

Translation

EU-Type Examination Certificate Supplement 08

Equipment intended for use in potentially explosive atmospheres
Directive 2014/34/EU

Device with a measuring function for explosion protection
Directive 2014/34/EU

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

Product: **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 supplementary certificate extends EU-Type Examination Certificate No. BVS 13 ATEX G 001 X to apply to products designed and constructed in accordance with the specification set out in the Annex of the said certificate but having any variations specified in the Annex attached to this certificate and the documents therein referred to.

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 test report PFG-no. 41300313P NIX.

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

EN 60079-29-1:2007
EN 60079-29-1:2016
EN 50104:2010
EN 50271:2010
EN 50271:2018

If the sign "X" is placed after the certificate number, it indicates that the product is subject to the Special Conditions for Use specified in the appendix to this certificate.

This EU-Type Examination Certificate relates only to the design and construction of the specified product. 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 Ausgabe 01

DEKRA Testing and Certification GmbH
Bochum, 2020-02-04

Signed: Kilisch
Managing Director



13 **Appendix**

14 **EU-Type Examination Certificate**

**BVS 13 ATEX G 001 X
Supplement 08**

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: 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 NPT1 DQ (1) or Polytron SE Ex HT M DQ (1) or Polytron SE Ex LC M1/2 DD (2) |
| | 0 | DrägerSensor (internal sensor only)
for ETR 0*0* |
| (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 (1) or "d"+"e", 4-20 mA with relays (J) |

15.2 **Description**

Reason for the supplement:

Modification of the software of the transmitter and re-testing of types ITR 041*, ITR 051*, ITR 042* and ITR 052* according to EN 60079-29-1:2016 and EN 50271:2018.

The test according to EN 50271:2018 concerns only transmitters types XTR 0*1*, XTR 0*2*, ETR 0*0*, ITR 041*, ITR 051*, ITR 042* and ITR 052*. The test according to EN 60079-29-1:2016 concerns only transmitters types XTR 0*1*, XTR 0*2*, ITR 041*, ITR 051*, ITR 042* and ITR 052*.

Description of Product

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 or PR NPT DQ) 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 is directly fitted to the transmitter housing. Operation with a remote sensor is not subject of this supplement to the EU-type examination certificate.

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.

15.3 Parameters

see PTB 11 ATEX 1005 X Ausgabe 01

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 3.1.0 and transmitters types ETR 040* and ETR 050* with software version 3.1.0 (main) and 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) when operated in gas category methane the measuring function for methane in the measuring range 0 - 100 % LEL, when operated in gas category propane the measuring function for propane, i-butane, n-butane, n-pentane, n-hexane, n-octane, n-nonane and i-propanol in the measuring range 0 - 100 % LEL and ethanol and ethyl acetate in the measuring range 0 - 70 % LEL, and when operated in gas category ethylene the measuring function for ethylene, propylene, toluene, acetone and ethyl acetate in the measuring range 0 - 100 % LEL and methanol in the measuring range 0 - 70 % LEL
- 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)
 - Prozess cuvette PIR 7000 (part no. 68 11 415)
 - Prozess 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:
 - Splash guard (part-no. 68 10 796)
 - Calibration adapter (part-no. 68 10 859)
 - Weather guard (part-no. 68 11 135)
 - Gassing-/process adapter (part-no. 68 11 330)
 - Magnetic wand (part-no. 45 44 101)
 - Junction box "Ex d" (part-no. 68 11 161)
 - Junction box "Ex e" (part-no. 68 11 299)
 - Junction box "Ex e" (part-no. 68 11 159)
- 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)
 - 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 humidity of the measured gas:
 - 0 % RH to 95 % RH (ITR 0*1*, ITR 0*2*, and XTR 0*0*)
 - 5 % RH to 95 % RH (XTR 0*1* and 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)
- Deviating 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 humidity of the measured gas:
 - 5 % RH to 95 % RH (DrägerSensor O₂ LS)
 - 10 % RH to 95 % RH (DrägerSensor O₂)

16 Test report

PFG-no. 41300313P NIX of 2020-02-04

EU-type examination certificate PTB 11 ATEX 1005 X Ausgabe 01 of 2017-05-10

17 Special Conditions for Use

- see EU-type examination certificate PTB 11 ATEX 1005 X Ausgabe 01
- 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 9th supplement to the EU-type examination certificate BVS 05 ATEX E 143 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


The Essential Health and Safety Requirements with respect to the measuring function for explosion protection are covered by the standards listed under item 9.

19 Drawings and Documents

Drawings and documents are listed in the confidential test report.

We confirm the correctness of the translation from the German original.
In the case of arbitration only the German wording shall be valid and binding.

DEKRA Testing and Certification GmbH
Bochum, dated 2020-02-04



Managing Director