



(1) EC-TYPE-EXAMINATION CERTIFICATE (Translation)

(2) Equipment and Protective Systems Intended for Use in Potentially Explosive Atmospheres - **Directive 94/9/EC**



(3) EC-type-examination Certificate Number:

PTB 11 ATEX 1005 X

(4) Equipment: Gas detection transmitters, type ETR/ITR/XTR 0***

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

(6) Address: Revalstrasse 1, 23560 Lübeck, Germany

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

(8) The Physikalisch-Technische Bundesanstalt, notified body No. 0102 in accordance with Article 9 of the Council Directive 94/9/EC of 23 March 1994, certifies that this equipment 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 atmospheres, given in Annex II to the Directive.

The examination and test results are recorded in the confidential assessment and test report PTB Ex 11-11009.

(9) Compliance with the Essential Health and Safety Requirements has been assured by compliance with:
EN 60079-0:2009, EN 60079-1:2007, EN 60079-7:2007, EN 60079-31:2009

(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 EC-type-examination Certificate relates only to the design, examination and tests of the specified equipment in accordance to the Directive 94/9/EC. Further requirements of the Directive apply to the manufacturing process and supply of this equipment. These are not covered by this certificate.

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

II 2 G Ex d IIC T6/T4 Gb resp.

II 2 G Ex d e IIC T6/T4 Gb resp.

II 2 D Ex tb IIIC T80°C/T130°C Db IP6X

Zertifizierungssektor Explosionsschutz
On behalf of PTB

Braunschweig, March 2, 2011

Dr.-Ing. U. Klausmeyer
Direktor und Professor



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EC-type-examination Certificates without signature and official stamp shall not be valid. The certificates may be circulated only without alteration. Extracts or alterations are subject to approval by the Physikalisch-Technische Bundesanstalt. In case of dispute, the German text shall prevail.

SCHEDULE

(13)

(14) **EC-TYPE-EXAMINATION CERTIFICATE PTB 11 ATEX 1005 X**

(15) Description of equipment

The Gas detection transmitters ETR/ITR/XTR 0*** consist of three different types of sensing systems. ETR 0*** uses the electrochemical sensing principle, ITR 0*** uses the infrared sensing principle and XTR 0*** uses the catalytic sensing principle. The different sensing principles are realized by the use of various sensors, as described in the nomenclature below.

Connection of the devices is realized either per direct entry to a flameproof enclosure (E,I,X)TR 02*(0..1) / (E,I,X)TR 03*(0..1), or per the increased safety connection box (E,I,X)TR 02*(I..J) / (E,I,X)TR 03*(I..J). For remote applications the system may optionally be installed with the Flameproof Junction Box EAC 01**.

Nomenclature for type ETR/ITR/XTR 0***

$\frac{*}{1} \text{TR} 0 \frac{*}{2} \frac{*}{3} \frac{*}{4}$

1: Sensing principle / sensor

| | | |
|---|---|-----------------------|
| E | = | electro chemical |
| I | = | infrared |
| X | = | Ex-Sensor (catalytic) |

2: Series and Enclosure material

| | | |
|---|---|---|
| 2 | = | 02/03 series, Aluminium Enclosure |
| 3 | = | 02/03 series, Stainless Steel Enclosure |

3: Sensor

$\text{ETR} 0 \frac{***}{3}$

3: Sensor

| | | |
|---|---|---|
| 0 | = | DrägerSensor or DrägerSensorXS with Adaptor |
| 1 | = | DrägerSensor XS |

$\text{ITR} 0 \frac{***}{3}$

3: Sensor

| | | |
|---|---|----------|
| 0 | = | IDS 0001 |
| 1 | = | IDS 0101 |
| 2 | = | IDS 0102 |
| 5 | = | IDS 0105 |

$\text{XTR} 0 \frac{***}{3}$

3: Sensor

| | | |
|---|---|------------------|
| 0 | = | IDS 0002 |
| 1 | = | XDS 020* |
| 2 | = | Ex-Sensor LC NPT |

4: Interface

| | | |
|---|---|------------------------------|
| 0 | = | "d", 4-20 mA |
| 1 | = | "d", 4-20 mA with Relays |
| I | = | "d"+"e", 4-20 mA |
| J | = | "d"+"e", 4-20 mA with Relays |

Nomenclature for Junction Box, type EAC 01** (Remote Sensor)

$\text{EAC} 01 \frac{*}{1} \frac{*}{2}$

1: Enclosure Material

| | | |
|---|---|-----------------|
| 0 | = | Aluminium |
| 1 | = | Stainless Steel |

2: Additional numbers or letters for features not relevant for the types of protection.

The relation between ambient temperature and the assigned temperature class is as follows:

| Type | Ambient temperature range | Temperature class (Gas) | Maximum surface temperature (Dust) |
|--------------------|---------------------------|-------------------------|------------------------------------|
| ITR 0*0*, XTR 0*0* | -40 °C to +65 °C | T4 | T130°C |
| All other versions | -40 °C to +80 °C | T4 | T130°C |
| All versions | -40 °C to +40 °C | T6 | T80°C |

Electrical data

Maximum supply wattage: P_{max} : 5 W

Input

| Model | Voltage, Vdc | Current, mA |
|----------|--------------|-------------|
| ETR 02xx | 16 - 30 | 4 - 20 |
| ETR 03xx | 16 - 30 | 4 - 20 |
| ITR 02xx | 10 - 30 | 100 - 750 |
| ITR 03xx | 10 - 30 | 100 - 750 |
| XTR 02xx | 10 - 30 | 100 - 200 |
| XTR 03xx | 10 - 30 | 100 - 200 |

Output signal

| Model | Voltage, Vdc | Current, mA |
|----------|--------------|-------------|
| ETR 02xx | N/A | 4 - 20 |
| ETR 03xx | N/A | 4 - 20 |
| ITR 02xx | N/A | 4 - 20 |
| ITR 03xx | N/A | 4 - 20 |
| XTR 02xx | N/A | 4 - 20 |
| XTR 03xx | N/A | 4 - 20 |

Relay output capacity

| Model | Voltage, Vdc | Voltage, Vac | Current, A, resistive |
|----------|--------------|--------------|-----------------------|
| ETR 02xx | 30 | 230 | 5 |
| ETR 03xx | 30 | 230 | 5 |
| ITR 02xx | 30 | 230 | 5 |
| ITR 03xx | 30 | 230 | 5 |
| XTR 02xx | 30 | 230 | 5 |
| XTR 03xx | 30 | 230 | 5 |

Physikalisch-Technische Bundesanstalt

Braunschweig und Berlin

SCHEDULE TO EC-TYPE-EXAMINATION CERTIFICATE PTB 11 ATEX 1005 X

(16) Assessment and test report PTB Ex 11-11009

(17) Special conditions for safe use

- Repair on the basis of the values in tables 1 and 2 of EN 60079-1 is not accepted. Repairs on flameproof joints may only be performed in accordance with the manufacturer's design specifications.

- For relation between ambient temperature and temperature class the installer or end user has to refer to [15] of this Schedule or manufacturers Installation Instructions.

- Any components attached or installed (e.g. sensors, terminal compartments, bushings, 'Ex' cable glands, connectors) must be of a technical standard that complies with the specifications on the cover sheet. They must be suited for the operating conditions, and be covered by a separate examination certificate. The operating conditions set forth in the relevant component certificates must by all means be complied with and the components have to be included in the type test, if necessary. This applies to components already mentioned in the technical description, also.

(18) Essential health and safety requirements

Met by compliance with the aforementioned standards.

Zertifizierungssektor Explosionsschutz

On behalf of PTB:

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