# 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 17.0018X issue No.:0 | Certificate history: |
| Status: | **Current** | |
| Date of Issue: | **2017-07-07** Page 1 of 3 | |
| Applicant: | **WIKA Alexander Wiegand SE & Co. KG**<br>Alexander-Wiegand-Straße 30<br>63911 Klingenberg<br>**Germany** | |
| Equipment:<br>*Optional accessory:* | **Process transmitter type IPT-2*-*D/4*-*****-A/H/S/P/F/R/T*-*****-***S*Z**-***-** and type CPT-2*-*D/4*-*****-A/H/S/P/F/R/T*-*****-********-***-**.** | |
| Type of Protection: | **Intrinsic Safety "ia"; Flemeproof "db"** | |
| Marking: | Ex db ia IIC T6...T1 Ga/Gb or<br>Ex db ia IIC T6...T1 Gb | |
| *Approved for issue on behalf of the IECEx Certification Body:* | Christian Roder | |
| *Position:* | Deputy head of Certification Body | |
| *Signature:*<br>*(for printed version)* | C. Roder | |
| *Date:* | 2017-07-07 | |

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.

Certificate issued by:

**TÜV NORD CERT GmbH**
**Hanover Office**
**Am TÜV 1, 30519 Hannover**
**Germany**

TÜV NORD

# IECEx Certificate of Conformity

Certificate No.: IECEx TUN 17.0018X

Date of Issue: **2017-07-07** Issue No.: **0**



Manufacturer: **WIKA Alexander Wiegand SE & Co. KG**
Alexander-Wiegand-Straße 30
63911 Klingenberg
**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 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**<br>Edition: 6.0 | Explosive atmospheres - Part 0: General requirements |
| **IEC 60079-1 : 2014-06**<br>Edition: 7.0 | Explosive atmospheres - Part 1: Equipment protection by flameproof enclosures "d" |
| **IEC 60079-11 : 2011**<br>Edition: 6.0 | Explosive atmospheres - Part 11: Equipment protection by intrinsic safety "i" |
| **IEC 60079-26 : 2014-10**<br>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*

Test Report:
DE/TUN/ExTR17.0017/00

Quality Assessment Report:

DE/BVS/QAR07.0010/11

# IECEx Certificate of Conformity

Certificate No.: IECEx TUN 17.0018X

Date of Issue: **2017-07-07** Issue No.: **0**



**Schedule**

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

**Subject and Type**:
Process transmitter type IPT-2*-*D/4*-*****-A/H/S/P/F/R/T*-*****-***S*Z**-***-** and type CPT-2*-*D/4*-*****-A/H/S/P/F/R/T*-*****-********-***-**.

**Description:**
The Process transmitter type CPT-20/21-*D/4*-... and IPT-20/21-*D/4*-... are used for pressure and level measurement in hazardous areas.
The CPT-20/21-*D/4-...* and IPT-20/21-*D/4-...* consist of an "Ex db" electronics housing with integrated electronics module, a process connection element and a sensor, the pressure measuring cell with optionally connected chemical seal. As an option the display and adjustment module can also be mounted.
The process transmitter type CPT-20/21-*D/4*-.... and IPT-20/21-*D/4*-... with integrated electronics A(4...20 mA), H (4...20 mA/HART), S (4...20 mA/HART with SIL qualification), P (Profibus PA), F (Foundation Fieldbus), R,T (differential pressure measurement) are available.

**Parameters:**
See attachment

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

At the plastic parts of the process transmitter type CPT-20/21-*D/4*-... and IPT-20/21-*D/4*-... there is a danger of ignition by electrostatic discharge. Observe manual of the manufacturer and warning label.

For EPL Ga/Gb applications, at the metallic parts of process transmitter type CPT- 20/21-*D/4*-... and IPT-20/21-*D/4*-... made of light metal there is a danger of ignition by impact or friction. Observe manual of the manufacturer.

For EPL Ga/Gb applications and at risks by pendulum or vibration the respective parts of the process transmitter type CPT-20/21-*D/4*-... and IPT-20/21-*D/4*-... have to be secured effectively against these dangers. Observe manual of the manufacturer.

For EPL Ga/Gb applications of the process transmitter type CPT-20/21-*D/4*-... and IPT-20/21- *D/4*-... the medium tangent materials have to be resistant to the media. Observe manual of the manufacturer.

For the execution with separate housing of the process transmitter type CPT-20/21-*D/4*-... and IPT-20/21-*D/4-...* potential equalization has to be exist in the complete course of the erection of the connecting cable.

**Annex:** _Attachment to IECEx TUN 17.0018X_ Issue 00.pdf

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**General product information:**

**Subject and Type:**
Process transmitter:
type IPT-2*-*D/4*-*****-A/H/S/P/F/R/T*-*****-***S*Z**-***-**and
type CPT-2*-*D/4*-*****-A/H/S/P/F/R/T*-*****-********-***-**

**Description:**
The Process transmitter type CPT-20/21-*D/4*-… and IPT-20/21-*D/4*-… are used for pressure and level measurement in hazardous areas.
The CPT-20/21-*D/4-…* and IPT-20/21-*D/4-…* consist of an “Ex db” electronics housing with integrated electronics module, a process connection element and a sensor, the pressure measuring cell with optionally connected chemical seal. As an option the display and adjustment module can also be mounted.
The process transmitter type CPT-20/21-*D/4*-…. and IPT-20/21-*D/4*-… with integrated electronics A(4…20 mA), H (4…20 mA/HART), S (4…20 mA/HART with SIL qualification), P (Profibus PA), F (Foundation Fieldbus), R,T (differential pressure measurement) are available.

**Parameters:**
Electrical data:

**IPT-20/21-*D/4*-…, CPT-20/21-*D/4*-… with integrated electronics A (4…20 mA), H (4…20 mA/ HART), S (4…20 mA/HART with SIL-Qualification), version with single chamber housing A, V**

| | |
|---|---|
| Power supply and signal circuit (Terminals 1[+], 2[-] in the electronics compartment) | Only to be connected to non-intrinsically safe circuit with following maximum values:<br><br>U = 9.6…35 V d.c<br>$U_m$ = 253 V a.c |
| Indicating and adjustment circuit (Terminals 5,6,7,8) | For connection to the circuit of corresponding external display and adjustment unit DI-PT-E in ignition protection type flameproof enclosure “db” or for connection of an IPT-20/21 and CPT-20/21 in ignition protection type flameproof enclosure “Ex db” with integrated electronics R or T as differential pressure measurement. |
| Circuit for the display and adjustment module (Spring contacts in the electronics compartment) | For connection to the display and adjustment module DI-PT-A |

**IPT-20/21-*D/4*-…, CPT-20/21-*D/4*-… with integrated electronics A (4…20 mA), H (4…20 mA/ HART), S (4…20 mA/HART with SIL-Qualification), version with double chamber housing D, W**

| | |
|---|---|
| Power supply and signal circuit (Terminals 1[+], 2[-] in the connection compartment) | Only to be connected to non-intrinsically safe circuit with following maximum values:<br><br>U = 9.6…35 V d.c<br>$U_m$ = 253 V a.c |
| Indicating and adjustment circuit (Terminals 5,6,7,8) | For connection to the circuit of corresponding external display and adjustment unit DI-PT-E in ignition protection type flameproof enclosure |

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| | |
|---|---|
| | "db" or for connection of an IPT-20/21 and CPT-20/21 in ignition protection type flameproof enclosure "Ex db" with integrated electronics R or T as differential pressure measurement. |
| Circuit for the display and adjustment module<br>(Spring contacts in the electronics compartment) | For connection to the display and adjustment module DI-PT-A |

**IPT-20/21-*D/4*-…, CPT-20/21-*D/4*-… with integrated electronics P (Profibus PA), F (Foundation Fieldbus), version with single chamber housing A, V**

| | |
|---|---|
| Power supply and signal circuit<br>(Terminals 1[+], 2[-] in the electronics compartment) | Only to be connected to non-intrinsically safe circuit with following maximum values:<br><br>U = 9.6…32 V d.c<br>$U_m$ = 253 V a.c |
| Indicating and adjustment circuit<br>(Terminals 5,6,7,8) | For connection to the circuit of corresponding external display and adjustment unit DI-PT-E in ignition protection type flameproof enclosure "db" or for connection of an IPT-20/21 and CPT-20/21 in ignition protection type flameproof enclosure "Ex db" with integrated electronics R as differential pressure measurement. |
| Circuit for the display and adjustment module<br>(Spring contacts in the electronics compartment) | For connection to the display and adjustment module DI-PT-A |

**IPT-20/21-*D/4*-…, CPT-20/21-*D/4*-… with integrated electronics P (Profibus PA), F (Foundation Fieldbus), version with double chamber housing D, W**

| | |
|---|---|
| Power supply and signal circuit<br>(Terminals 1[+], 2[-] in the connection compartment) | Only to be connected to non-intrinsically safe circuit with following maximum values:<br><br>U = 9.6…32 V d.c<br>$U_m$ = 253 V a.c |
| Indicating and adjustment circuit<br>(Terminals 5,6,7,8) | For connection to the circuit of corresponding external display and adjustment unit DI-PT-E in ignition protection type flameproof enclosure "db" or for connection of an IPT-20/21 and CPT-20/21 in ignition protection type flameproof enclosure "Ex db" with integrated electronics R as differential pressure measurement. |
| Circuit for the display and adjustment module<br>(Spring contacts in the electronics compartment) | For connection to the display and adjustment module DI-PT-A |

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**IPT-20/21-*D/4*-…, CPT-20/21-*D/4*-… with integrated electronics R or T, for differential pressure measurement**

| | |
|---|---|
| Power supply and signal circuit (Terminals 5,6,7,8 in the electronics compartment) | For connection to a IPT-20/21-*D/4*-…, CPT-20/21 -*D/4*-… with integrated electronics H, A, P, F for differential pressure measurement |

**IPT-20/21-*D/4*-…, CPT-20/21-*D/4*-… version with separate cable outlet (all electronics)**

| | |
|---|---|
| Circuit between sensor unit and external electronics (terminal 1- yellow, terminal 2-white, terminal 3-red, terminal 4-black) | In ignition protection type intrinsic safety Ex ia IIC With IPT-20/21-*D/4*-…, CPT-20/21-*D/4*-… in the version with fix mounted cable on the sensor unit and external electronics, the supplied cable between the external housing and the sensor unit must not exceed a length of 180 m. |

Thermal data:

**IPT-20/21-*D/4*-…, CPT-20/21-*D/4*-… with integrated electronics A (4…20 mA), H (4…20 mA/ HART) or S (4…20 mA/HART with SIL-Qualification), P (Profibus PA), F (Foundation Fieldbus) or R,T (differential pressure measurement)**

The max. permissible ambient temperatures depending on the temperature classes are specified in the following tables.

**EPL Ga/Gb instruments:**

| Temperatur class | Ambient temperature on the electronics (zone 1) | Product temperature range (sensor, zone 0) |
|---|---|---|
| T6 | -50°C … +60 °C | -20°C … +23 °C |
| T5, T4, T3, T2, T1 | -50°C … +60 °C | -20°C … +60 °C |

For applications requiring instruments of category 1/2G the process pressure of the media must be between 0.8…1.1 bar. If the IPT-20/21-*D/4*-…, CPT-20/21-*D/4*-… are operated at temperatures higher than those specified in the above table, make sure by means of appropriate measures that there is no danger of ignition from the hot surfaces. The maximum temperature on the electronics/ housing should not exceed the values stated in the above table. The application conditions in areas without hazardous mixtures are specified in the manufacturer information.

**EPL Gb instrument, IPT-20/21 with High-temperature version:**

| Temperature class | Ambient temperature on the electronics (zone 1) | Product temperature range (sensor, zone 1) |
|---|---|---|
| T6 | -50 °C … +60 °C | -50 °C … +39 °C |
| T5 | -50 °C … +60 °C | -50 °C … +100 °C |
| T4 | -50 °C … +50 °C | -50 °C … +135 °C |
| T3, T2, T1 | -50 °C … +50 °C | -50 °C … +200 °C |

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**EPL Gb instrument, IPT-20/version with standard process temperature:**

| Temperature class | Ambient temperature on the electronics (zone 1) | Product temperature range (sensor, zone 1) |
|---|---|---|
| T6 | -50 °C … +60 °C | -50 °C … +39 °C |
| T5 | -50 °C … +60 °C | -50 °C … +85 °C |
| T4 | -50 °C … +40 °C | -50 °C … +105 °C |
| T3, T2, T1 | -50 °C … +30 °C | -50 °C … +120 °C |

**EPL Gb instrument, IPT-20/version with extended process temperature:**

| Temperature class | Ambient temperature on the electronics (zone 1) | Product temperature range (sensor, zone 1) |
|---|---|---|
| T6 | -50 °C … +60 °C | -50 °C … +39 °C |
| T5 | -50 °C … +60 °C | -50 °C … +85 °C |
| T4 | -50 °C … +50 °C | -50 °C … +120 °C |
| T3, T2, T1 | -50 °C … +40 °C | -50 °C … +150 °C |

If the IPT-20/21-*D/4*-…, CPT-20/21-*D/4*-… are operated at temperatures higher than those specified in the above table, make sure by means of appropriate measures that there is no danger of ignition from the hot surfaces. The maximum temperature on the electronics/ housing should not exceed the values stated in the above table. The application conditions in areas without hazardous mixtures are specified in the manufacturer information.

**"Specific Conditions of Use"**

1. At the plastic parts of the process transmitter type CPT-20/21-*D/4*-… and IPT-20/21-*D/4*-…there is a danger of ignition by electrostatic discharge. Observe manual of the manufacturer and warning label.

2. For EPL Ga/Gb applications, at the metallic parts of process transmitter type CPT-20/21-*D/4*-… and IPT-20/21-*D/4*-… made of light metal there is a danger of ignition by impact or friction. Observe manual of the manufacturer.

3. For EPL Ga/Gb applications and at risks by pendulum or vibration the respective parts of the process transmitter type CPT-20/21-*D/4*-… and IPT-20/21-*D/4*-… have to be secured effectively against these dangers. Observe manual of the manufacturer.

4. For EPL Ga/Gb applications of the process transmitter type CPT-20/21-*D/4*-… and IPT-20/21- *D/4*- the medium tangent materials have to be resistant to the media. Observe manual of the manufacturer.

5. For the execution with separate housing of the process transmitter type CPT-20/21-*D/4*-… and IPT-20/21-*D/4-…* potential equalization has to be exist in the complete course of the erection of the connecting cable.

6. The flameproof housing of this equipment must be provided with cable entries and filler plugs resp. conduits which are certified according to IEC 60079-0 and IEC 60079-1. The connection cables, the cable entries and filler plugs resp. the conduits have to be suitable for the lowest ambient temperature.