



# 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.: IECEx TUN 05.0004X

Issue No: 7

Certificate history:

Status: Current

Issue No. 7 (2018-06-28)

Date of Issue: 2018-06-28

Page 1 of 4

Issue No. 6 (2016-05-25)

Applicant: FAFNIR GmbH  
Schnackenburgallee 149 c  
22525 Hamburg  
Germany

Issue No. 5 (2015-06-25)

Issue No. 4 (2013-12-06)

Issue No. 3 (2012-08-13)

Issue No. 2 (2012-03-29)

Issue No. 1 (2010-07-07)

Issue No. 0 (2006-06-08)

Equipment: Magnetostrictive Tank Level Gauge VISY-Stick ... and TORRIX Ex ...

Optional accessory:

Type of Protection: Intrinsic Safety "ia"

Marking: See attachment.

Approved for issue on behalf of the IECEx  
Certification Body:

Frank Hiller

Position:

Deputy Head of the IEC Certification Body

Signature:  
(for printed version)

Date:

2018-06-28

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 05.0004X

Issue No: 7

Date of Issue: **2018-06-28**

Page 2 of 4

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

Additional 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 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 : 2017</b> Edition:7.0	Explosive atmospheres - Part 0: Equipment - General requirements
<b>IEC 60079-11 : 2011</b> Edition:6.0	Explosive atmospheres - Part 11: Equipment protection by intrinsic safety "i"
<b>IEC 60079-26 : 2014-10</b> Edition:3.0	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/ExTR10.0006/06

File Reference:  
18 217 218429



# IECEX Certificate of Conformity

Certificate No: IECEX TUN 05.0004X

Issue No: 7

Date of Issue: 2018-06-28

Page 3 of 4

## Schedule

### EQUIPMENT:

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

The Magnetostrictive Tank Level Gauge VISY-Stick ... and TORRIX Ex ... are used for the detection of filling levels in hazardous explosive areas.

See attachment for further details.

### **SPECIFIC CONDITIONS OF USE: YES as shown below:**

When using Titanium Floats or Sump Environmental Sensors, the risk of ignition due to impact or friction shall be avoided.

When using plastic floats, there is a danger of ignition due to electrostatic discharge.

The manufacturer's operating instructions must be observed.



# IECEX Certificate of Conformity

Certificate No: IECEX TUN 05.0004X

Issue No: 7

Date of Issue: 2018-06-28

Page 4 of 4

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

The changes affect the internal structure as well as the addition of new types. Furthermore, the equipment was assessed according to the latest standards.

**Annex:**

[Attachment to IECEX TUN 05.0004X Issue 7.pdf](#)

### Marking

#### TORRIX Ex ...:

Ex ia IIC T4 Ga	resp.
Ex ia IIC T6...T3 Ga/Gb	resp.
Ex ia IIC T6...T3 Gb	resp.
Ex ia IIIC T160 °C Da	

#### TORRIX Ex ... PL:

Ex ia IIB T4 Ga	resp.
Ex ia IIB T6...T3 Ga/Gb	resp.
Ex ia IIB T6...T3 Gb	resp.
Ex ia IIIC T160 °C Da	

#### TORRIX Ex SC..., VISY-Stick ... and VISY-Stick Flex Temp ...:

Ex ia IIC T4 Ga	resp.
Ex ia IIC T6...T4 Ga/Gb	resp.
Ex ia IIC T6...T4 Gb	resp.
Ex ia IIIC T135 °C Da	

#### TORRIX Ex SC...-A, TORRIX Ex SC... Flex, TORRIX Ex SC... PL and VISY-Stick Advanced ..., VISY-Stick ... Flex ...:

Ex ia IIB T4 Ga	resp.
Ex ia IIB T6...T4 Ga/Gb	resp.
Ex ia IIB T6...T4 Gb	resp.
Ex ia IIIC T135 °C Da	

#### TORRIX Ex C..., TORRIX Ex RS485..., TORRIX Ex TAG..., VISY-Stick ... RS485 and VISY-Stick Flex Temp RS485:

Ex ia IIC T4 Ga	resp.
Ex ia IIC T4...T3 Ga/Gb	resp.
Ex ia IIC T4...T3 Gb	resp.
Ex ia IIIC T140 °C Da	

#### TORRIX Ex C...-A, TORRIX Ex C... Flex, TORRIX Ex C... PL, TORRIX Ex RS485...-A, TORRIX Ex RS485... Flex, TORRIX Ex RS485... PL, TORRIX Ex TAG...-A, TORRIX Ex TAG... Flex, TORRIX Ex TAG... PL, VISY-Stick Advanced ... RS485, VISY-Stick ... Flex ... RS485:

Ex ia IIB T4 Ga	resp.
Ex ia IIB T4...T3 Ga/Gb	resp.
Ex ia IIB T4...T3 Gb	resp.
Ex ia IIIC T140 °C Da	

#### VISY-Stick ... TLS and VISY-Stick Flex Temp TLS:

Ex ia IIC T4 Ga	resp.
Ex ia IIC T4...T3 Ga/Gb	resp.
Ex ia IIC T4...T3 Gb	resp.
Ex ia IIIC T195 °C Da	

#### VISY-Stick Advanced ... TLS and VISY-Stick ... Flex ... TLS:

Ex ia IIB T4 Ga	resp.
Ex ia IIB T4...T3 Ga/Gb	resp.
Ex ia IIB T4...T3 Gb	resp.
Ex ia IIIC T195 °C Da	

**Temperatures**

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

**Use as EPL Ga apparatus**

***VISY-Stick ... and TORRIX Ex ...***

Temperature class	Ambient and Medium temperature range
T4 to T1	-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.

**Use as EPL Ga/Gb apparatus**

***TORRIX Ex ...***

Temperature class	Ambient temperature range	Medium temperature range
T6	-40 °C to +40 °C	-20 °C to +60 °C
T5	-40 °C to +55 °C	-20 °C to +60 °C
T4	-40 °C to +80 °C	-20 °C to +60 °C
T3 to T1	-40 °C to +85 °C	-20 °C to +60 °C

***VISY-Stick ... and TORRIX Ex SC...***

Temperature class	Ambient temperature range	Medium temperature range
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 +85 °C	-20 °C to +60 °C

***VISY-Stick ... RS485, VISY-Stick ... TLS,  
 TORRIX Ex C..., TORRIX Ex RS485... and TORRIX Ex TAG...***

Temperature class	Ambient temperature range	Medium temperature range
T4	-40 °C to +75 °C	-20 °C to +60 °C
T3 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.

Use as EPL Gb apparatus

**TORRIX Ex ...**

Temperature class	Ambient temperature range	Medium temperature range
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 +80 °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

**VISY-Stick ... and TORRIX Ex SC...**

Temperature class	Ambient temperature range	Medium temperature range
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 +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

**VISY-Stick ... RS485, VISY-Stick ... TLS,  
 TORRIX Ex C..., TORRIX Ex RS485... and TORRIX Ex TAG...**

Temperature class	Ambient temperature range	Medium temperature range
T4	-40 °C to +75 °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

The permissible ambient temperature ranges in dependence of the maximum surface temperature and dust layer have to be taken from the following tables:

**Use as EPL Da apparatus**

**TORRIX Ex ...**

Maximum surface temperature		Ambient temperature range
Dust layer ≤ 5 mm	immersed in dust	
$T_a + 75\text{ °C}$	Observe IEC 60079-14	-40 °C to +85 °C

**VISY-Stick ... and TORRIX Ex SC...**

Maximum surface temperature		Ambient temperature range
Dust layer ≤ 5 mm	immersed in dust	
$T_a + 30\text{ °C}$	135 °C	-40 °C to +85 °C

**VISY-Stick ... TLS**

Maximum surface temperature		Ambient temperature range
Dust layer ≤ 5 mm	immersed in dust	
$T_a + 110\text{ °C}$	135 °C	-40 °C to +77 °C
$T_a + 110\text{ °C}$	Observe IEC 60079-14	-40 °C to +85 °C

**VISY-Stick ... RS485, TORRIX Ex C..., TORRIX Ex RS485... and TORRIX Ex TAG...**

Maximum surface temperature		Ambient temperature range
Dust layer ≤ 5 mm	immersed in dust	
$T_a + 55\text{ °C}$	Observe IEC 60079-14	-40 °C to +85 °C



### Electrical data

#### **type VISY-Stick ... and TORRIX Ex SC...**

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

in type of protection "Intrinsic safety" Ex ia IIC/IIB resp. Ex ia IIIC  
only for the connection to certified intrinsically safe circuits with  
the following maximum values:

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

**The types VISY-Stick Advanced, VISY-Stick Flex, TORRIX Ex SC...-A TORRIX Ex SC... Flex and TORRIX Ex SC... PL are only used for gas group IIB.**

#### **type VISY-Stick ... TLS**

Signal- and supply circuit  
(terminals +, -)

in type of protection "Intrinsic safety" Ex ia IIC/IIB resp. Ex ia IIIC  
only for the connection to certified intrinsically safe circuits with  
the following maximum values:

Maximum values:  $U_i = 13 \text{ V}$   
 $I_i = 200 \text{ mA}$   
 $P_i = 625 \text{ mW}$   
 $C_i = 20 \text{ nF}$   
 $L_i = 410 \text{ }\mu\text{H}$

**The types VISY-Stick Advanced TLS and VISY-Stick Flex TLS are only used for gas group IIB.**

#### **type VISY-Stick ... RS485, TORRIX Ex ..., TORRIX Ex C..., TORRIX Ex RS485... and TORRIX Ex TAG...**

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

in type of protection "Intrinsic safety" Ex ia IIC/IIB resp. Ex ia IIIC  
only for the connection to certified intrinsically safe circuits with  
the following maximum values:

Maximum values:  $U_i = 30 \text{ V}$   
 $I_i = 200 \text{ mA}$   
 $P_i = 1 \text{ W}$   
 $C_i = 10 \text{ nF}$   
 $L_i = 20 \text{ }\mu\text{H}$

**The types VISY-Stick Advanced RS485, VISY-Stick Flex RS485, TORRIX Ex ...-A, TORRIX Ex ... Flex and TORRIX Ex ... PL are only used for gas group IIB.**