



# 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 10.0027X

issue No.:0

Certificate history:.....

Status:

Current

Date of Issue:

2011-04-06

Page 1 of 3

Applicant:

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

Electrical Apparatus:

**Measuring transmitter VPI with or without power supply VPI-Supply**

Optional accessory:

Type of Protection:

**Intrinsic Safety**

Marking:

**[Ex ia Ga] IIC**


Approved for issue on behalf of the IECEx  
Certification Body:

Position:

Signature:

(for printed version)

Date:

  
\_\_\_\_\_  
2011-04-06

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 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 10.0027X

Date of Issue: 2011-04-06

Issue No.: 0

Page 2 of 3

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

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 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:

<b>IEC 60079-0 : 2004</b> Edition: 4.0	Electrical apparatus for explosive gas atmospheres - Part 0: General requirements
<b>IEC 60079-11 : 2006</b> Edition: 5	Explosive atmospheres - Part 11: Equipment protection by intrinsic safety "i"
<b>IEC 60079-26 : 2006</b> 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*

Test Report:

[DE/TUN/ExTR10.0033/00](#)

Quality Assessment Report:

[DE/TUN/QAR06.0013/02](#)



# IECEx Certificate of Conformity

Certificate No.: IECEx TUN 10.0027X

Date of Issue: 2011-04-06

Issue No.: 0

Page 3 of 3

## Schedule

### EQUIPMENT:

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

The measuring transmitter VPI is used for the supply of intrinsically safe sensors which can be used in explosion hazardous areas. In addition, the measuring transmitter VPI is used for the transmission of electrical signals between the explosion hazardous area and non explosion hazardous area. Furthermore the measuring transmitter VPI is used as a module of a tank level measuring system. The measuring transmitter is made for a maximum of eight intrinsic safety channels. For powering the measuring transmitter it can be used the power supply VPI-Supply. Also it can be used any other power supply under condition of safe use.

The electrical data can be found in the annexe "Technical\_Data\_IECEx\_TUN\_10\_0027X".

### CONDITIONS OF CERTIFICATION: YES as shown below:

See Technical\_Data\_IECEx\_TUN\_10\_0027X.pdf

## **IECEX TUN 10.0027X**

### Technical data

#### **VPI with VPI-Supply**

Supply circuit  
(Terminals PE, N, L)

$U = 24 \text{ V a.c.}, \text{ or } 115 \text{ V a.c.}, \text{ or } 230 \text{ V a.c.}$   
 $\pm 10 \%, 40\text{-}60 \text{ Hz}, < 4 \text{ VA}$   
 $U_m = 30 \text{ V at } 24 \text{ V a.c.}$   
 $U_m = 130 \text{ V at } 115 \text{ V a.c.}$   
 $U_m = 253 \text{ V at } 230 \text{ V a.c.}$

Communication interface RS485  
(Terminals 1, 2, 3, 4)

$U = \pm 5 \text{ V}$   
 $U_m = 100 \text{ V}$

Sensor circuits CH01 ... CH08  
(Terminals +, A, B, -)

in type of protection Intrinsic Safety Ex ia IIC  
Maximum values per circuit:  
 $U_o = 10.5 \text{ V}$   
 $I_o = 41.0 \text{ mA}$   
 $P_o = 99.8 \text{ mW}$   
Characteristic line: linear  
Max. permissible external inductance  $L_o = 5 \text{ mH}$   
Max. permissible external capacitance  $C_o = 610 \text{ nF}$

The intrinsically safety sensor circuits are safely galvanically separated from the communication terminal (RS485) up to a peak crest value of the voltage of 190 V and from the supply terminal up to a peak crest value of the voltage of 375 V.

#### **VPI without VPI-Supply**

Supply circuit  
(Terminals 1, 2)

$U = 12 \text{ V d.c.}, \pm 10 \%, < 2 \text{ W}$   
 $U_m = 253 \text{ V}$

Communication interface RS485  
(Terminals 1, 2, 3, 4)

$U = \pm 5 \text{ V}$   
 $U_m = 100 \text{ V}$

Sensor circuits CH01 ... CH08  
(Terminals +, A, B, -)

in type of protection Intrinsic Safety Ex ia IIC  
Maximum values per circuit:  
 $U_o = 10.5 \text{ V}$   
 $I_o = 41.0 \text{ mA}$   
 $P_o = 99.8 \text{ mW}$   
Characteristic line: linear  
Max. permissible external inductance  $L_o = 5 \text{ mH}$   
Max. permissible external capacitance  $C_o = 610 \text{ nF}$

The intrinsically safety sensor circuits are safely galvanically separated from the communication terminal (RS485) up to a peak crest value of the voltage of 190 V.

Special conditions for safe use

The potential equalization terminal (PA) on printed circuit board of the measuring transmitter VPI has to be connected with the potential compensation of the explosion hazardous location when the power supply VPI-Supply is not used.

The measuring transmitter VPI and the power supply VPI-Supply has to be installed in an enclosure with degree of protection according to IEC 60529 of minimum IP20.

At installation of the measuring transmitter VPI with the power supply VPI-Supply the minimum clearance between these two has to be 50 mm (tight string length).

The permissible ambient temperature range of the measuring transmitter VPI and of the voltage supply VPI-Supply is -20 °C to +60 °C.