



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 10.0018X Issue No: 2 Certificate history:
Status: **Current** Issue No. 2 (2018-04-16)
Date of Issue: **2018-04-16** Issue No. 1 (2017-09-27)
Page 1 of 4 Issue No. 0 (2010-10-25)

Applicant: **WIKA Alexander Wiegand SE & Co. KG**
Alexander-Wiegand-Straße 30
63911 Klingenberg
Germany

Equipment: **Transmitter DPT-10-IF-* ****_*****_****
Optional accessory:

Type of Protection: **Intrinsic Safety, Flameproof enclosures, Equipment protection Level (EPL) Ga**

Marking:
Ex db ia IIC T6 Ga/Gb or
Ex db ia IIC T6 Gb

*Approved for issue on behalf of the IECEx
Certification Body:*

Christian Roder

Position:

Head of IECEx certification body

*Signature:
(for printed version)*

Date:

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





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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 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 Edition:6.0	Explosive atmospheres - Part 0: General requirements
IEC 60079-1 : 2014-06 Edition:7.0	Explosive atmospheres - Part 1: Equipment protection by flameproof enclosures "d"
IEC 60079-11 : 2011 Edition:6.0	Explosive atmospheres - Part 11: Equipment protection by intrinsic safety "i"
IEC 60079-26 : 2014-10 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/ExTR17.0029/01](#)

Quality Assessment Report:

[DE/BVS/QAR07.0010/12](#)



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Schedule

EQUIPMENT:

Equipment and systems covered by this certificate are as follows:

The Transmitter DPT-10-IF-* ****_*****_** is used for differential pressure measurement in explosion hazardous areas. The measuring media are allowed to be combustible liquids, gases, mists or vapours.

Measuring signal transmission of the differential pressure transmitters:

DPT-10-IF-A****_*****_** : Signal circuit 4...20mA; current drain represents measuring value

DPT-10-IF-R****_*****_** : Signal circuit 4...20mA; communication via superposed HART signal

DPT-10-IF-5****_*****_** : Signal circuit 10mA; communication via fieldbus system "Profibus PA" (FISCO)

DPT-10-IF-4****_*****_** : Signal circuit 10mA; communication via fieldbus system "Fieldbus Foundation"

SPECIFIC CONDITIONS OF USE: YES as shown below:

1. At the plastic parts of the differential pressure transmitter DPT-10-IF-* ****_*****_** there is a danger of ignition by electrostatic discharge. Observe manual of the manufacturer and warning label.
2. For EPL Ga/Gb applications the medium tangent materials have to be resistant to the media.
3. The PA terminal of the differential pressure transmitters (internal or external screw terminal) has to be connected with the potential equalization of the explosion hazardous area. Since the intrinsically safe circuits are galvanically connected with the earth potential, potential compensation has to exist in the complete course of the erection of these intrinsically safe circuits.
4. The flameproof terminal box (Ex-d connection room) 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.
5. The connection cables, the cable entries and filler plugs resp. the conduits have to be suitable for the lowest ambient temperature.



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

Annex:

[Attachment to IECEX TUN 10.0018 X_02 .pdf](#)

Product:

The differential pressure transmitters type DPT-10-IF-* ****_*****_** are used for differential pressure measurement in explosion hazardous areas.

The measuring media are allowed to be combustible liquids, gases, mists or vapours.

Details of Change:

The following changes are performed for differential pressure transmitters type DPT-10-IF-R/A/4/5****_*****_**

1. Change of the ambient temperature range.
2. Change of the minimum supply voltage.

Technical Data:

Maximum permissible ambient temperature range:

DPT-10-IF-R**_*****_** and DPT-10-IF-A****_*****_****

If the differential pressure transmitters are used in explosion hazardous areas for zone 0/zone 1 applications, the permissible temperature range in the area of the electronics/at the measuring sensor dependent on the temperature class has to be taken from the following table:

Temperature class	Ambient temperature range (electronics, zone 1)	Medium temperature range (measuring sensor, zone 0)
T6	-40°C ... +46°C	-20°C ... +60°C
T5	-40°C ... +60°C	-20°C ... +60°C
T4, T3, T2, T1	-40°C ... +60°C	-20°C ... +60°C

The measuring sensors of the differential pressure transmitters are allowed to be operated in an explosion hazardous area of zone 0, only if atmospheric conditions exist (pressure from 0.8 bar to 1.1 bar).

If no explosion hazardous atmospheres exist, the permissible operating temperatures and pressures have to be taken from the manufacturer's data (manual).

If the measuring sensors of the differential pressure transmitters are operated at higher medium temperatures as listed in the a.m. table, measures have to be taken, that the danger of ignition caused by these hot surfaces is excluded. The max. permissible temperature at the electronics/housing must not exceed the values as mentioned in the a.m. table.

If the differential pressure transmitters are used in explosion hazardous areas for zone 1 applications, the permissible temperature range in the area of the electronics/at the measuring sensor dependent on the temperature class has to be taken from the following table:

Temperature class	Ambient temperature range (electronics)	Medium temperature range (measuring sensor)
T6	-40°C ... +46°C	-40°C ... +73°C
T5	-40°C ... +60°C	-40°C ... +92°C
T4, T3, T2, T1	-40°C ... +60°C	-40°C ... +120°C

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If the measuring sensors of the differential pressure transmitters are operated at higher medium temperatures as listed in the a.m. table, measures have to be taken, that the danger of ignition caused by these hot surfaces is excluded. The max. permissible temperature at the electronics/housing must not exceed the values as mentioned in the a.m. table.

DPT-10-IF-5**_*****_** and DPT-10-IF-4****_*****_****

If the differential pressure transmitters are used in explosion hazardous areas for zone 0/zone 1 applications, the permissible temperature range in the area of the electronics/at the measuring sensor dependent on the temperature class has to be taken from the following table:

Temperature class	Ambient temperature range (electronics, zone 1)	Medium temperature range (measuring sensor, zone 0)
T6	-40°C ... +38°C	-20°C ... +60°C
T5	-40°C ... +53°C	-20°C ... +60°C
T4, T3, T2, T1	-40°C ... +60°C	-20°C ... +60°C

The measuring sensors of the differential pressure transmitters are allowed to be operated in an explosion hazardous area of zone 0, only if atmospheric conditions exist (pressure from 0.8 bar to 1.1 bar). If no explosion hazardous atmospheres exist, the permissible operating temperatures and pressures have to be taken from the manufacturer's data (manual). If the measuring sensors of the differential pressure transmitters are operated at higher medium temperatures as listed in the a.m. table, measures have to be taken, that the danger of ignition caused by these hot surfaces is excluded. The max. permissible temperature at the electronics/housing must not exceed the values as mentioned in the a.m. table.

If the differential pressure transmitters are used in explosion hazardous areas for zone 1 applications, the permissible temperature range in the area of the electronics/at the measuring sensor dependent on the temperature class has to be taken from the following table:

Temperature class	Ambient temperature range (electronics)	Medium temperature range (measuring sensor)
T6	-40°C ... +38°C	-40°C ... +77°C
T5	-40°C ... +53°C	-40°C ... +92°C
T4, T3, T2, T1	-40°C ... +60°C	-40°C ... +120°C

If the measuring sensors of the differential pressure transmitters are operated at higher medium temperatures as listed in the a.m. table, measures have to be taken, that the danger of ignition caused by these hot surfaces is excluded. The max. permissible temperature at the electronics/housing must not exceed the values as mentioned in the a.m. table.

Electrical data:

Measuring signal transmission of the differential pressure transmitters:

- DPT-10-IF-A****_*****_**: Signal circuit 4...20mA; current drain represents measuring value
- DPT-10-IF-R****_*****_**: Signal circuit 4...20mA; communication via superposed HART signal
- DPT-10-IF-5****_*****_**: Signal circuit 10mA; communication via fieldbus system "Profibus PA" (FISCO)
- DPT-10-IF-4****_*****_**: Signal circuit 10mA; communication via fieldbus system "Fieldbus Foundation"

DPT-10-IF-A**_*****_** and DPT-10-IF-R****_*****_****

Supply and signal circuit U = 16 ... 36V d. c.
(Terminals KL1[+], KL2[-] U_m = 253 V a. c.
in the Ex-d connection room)

DPT-10-IF-4**_*****_** and DPT-10-IF-5****_*****_****

Supply and signal circuit U = 16 ... 32V d. c.
(Terminals KL1[+], KL2[-] U_m = 253 V a. c.
in the Ex-d connection room)

DPT-10-IF-R/A/4/5**_*****_****

Operation and indication circuit in type of protection „Intrinsic Safety“ Ex ia IIC
(Terminals 5, 6, 7, 8 in the Ex i connection Only for connection to the intrinsically safe circuit of
room) the associated external operation and indication
unit.

The interconnection between the intrinsically safe circuits of the DPT-10-IF-R/A/4/5****_*****_** and the operation and indication unit are permitted if the total inductance and the total capacitance of the connecting cable between the DPT-10-IF-R/A/4/5****_*****_** and the external operation and indication unit C_{o, cable} = 2.8 µF and L_{o, cable} = 100 µH are not exceeded. An internal operation and indication module and a connected interface converter type for the DPT-10-IF-R/A/4/5****_*****_** were taken into account.

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Operation and indication module circuit (Spring contacts in the Ex i connection room)	in type of protection „Intrinsic Safety“ Ex ia IIC Only for connection to the intrinsically safe signal circuit of an interface converter.
Communication circuit (I ² C bus in the Ex i connection room)	in type of protection „Intrinsic Safety“ Ex ia IIC Only for connection to the intrinsically safe signal circuit of an interface converter.

In the execution with connection cable at the sensor unit mounted fixed (separated version), a length of the provided cable of 47 m is permissible.

The intrinsically safe circuits are galvanically connected with the earth potential.

Special conditions for safe use:

1. At the plastic parts of the differential pressure transmitter DPT-10-IF-* ****_*****_** there is a danger of ignition by electrostatic discharge. Observe manual of the manufacturer and warning label.
2. For EPL Ga/Gb applications the medium tangent materials have to be resistant to the media.
3. The PA terminal of the differential pressure transmitters (internal or external screw terminal) has to be connected with the potential equalization of the explosion hazardous area. Since the intrinsically safe circuits are galvanically connected with the earth potential, potential compensation has to exist in the complete course of the erection of these intrinsically safe circuits.
4. The flameproof terminal box (Ex-d connection room) 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.
5. The connection cables, the cable entries and filler plugs resp. the conduits have to be suitable for the lowest ambient temperature.