









4th SUPPLEMENT
according to Directive 94/9/EC Annex III.6
to EC-TYPE-EXAMINATION CERTIFICATE PTB 11 ATEX 1005 X
(Translation)

Equipment: Gas detection transmitters of type ETR/ITR/XTR 0***

Marking:

-  II 2 G Ex db IIC T6/T4 Gb or
-  II 2 G Ex db e IIC T6/T4 Gb or
-  II 2 D Ex tb IIIC T80°C/T130°C Db
-  II 2 G Ex db [ia] IIC T6/T4 Gb or
-  II 2 G Ex db ia [ia] IIC T6/T4 Gb or
-  II 2 G Ex db e [ia] IIC T6/T4 Gb or
-  II 2 G Ex db e ia [ia] IIC T6/T4 Gb or
-  II 2 D Ex tb [ia] IIIC T135°C Db

Manufacturer: Dräger Safety AG & Co. KGaA

Address: Revalstraße 1, 23560 Lübeck, Germany

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 or infrared sensing principle with a catalytic sensor interface.

The sensor frontend (EC sensing head) of the ETR 0*** series comprises a galvanically separating barrier circuit, intrinsically safe electronics located outside the flameproof enclosure and an electrochemical sensor - all of them being covered by this certificate.

The sensors of the ITR 0*** and XTR 0*** series are covered by separate certifications, which are accepted under this certificate. The internal electronic covers the intrinsically safe fieldbus under consideration of the maximum FISCO input ratings applicable for the operation as both FISCO Field device or alternatively non- intrinsically safe fieldbus PA/FF.

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Description of changes

- Update to newest edition of the standards EN 60079-0:2012+A11:2013, EN 60079-1:2014 and EN 60079-31:2014
- Additional internal electronic PCB providing intrinsically safe Fieldbus interface with model code extension for the "4:Interface" with digit A, B, E, F, S, T, W and X.
- Additional internal electronic PCB providing non-intrinsically safe Fieldbus interface with model code extension for the "4:Interface" with digit 2 and K

Nomenclature

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

1: Sensing principle / sensor

E	=	electrochemical
I	=	infrared
X	=	catalytic

2: Series and enclosure material

2	=	02/03 series, aluminum enclosure
3	=	02/03 series, stainless steel enclosure
4	=	04/05 series, aluminum enclosure
5	=	04/05 series, stainless steel enclosure

3: Sensor

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

3:Sensor

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

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

3:Sensor

0	=	DrägerSensor or XS with adapter
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$\text{XTR} 0 \frac{***}{3}$

3:Sensor

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

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4: Interface

0	=	"d", 4-20 mA
1	=	"d", 4-20 mA with Relay
2	=	"d", Modbus RTU
A	=	"d"+"ia", Foundation Fieldbus
B	=	"d"+"ia", Foundation Fieldbus SIF
E	=	"d"+"ia", Profibus
F	=	"d"+"ia", Profisafe
I	=	"d"+"e", 4-20 mA
J	=	"d"+"e", 4-20 mA with Relay
K	=	"d"+"e", Modbus RTU
S	=	"d"+"e"+"ia", Foundation Fieldbus
T	=	"d"+"e"+"ia", Foundation Fieldbus SIF
W	=	"d"+"e"+"ia", Profibus
X	=	"d"+"e"+"ia", Profisafe

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

EAC 01 ^{**}
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1: Enclosure Material

0 = Aluminum

1 = Stainless Steel

2: Features not relevant for the types of protection

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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*, XTR0*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
ETR 02/03**, ETR 04/05**	-40 °C to +70 °C	T4	T135 °C
ETR 02/03**, ETR 04/05**	-40 °C to +40 °C	T6	T135 °C

Electrical Ratings:

Maximum supply wattage: P_{max} : 5 W

Supply: 10...30 VDC, 0.08...0.15 A (ETR 02/3** series)

Supply: 10...30 VDC, 0.1...0.75 A (ITR 02/3** series)

Supply: 10...30 VDC, 0.1...0.2 A (XTR 02/3** series)

Supply: 10...30 VDC, 0.1...0.35 A (ETR 04/05** series)

Supply: 10...30 VDC, 0.3...1.0 A (ITR 04/05** series)

Supply: 10...30 VDC, 0.15...0.45 A (XTR 04/05** series)

Relays: 5 A, 30 VDC or 230 VAC (if relays are fitted)

Typ	Voltage, Vdc, Ui	Current, mA, Ii	Power, mW, Pi
ETR 04 ^{*(*)} ETR 05 ^{*(*)} ITR 04 ^{*(*)} ITR 05 ^{*(*)} XTR 04 ^{*(*)} XTR 05 ^{*(*)}	17.5	380	5320

FISCO Field Device: ^(*) = A, B, E, F, S, T, W and X

Non-intrinsic safe Field Device: ^(*) = 2 and K (I.S. parameters not relevant for non-intrinsic Field Device)

Modell ETR 02/03, ETR 04/05

Sensor circuit protected by Intrinsic safety Ex ia IIC / IIIC
internal circuit for connecting an associated electrochemical sensor or a remote sensor via a remote sensor adapter.









The changes concern the application of the mentioned standards and the internal construction.

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Additional note for safe operation:

The Gas detection transmitter type ETR 0*** must only be used in circuits, which are limited to the overvoltage category I/II/III acc. to EN 60664-1.

The marking is as follows:

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-  II 2 D Ex tb [ia] IIIC T135°C Db

All other specifications and special conditions of the EC-Type-Examination Certificate PTB 11 ATEX 1005 X and the hitherto existing supplements remain without changes.

Applied standards

EN 60079-0:2012+A11:2013, EN 60079-1:2014, EN 60079-7:2007, EN 60079-31:2014,
EN 60079-11:2012

Test report: PTB Ex 15-15179

Konformitätsbewertungsstelle, Sektor Explosionsschutz
On behalf of PTB:

Braunschweig, March 24, 2016


Dr.-Ing. Dr. Markus
Oberregierungsrat



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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.