

EU-Type Examination Certificate

Directive 2014/34/EU of the European Parliament and of the Council of 26 February 2014

EU-Type Examination Certificate Number: **BVS 13 ATEX G 001 X** Issue: **01**

Equipment: **Transmitters types ITR 041*, ITR 051*, ITR 042*, ITR 052*, XTR 040*, XTR 050*, XTR 041*, XTR 051*, XTR 042*, XTR 052*, ETR 040*, ETR 050***

Manufacturer: **Dräger Safety AG & Co. KGaA**

Address: **Revalstraße 1, 23560 Lübeck, Germany**

This product and any acceptable variations thereto are specified in the appendix to this certificate and the documents referred to therein.

DEKRA Testing and Certification GmbH, Notified Body number 0158, in accordance with Article 17 of Directive 2014/34/EU of the European Parliament and of the Council, dated 26 February 2014, certifies that this product has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of products intended for use in potentially explosive atmospheres given in Annex II to the Directive.

The examination and test results are recorded in the confidential Report PFG-no. 41300313P NXIII. This issue of the EU-Type Examination Certificate replaces the previous issue of the EU-Type Examination Certificate BVS 13 ATEX G 001 X including supplements 1 to 10.

Compliance with the Essential Health and Safety Requirements with respect to the measuring function for explosion protection has been assured by compliance with:

EN 60079-29-1:2016

EN 50104:2019

EN 50271:2018

If the sign "X" is placed after the certificate number, it indicates that the product is subject to the "Specific Conditions of Use" listed under item 17 of this certificate.

This EU-Type Examination Certificate relates only to the technical design of the specified product in accordance to the Directive 2014/34/EU. Further requirements of the Directive apply to the manufacturing process and supply of this product. These are not covered by this certificate.

The marking of the product shall include the following:

see PTB 11 ATEX 1005 X Issue 4

DEKRA Testing and Certification GmbH
Bochum, 2023-06-26



Managing Director

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15 Product description

15.1 Subject and type

Transmitter types ITR 041*, ITR 051*, ITR 042*, ITR 052*, XTR 040*, XTR 050*, XTR 041*, XTR 051*, XTR 042*, XTR 052*, ETR 040*, ETR 050*

Coding of type: (1)TR 0(2)(3)(4)

- (1) E, I or X Sensor interface: electrochemical (E), infrared (I) or catalytic (X)
- (2) 4 or 5 Material of housing: aluminium (4) or stainless steel (5)
- (3) internal sensor:
 - 1 or 2 for ITR: IDS 0101 (1) or IDS 0102 (2)
 - 0,1 or 2 for XTR: IDS 0002 (0) or XDS 0200 (1) or Ex-Sensor LC NPT (2)
 - external sensor with junction box EAC 01**:
 - 1 or 2 for ITR: IDS 0101 (1) or IDS 0102 (2)
 - 0,1 or 2 for XTR: IDS 0002 (0) or XDS 0200 (1) or Ex-Sensor LC NPT (2)
 - external sensor with other junction boxes:
 - 1 or 2 for ITR: IDS 0101 (1) or IDS 0102 (2) or IDS 0111 (1) or IDS 0112 (2)
 - 0,1 or 2 for XTR: IDS 0002 (0) or IDS 0012 (0) or Polytron SE Ex PR M* DQ (1) or Polytron SE Ex PR NPT DQ (1) or Polytron SE Ex HT M DQ (1) or Polytron SE Ex PR NPT DQ S (1) or Polytron SE Ex LC M1/2 DD (2)
 - 0 DrägerSensor (internal sensor) for ETR 0*0*
 - 0 DrägerSensor (external sensor) for ETR 0*0* with Remote Sensing head ERH 00** and Remote Adapter ERA 00**
- (4) 0, 1, I, J interface: "d", 4-20 mA (0) or "d", 4-20 mA with relays (1) or "d"+"e", 4-20 mA (I) or "d"+"e", 4-20 mA with relays (J)

15.2 Description

The transmitters ITR 0*1* (Polytron 8700 with sensor Dräger PIR 7000 type 334), ITR 0*2* (Polytron 8700 with sensor Dräger PIR 7000 type 340), XTR 0*0* (Polytron 8310 with Dräger Sensor IR) and XTR 0*1* (Polytron 8200 with DrägerSensor PR M DQ, HT M DQ PR NPT DQ or PR NPT DQ S) are fixed equipment for the measurement of flammable gases and vapours mixed with air at volume fractions up to the lower explosive limit. The transmitters XTR 0*2* (Polytron 8200 with Ex-sensor LC M or LC NPT) are fixed equipment for the measurement of flammable gases and vapours mixed with air at volume fractions up to 10 % of the lower explosive limit. The sensor may be directly connected to the transmitter housing or operated as remote sensor.

The transmitters type ETR 0*0* (Polytron 8100 with DrägerSensor O₂ or DrägerSensor O₂ LS) are fixed equipment for the measurement of oxygen. The sensor may be directly fitted to the transmitter housing or operated as external (remote) sensor.

A 4-20 mA interface serves for transmission of the measured value to a control unit.

The transmitters can be equipped with a relay module that provides two alarm relays and one fault relay.

Reason for this issue

Re-testing of types ETR 040* and ETR 050* for operation with remote sensors and modification of the software to 4.0.4 (main) and to 36 or 95 (SIOS).

15.3 Parameters

see PTB 11 ATEX 1005 X Issue 04

15.4 Measuring function for explosion protection

This EU-type examination certificate covers:

- transmitters types ITR 041*, ITR 051*, ITR 042*, ITR 052*, XTR 040*, XTR 050*, XTR 041*, XTR 051*, XTR 042*, XTR 052* with software version 4.0.4 and transmitters types ETR 040* and ETR 050* with software version 4.0.4 (main) in combination with 36 or 95 (SIOS) or 3.2.1 (main) in combination with 5 (SIOS)
- for transmitters types ITR 0*1* and ITR 0*2* (infrared sensor) the measuring function for those gases and vapours which are listed in the instruction manual with reference to the EU-type examination certificate BVS 08 ATEX G 001 X
- for transmitters type XTR 0*0* (infrared sensor) the measuring function for those gases and vapours which are listed in the instruction manual with reference to the EU-type examination certificate TÜV 19 ATEX 8433 X
- for transmitters type XTR 0*1* (catalytic combustion sensor) the measuring function for methane, propane, acetone, acetylene, ammonia, special boiling point spirit 65/95, benzene, 1,3-butadiene, n-butane, 2-butanone, n-butyl acetate, diethyl ether, dimethyl ether, acetic acid, ethanol, ethylene, ethyl acetate, ethylene oxide, n-hexane, methanol, methyl methacrylate, n-octane, n-pentane, 2-propanol, propylene, propylene oxide, n-nonane, toluene, o-xylene and hydrogen in the measuring range 0 - 100 % LEL
- for transmitters type XTR 0*2* (catalytic combustion sensor) the measuring function for methane, propane, ethylene, acetylene, propylene, i-butylene, benzene, n-nonane and hydrogen in the measuring range 0 - 10 % LEL
- for transmitters type ETR 0*0* (electrochemical sensor) the measuring function for oxygen (measurement of inertisation) in the measuring range 0 - 5...25 % O₂
- use of the following outputs for safety relevant purposes:
 - display
 - 4-20 mA output for measured values
 - relays
- use of the following accessories for transmitters types ITR 0*1* and ITR 0*2*:
 - Spacer (part no. 6812617)
 - use of the following accessories for sensor PIR 7000:
 - Mounting set PIR 7000 (part no. 68 11 648)
 - Splash guard PIR 7000 (part no. 68 11 911)
 - Insect guard PIR 7000 (part no. 68 11 609)
 - Hydrophobic filter PIR 7000 (part no. 68 11 890)
 - Calibration adapter PIR 7000 (part no. 68 11 610)
 - Status indicator PIR 7000 (part no. 68 11 625)
 - Flowcell PIR 7000 (part no. 68 11 490)
 - Bump test adapter PIR 7000 (part no. 68 11 630)
 - Process adapter PIR 7000 (part no. 68 11 915)
 - Process cuvette PIR 7000 (part no. 68 11 415)
 - Process cuvette PIR 7000 SGR (part no. 68 13 219)
 - Junction box Ex e (part no. 68 11 898)
 - Junction boxes Ex d (part no. 45 20 561)
 - Magnetic wand (part no. 45 44 101)
- use of the following accessories for transmitters type XTR 0*0*:
 - use of the following accessories for DrägerSensor IR:
 - see TÜV 19 ATEX 8433 X
- use of the following accessories for transmitters type XTR 0*1*:
 - Calibration adapter PE, Europe (part no. 68 06 978)
 - Process adapter (part no. 68 12 470)
 - Remote calibration adapter DQ (part no. 68 12 480)

- use of the following accessory for transmitters type XTR 0*2*:
 - Calibration adapter PE, Europe (part no. 68 06 978)
- use of the following accessories for transmitters type ETR 0*0*:
 - Calibration adapter PE, Europe (part no. 68 06 978)
 - Calibration adapter (part no. 68 10 536)
 - Sensor test dongle (part no. 83 17 619)
 - Diagnostic dongle (part no. 83 17 860)

The EU-type examination includes the following deviations from the operating conditions required by EN 60079-29-1:

- Extended range of temperature at operation:
 - 40 °C to +70 °C (with relay module)
 - 40 °C to +77 °C (ITR 0*1* und ITR 0*2*;
without relay module)
 - 40 °C to +65 °C (XTR 0*0*)
 - 40 °C to +80 °C (XTR 0*1* and XTR 0*2*;
without relay module)
 - 40 °C to +85 °C (Polytron SE Ex LC M1/2 DD)
- Extended range of ambient pressure: 70 kPa to 130 kPa
- Extended range of gas humidity:
 - 0 % RH to 95 % RH (ITR 0*1*, ITR 0*2*, XTR 0*0*)
 - 5 % RH to 95 % RH (XTR 0*1*, XTR 0*2*)

The EU-type examination includes the following deviations from the operating conditions required by EN 50104:

- Extended range of temperature at operation: -40 °C to +65 °C (DrägerSensor O₂ LS)
- Deviation range of temperature at operation: 0 °C to +55 °C (DrägerSensor O₂)
- Extended range of ambient pressure: 70 kPa to 130 kPa
- Extended range of gas humidity:
 - 5 % RH to 95 % RH (DrägerSensor O₂ LS)
 - 10 % RH to 95 % RH (DrägerSensor O₂)

16 Report

PFG-no. 41300313P NXIII as of 2023-06-23

EU-type examination certificate PTB 11 ATEX 1005 X Issue 04 as of 2022-12-14

EU-type examination certificate TÜV 19 ATEX 8433 X Issue 00 of 2019-11-19

17 Specific Conditions of Use

- see EU-type examination certificate PTB 11 ATEX 1005 X Issue 04
- If operated with a relay module:
 - The main alarm shall be configured "latching" and "non-acknowledgeable" or "pre-acknowledgeable".
 - The pre-alarm shall only be configured "acknowledgeable" if it is used for operation of an acoustic alarm device.
- For transmitters types ITR 0*1* and ITR 0*2*:
 - see EU-type examination certificate BVS 08 ATEX G 001 X
- For transmitters type XTR 0*0*:
 - see EU-type examination certificate TÜV 19 ATEX 8433 X
- For transmitters type XTR 0*1*:
 - When exposed to a directed flow of air mixed with gas, the measured values can be increased by up to 32 %.
 - When operated with the remote calibration adapter DQ the measured values can be increased by up to 70 %.
- For transmitters type XTR 0*2*:
 - Operate the transmitter when connected to a control unit that has a latching over-range indication. Do not use internal alarm relays of the transmitter.
 - When exposed to a directed flow of air mixed with gas, the measured values can be increased by up to 32 %.
 - Adjust the transmitter with the sensor in its operational orientation.
 - False alarms can occur during warming up of the sensor.
- For transmitters type ETR 0*0*:
 - The response time t(20) can exceed the limit of EN 50104 for small concentration changes.

18 **Essential Health and Safety Requirements**

Met with respect to the measuring function for explosion protection by compliance with the requirements mentioned in item 9.

19 **Remarks and additional information**

Drawings and documents are listed in the confidential report.