

# (1) EU-TYPE EXAMINATION CERTIFICATE



(2) Equipment and Protective Systems intended for use in Potentially Explosive Atmosphere - **Directive 2014/34/EU**

(3) EU-Type Examination Certificate Number

## TÜV 19 ATEX 8435 X

Issue: 00

(4) **Equipment:** The transmitters are fixed equipment for the measurement of flammable gases and vapours mixed with air at volume fractions up to the lower explosive limit type \*TR 02\*\*, \*TR 03\*\*

(5) **Manufacturer:** Dräger Safety AG &Co. KGaA

(6) **Address:** Revalstr. 1  
23560 Lübeck, Germany

(7) This product and any acceptable variation thereto are specified in the schedule to this certificate and the documents therein referred to.

(8) The TÜV Rheinland Zertifizierungsstelle für Explosionsschutz of TÜV Rheinland Industrie Service GmbH, Notified Body No. 0035 in accordance with Article 21 of the Council Directive 2014/34/EU of 26<sup>th</sup> February 2014, certifies this product which has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of equipment and protective systems intended for use in potentially explosive atmosphere, given in Annex II to the Directive.

The examination and test results are recorded in the confidential report 557/Ex8435.00/19

(9) Compliance with the Essential Health and Safety Requirements, with the exception of those listed in the schedule of this certificate, has been assessed by reference to:

**EN 60079-29-1:2016**

**EN 50271:2018**

(10) If the sign "X" is placed after the certificate number, it indicates that the equipment is subject to special conditions for safe use specified in the schedule to this certificate.

(11) This EU-Type Examination Certificate relates only to the design and specification for construction of the equipment or protective system. It does not cover the process for actual manufacture or supply of the equipment or protective system, for which further requirements of the directive are applicable.

(12) The marking of the equipment shall include the following:



**II (2) G**

TÜV Rheinland Zertifizierungsstelle für Explosionsschutz

Cologne, 2019-12-30

Dipl.-Ing. Christian Mehrhoff



This EU-Type Examination Certificate without signature and stamp shall not be valid.  
This EU-Type Examination Certificate may be circulated only without alteration. Extracts or alterations are subject to approval by the  
TÜV Rheinland Industrie Service GmbH TÜV Rheinland Group Am Grauen Stein 51105 Köln  
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(13) Annex

(14) **Type Examination Certificate**

**TÜV 19 ATEX 8435 X**

Issue: 00

(15) Description of equipment

15.1 Equipment and type:

The transmitters are fixed equipment for the measurement of flammable gases and vapours mixed with air at volume fractions up to the lower explosive limit type \*TR 02\*\*, \*TR 03\*\*

15.2 Description / Details of Change

General product information

The transmitters ITR 0\*1\* (Polytron 5700 with Draeger PIR 7000 type 334), ITR 0\*2\* (Polytron 5700 with Draeger PIR 7000 type 340), XTR 0\*0\* (Polytron 5310 with Draeger Sensor IR) and XTR 0\*1\* (Polytron 5200 with Draeger Sensor 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 sensors may be directly connected to the transmitter housing or operated as remote sensors.

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

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

Overview of the different types:

The transmitters ITR 021\* / ITR 031\* / ITR 022\* / ITR 032\* (Polytron 5700) with software version V 1.6.0 are equipped with the following sensors:

- IDS 0101 (PIR7000 – 334 NPT) or via junction box EAC 01\*\*
- IDS 0102 (PIR7000 – 340 NPT) or via junction box EAC 01\*\*
- IDS 0111 (PIR7000 – 334 M25)
- IDS 0112 (PIR7000 – 340 M25)

The junction boxes are tested in another certificate and are not in focus of this test report.

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The transmitters XTR 020\* / XTR 030\* (Polytron 5310) with software version V 1.6.0 are equipped with the following sensors:

- IDS 0002 flameproof with NPT $\frac{3}{4}$ "-thread or via junction box EAC 01\*\*
- IDS 0012 flameproof with M25-thread
- ISH 0001, type Bartec - increased safety
- ISH 0002, type Hawke - increased safety
- ISH 0010, type Cortem - flameproof enclosure

The junction boxes are tested in another certificate and are not in focus of this test report.

The transmitters XTR 021\* / XTR 031\* (Polytron 5200) with software version V 1.6.0 are equipped with the following sensors:

- DrägerSensor DQ (XDS 0200) or via junction box EAC 01\*\*
- Polytron SE Ex PR M\* DQ
- Polytron SE Ex PR NPT1 DQ
- Polytron SE Ex HT M DQ

The junction boxes are tested in another certificate and are not in focus of this test report.

Polytron 5700, 5310, 5200 with the following interfaces:

- 4-20mA, "d"
- 4-20mA, with relays, "d"
- 4-20mA, "d" + "e"
- 4-20mA, with relays, "d" + "e"

This EU-type examination certificate covers:

- Transmitter types ITR 021\*, ITR 031\*, ITR 022\*, ITR 032\*, XTR 020\*, XTR 030\*, XTR 021\*, XTR 031\*
- for transmitter of type ITR 0\*1\* and ITR 0\*2\* (infrared sensors) the measuring functions for gases and vapors listed in the instructions for use of the sensor with reference to the EU type-examination certificate BVS 08 ATEX G 001 X.
- for transmitters of type XTR 0\*0\* (infrared sensor) the measuring function for methane in the measuring range 0 - 100 %LEL for operation in the gas category methane, for operation in the 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 as well as in the gas category ethylene the measuring function for gases and vapors ethylene, propylene, toluene, acetone, ethyl acetate in the measuring range 0 – 100% LEL with reference to the EU type-examination certificate TÜV 19 ATEX 8433 X.

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- for transmitters of 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.
- the use of the following accessories for safety-related purposes:
  - display
  - measured value output 4-20mA
  - relay
- use of the following accessories with the transmitter type ITR 0\*1\* and ITR 0\*2\*:
  - Spacer (part-no. 68 12 617)
  - 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 display 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 box "Ex d" (part-no. 45 20 561)
    - Magnetic wand (part-no. 45 44 101)
- use of the following accessories with the transmitter 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 with the transmitter type XTR 0\*1\*:
  - Calibration adapter PE, Europe (part-no. 68 06 978)
  - Process adapter (part-no. 68 12 470)
  - Remote calibration adapter (part-no. 68 12 480)

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**Type code:**

Transmitter Types: \*TR 02\*\*, \*TR 03\*\*

(ITR 021\*, ITR 031\*, ITR 022\*, ITR 032\*, XTR 020\*, XTR 030\*, XTR 021\*, XTR 031\*)

 Coding of Typ: <sup>1</sup>TR 0<sup>234</sup>

1	I or X	Sensor interface: infrared (I) or catalytic (X)
2	2 or 3	Material of housing: aluminium (2) or stainless steel (3)
3	Internal sensor	
	1 or 2	for ITR: IDS 0101 (1) or IDS 0102 (2)
	0 or 1	for XTR: IDS 0002 (0) or XDS 0200 (1)
	External sensor with junction box EAC 01**	
	1 or 2	for ITR: IDS 0101 (1) or IDS 0102 (2)
	0 or 1	for XTR: IDS 0002 (0) or XDS 0200 (1)
	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 or 1	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)
4	0, 1, I or J	interface: "d", 4-20mA (0) or "d", 4-20mA with relays (1) or "d"+"e", 4-20mA (I) or "d"+"e", 4-20mA with relays (J)

**Technical Data**
**Power supply** <sup>1)</sup>
<sup>1)</sup> Powered by Class 2 power supply

**Operating voltage**

 \*TR 02\*\*, \*TR 03\*\* 10 to 30 V<sub>DC</sub> at the instrument

**Inrush current**

 XTR 0\*1\* and XTR 0\*0\* 350 mA for 140 ms at 24 V<sub>DC</sub>

 ITR 0\*1\* 2.8 A for 0.8 ms at 24 V<sub>DC</sub>
**Operating current (max.)**

XTR 0\*1\*

without relay, nonremote sensor 105 mA (DrägerSensor DQ)

with relay, remote sensor 145 mA (DrägerSensor DQ)

XTR 0\*0\*

without relay, nonremote sensor 145 mA

with relay, remote sensor 185 mA

ITR 0\*1\*

without relay, nonremote sensor 330 mA

with relay, remote sensor 350 mA

 Operating currents are valid for 24 V<sub>DC</sub>

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