signal- and supplier circuit (terminals +, -)	in type of protection "Intrinsic Safety" Ex ia IIC only for a connection to a certified intrinsically safe circuit with the following maximum values: $U_i = 30 \text{ V}$ $I_i = 200 \text{ mA}$ $P_i = 1 \text{ W}$ $L_i = 250 \mu\text{H}$ $C_i = 5 \text{ nF}$



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

The level gauge type TORRIX and TORRIX-B has been modified. New models are added: type TORRIX...HART, TORRIX...TAG and TORRIX...FLEX. All types of TORRIX 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 electrical data and all further information also applies in unaltered form to this supplement. Details of Certificate changes for issue 2: Issue 2 was generated because of missing electrical data in issue 1.