



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 05.0004X	Page 1 of 4	<u>Certificate history:</u>
Status:	Current	Issue No: 8	Issue 7 (2018-06-28)
Date of Issue:	2020-03-24		Issue 6 (2016-05-25)
Applicant:	FAFNIR GmbH Schnackenburgallee 149 c 22525 Hamburg Germany		Issue 5 (2015-06-25)
Equipment:	Magnetostrictive Tank Level Gauge VISY-Stick ... and TORRIX Ex ...		Issue 4 (2013-12-06)
Optional accessory:			Issue 3 (2012-08-13)
Type of Protection:	Intrinsic Safety "ia"		Issue 2 (2012-03-29)
Marking:	See attachment.		Issue 1 (2010-07-07)
			Issue 0 (2006-06-08)

Approved for issue on behalf of the IECEx
Certification Body:

Christian Roder

Position:

Head of the IECEx Certification Body

Signature:
(for printed version)

Date:

2020-03-24

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 05.0004X**

Page 2 of 4

Date of issue: 2020-03-24

Issue No: 8

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

IEC 60079-26:2014-10 Explosive atmospheres – Part 26: Equipment with Equipment Protection Level (EPL) Ga
Edition:3.0

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/ExTR10.0006/07](#)

Quality Assessment Report:

[DE/TUN/QAR06.0013/07](#)



IECEX Certificate of Conformity

Certificate No.: **IECEX TUN 05.0004X**

Page 3 of 4

Date of issue: 2020-03-24

Issue No: 8

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**

Page 4 of 4

Date of issue: 2020-03-24

Issue No: 8

DETAILS OF CERTIFICATE CHANGES (for issues 1 and above)

The changes affect the internal structure as well as the change of temperature classes. Furthermore, the equipment was assessed according to the latest standards.

Annex:

[Attachment to IECEx TUN 05.0004X Issue 8_1.pdf](#)

Marking

TORRIX Ex ...:

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

TORRIX Ex ...-A, TORRIX Ex ... Flex and TORRIX Ex ... PL:

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

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

Ex ia IIC T6...5 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 T6...T5 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 T6...T4 Ga resp.
Ex ia IIC T6...T4 Ga/Gb resp.
Ex ia IIC T6...T4 Gb resp.
Ex ia IIIC T125 °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 T6...T4 Ga resp.
Ex ia IIB T6...T4 Ga/Gb resp.
Ex ia IIB T6...T4 Gb resp.
Ex ia IIIC T125 °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 SC...

Temperature class	Ambient and Medium temperature range
T6	-20 °C to +50 °C
T5 to T1	-20 °C to +60 °C

VISY-Stick ... RS485 and TORRIX Ex ...

Temperature class	Ambient and Medium temperature range
T6	$I_i \leq 100 \text{ mA}$: -20 °C to +40 °C $I_i \leq 200 \text{ mA}$: -20 °C to +25 °C
T5	$I_i \leq 100 \text{ mA}$: -20 °C to +55 °C $I_i \leq 200 \text{ mA}$: -20 °C to +40 °C
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

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

Temperature class	Ambient temperature range	Medium temperature range
T6	-40 °C to +50 °C	-20 °C to +50 °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 and TORRIX Ex ...

Temperature class	Ambient temperature range	Medium temperature range
T6	$I_i \leq 100 \text{ mA}$: -40 °C to +40 °C $I_i \leq 200 \text{ mA}$: -40 °C to +25 °C	$I_i \leq 100 \text{ mA}$: -20 °C to +40 °C $I_i \leq 200 \text{ mA}$: -20 °C to +25 °C
T5	$I_i \leq 100 \text{ mA}$: -40 °C to +55 °C $I_i \leq 200 \text{ mA}$: -40 °C to +40 °C	$I_i \leq 100 \text{ mA}$: -20 °C to +55 °C $I_i \leq 200 \text{ mA}$: -20 °C to +40 °C
T4 to T1	$I_i \leq 100 \text{ mA}$: -40 °C to +85 °C $I_i \leq 200 \text{ mA}$: -40 °C to +70 °C	-20 °C to +60 °C

VISY-Stick ... TLS

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

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 and TORRIX Ex ...

Temperature class	Ambient temperature range	Medium temperature range
T6	$I_i \leq 100 \text{ mA}$: -40 °C to +40 °C $I_i \leq 200 \text{ mA}$: -40 °C to +25 °C	-40 °C to +85 °C
T5	$I_i \leq 100 \text{ mA}$: -40 °C to +55 °C $I_i \leq 200 \text{ mA}$: -40 °C to +40 °C	-40 °C to +100 °C
T4	$I_i \leq 100 \text{ mA}$: -40 °C to +85 °C $I_i \leq 200 \text{ mA}$: -40 °C to +70 °C	-40 °C to +135 °C
T3	$I_i \leq 100 \text{ mA}$: -40 °C to +85 °C $I_i \leq 200 \text{ mA}$: -40 °C to +70 °C	-40 °C to +200 °C
T2	$I_i \leq 100 \text{ mA}$: -40 °C to +85 °C $I_i \leq 200 \text{ mA}$: -40 °C to +70 °C	-40 °C to +300 °C
T1	$I_i \leq 100 \text{ mA}$: -40 °C to +85 °C $I_i \leq 200 \text{ mA}$: -40 °C to +70 °C	-40 °C to +450 °C

VISY-Stick ... TLS

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	
135 °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	
$I_i \leq 100\text{ mA: } T_a + 40\text{ °C}$	Observe IEC 60079-14	-40 °C to +85 °C
$I_i \leq 200\text{ mA: } T_a + 55\text{ °C}$	Observe IEC 60079-14	-40 °C to +70 °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 ... 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: $U_i = 30 \text{ V}$
 $I_i = 200 \text{ mA at } T_a \leq +70 \text{ }^\circ\text{C resp.}$
 $I_i = 100 \text{ mA at } T_a \leq +85 \text{ }^\circ\text{C}$
 $P_i = 1 \text{ W}$
 $C_i = 10 \text{ nF}$
 $L_i = 20 \text{ }\mu\text{H}$

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.

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.