

# CESI

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iscrizione CCIAA 00793580150

Registro Imprese di Milano  
Sezione Ordinaria  
N. R.E.A. 429222  
P.I. IT00793580150

Schema di certificazione

# CESI-ATEX

Il CESI è stato autorizzato dal governo italiano ad operare quale organismo di certificazione di apparecchi e sistemi destinati a essere utilizzati in atmosfera potenzialmente esplosiva con D.M. 1/3/1983, D.M. 19/6/1990, D.M. 20/7/1998 e D.M. 27/9/2000 e D.M. 02/02/2006

# CERTIFICATE



## [1] EC-TYPE EXAMINATION CERTIFICATE

[2] **Equipment or Protective System intended for use  
in potentially explosive atmospheres  
Directive 94/9/EC**

[3] EC-Type Examination Certificate number:

**CESI 10 ATEX 032X**

[4] Equipment: Gas detectors series NET

[5] Manufacturer: N.E.T. S.r.l.

[6] Address: Via Legnano, 2 – 20010 Cornaredo (Milano) - Italy

[7] This equipment or protective system and any acceptable variation thereto is specified in the schedule to this certificate and the documents therein referred to.

[8] CESI, notified body n. 0722 in accordance with Article 9 of the Council Directive 94/9/EC of 23 March 1994, certifies that this equipment or protective system 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 confidential report n. EX-B0016843.

[9] Compliance with the Essential Health and Safety Requirements has been assured by compliance with:

**EN60079-0: 2009 EN60079-1: 2007 CEI/EN60079-1: 2008(Annex 1) EN60079-31: 2009**

[10] If the sign "X" is placed after the certificate number, it indicates that the equipment or protective system 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 or protective system in accordance to the Directive 94/9/EC. Further requirements of the Directive apply to the manufacturing process and supply of this equipment or protective system. These are not covered by this certificate.

[12] The marking of the equipment or protective system shall include the following:

**Ex II 2G Ex d IIC T6 or T5 Gb**

**Ex II 2GD Ex d IIC T6 or T5 Gb Ex tb IIC T85 °C or T100 °C Db IP65**

This certificate may only be reproduced in its entirety and without any change, schedule included.

Date 14 June 2010 - Translation issued the 14 June 2010

Prepared  
Enrico Radaelli

Verified  
Mirko Balaz

Approved  
Fiorenzo Bregani

CESI S.p.A.  
Divisione Energia  
"Area Tecnica Certificazione"  
Il Responsabile

[13]

## Schedule

[14] **EC-TYPE EXAMINATION CERTIFICATE n. CESI 10 ATEX 032X**

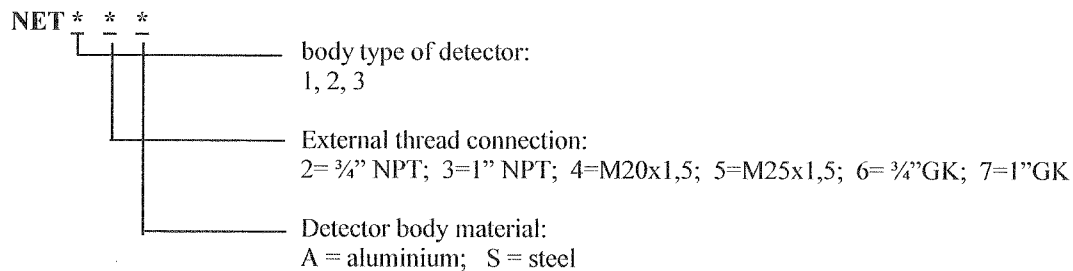
[15] **Description of equipment**

Gas detectors series NET are devices used for the detection of flammable or toxic gases.

They are manufactured with a flameproof enclosure inside which are installed the sensing element and any electronic circuitry for the signal amplification or transmission.

The equipment is provided with a multi-core cable permanently connected to (non detachable) that through a sealed bushing allows connection to external circuits for supply/measure.

The various type of gas detectors series NET are identified by the following code:



The gas detectors type NET2 and Type NET3 may be equipped with a device for the dust ingress protection of the sintered element. In this configuration the category 2GD is assigned to the gas detector.

The different types of sensing elements and / or electronic circuitry installed within the flameproof enclosure are given in the descriptive documents annexed to the certificate.

The devices installed within the flameproof enclosure must comply with defined electrical/dimensional limits specified in the descriptive documents in order to ensure the temperature class assigned to the equipment.

Gas detectors series NET are provided with a supplementary plate on which, in addition to electrical parameters of the sensing element, is also specified the type of gas for which they are used.

### Electrical characteristics

- Maximum supply voltage: 30 Vdc
- Maximum absorbed current: 400 mA
- Maximum dissipated power: 1 W (type NET1 and NET2)  
1,5 W (type NET3)
- Ambient temperature: -40 /-30 /-20 ÷ +50 /+55 / +60°C

The ambient temperature values above reported represent the upper and lower limits of the applicable temperature range, taking into account the constructional (type of resin and dissipated power) and functional (sensing element) characteristics of the gas detectors, as specified in the descriptive documents annexed to the certificate.

The temperature class T5 (T100°C) is assigned to the detector type NET3 with a dissipated power between 1 and 1,5 W and maximum ambient temperature of 60°C. In the other case to the gas detectors series NET is assigned the temperature class T6 (T85°C).

The marking label shows the temperature class and the ambient temperature range assigned to the unit.

This certificate may only be reproduced in its entirety and without any change, schedule included.

[13]

## Schedule

[14] **EC-TYPE EXAMINATION CERTIFICATE n. CESI 10 ATEX 032X**

[16] **Report n. B0016843.**

### Routine tests

The manufacturer shall carry out the routine tests prescribed at clause 27 of EN 60079-0 Standard.

### Descriptive documents (prot. EX-B0016849)

- Technical Note NTCX2285N	(pg. 12)	dated	18.01.2010
- Safety instructions MTCX2289N	(pg. 3)	dated	11.03.2010
- AS2599N	(pg. 4)	dated	01.06.2010
- AS2600N		dated	01.06.2010
- ASCX2561N		dated	11.03.2010
- ASCX2288N		dated	11.03.2010
- ASCX2287N		dated	11.03.2010
- MECX2568N		dated	31.08.2006
- MECX2537N		dated	27.02.2010
- MECX2452N		dated	27.02.2010
- MECX2453N		dated	27.02.2010
- MECX2338N		dated	23.09.2009
- MECX2339N		dated	23.09.2009
- MECX2555N		dated	04.09.2006
- MECX2556N		dated	31.08.2006
- MECX2557N		dated	31.08.2006
- MECX2558N		dated	15.12.2004
- MECX2559N		dated	12.09.2004
- MECX2560N		dated	20.04.2007
- MECX2563N		dated	15.12.2004
- MECX2564N	(pg. 2)	dated	11.03.2010
- MECX2565N		dated	04.03.2010
- MECX2566N	(pg. 2)	dated	04.03.2010
- MECX2567N		dated	11.03.2010
- MECX2569N		dated	05.10.2007
- MECX2571N		dated	23.09.2009
- MECX2572N		dated	23.09.2009
- MECX2573N		dated	23.09.2009
- Declaration of conformity		dated	01.06.2010

One copy of all documents is kept in CESI files.

[17] **Special conditions for safe use**

- The supply/signal cable of the gas detector must be protected against mechanical damages caused by impact or friction.
- User side connection of the supply/signal cable must be in a safe area or be protected by one of the types of protection listed in EN60079-0 standard.
- The installation of the gas detector shall guarantee the equipotential bonding of the enclosure.
- The gas detectors series NET are designed for stationary installation and shall not be used for portable applications.

[18] **Essential Health and Safety Requirements**

Assured by compliance to the Standards.

## EXTENSION n. 01/11



to EC-Type Examination Certificate CESI 10 ATEX 032X

Equipment: Gas detectors series NET  
 Manufacturer: N.E.T. S.r.l.  
 Address: Via Legnano, 2 – 20010 Cornaredo - MI - Italy

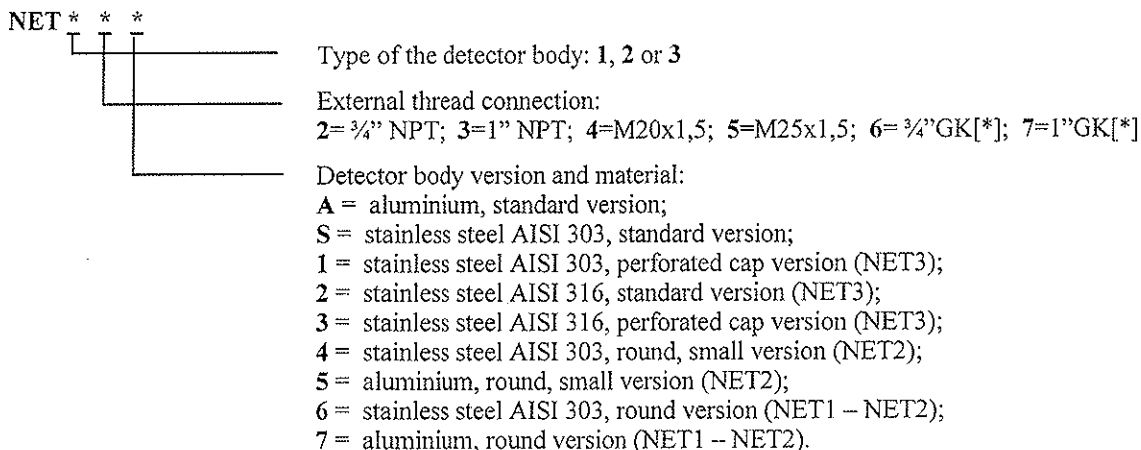
### Admitted variation

- Constructional modifications.
- New models.
- Update of the identification code.

Details of the admitted variations are specified in the descriptive documents annexed to this extension.

### Identification of the equipment

The various type of gas detector series NET are identified by the following code:



[\*] The GK thread is realized according to CEI EN 60079-1 (2008-11 Annex 1).

This extension and annexed descriptive documents must be annexed to the EC-Type Examination Certificate CESI 10ATEX032X

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date 6 July 2011 - translation issued the 6<sup>th</sup> July 2011

prepared Enrico Radaelli

verified Mirko Balaz

approved Fiorenzo Bregani

**CESI** S.p.A.  
 Testing & Certification Division

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## EXTENSION n. 01/11

to EC-Type Examination Certificate CESI 10ATEX032X

### Marking

Unchanged.

### Electrical characteristics

Unchanged.

Report n. EX-B1021559.

### Routine tests

The manufacturer shall carried out the routine tests prescribed at par. 27 of EN 60079-0 Standard.

### Descriptive documents (prot. EX-B1021573)

- Technical Note NTCX2864N	(pg. 5)	dated	09.12.2010
- MECX2564N rev. 1	(pg. 2)	dated	09.12.2010
- MECX2565N rev. 1		dated	09.12.2010
- MECX2566N rev. 1	(pg. 2)	dated	09.12.2010
- ASCX2561N rev. 1		dated	09.12.2010
- ASCX2288N rev. 1		dated	09.12.2010
- ASCX2287N rev. 1		dated	09.12.2010
- MECX2842N rev. 1		dated	09.12.2010
- MECX2537N rev. 1		dated	09.12.2010
- MECX2827N rev. 1		dated	09.12.2010
- MECX2828N rev. 1		dated	09.12.2010
- MECX2829N		dated	27.02.2010
- MECX2452N rev. 1		dated	09.12.2010
- MECX2805N		dated	27.02.2010
- MECX2339N rev. 1		dated	09.12.2010
- MECX2572N rev. 1		dated	09.12.2010
- MECX2560N rev. 1		dated	09.12.2010

One copy of all documents is kept in CESI files.

### Essential Health and Safety Requirements

The Essential Health and Safety Requirements are assured by compliance to the following standards:

- EN 60079-0: 2009 – Explosive atmospheres – Part 0: Equipment -General requirements.
- EN 60079-1: 2007 – Explosive atmospheres – Part 1: Equipment protection by flameproof enclosures “d”.
- CEI EN 60079-1: 2008 -11 – Explosive atmospheres – Part 1: Equipment protection by flameproof enclosures “d” (annex 1).
- EN 60079-31: 2009 – Explosive atmospheres – Part 31: Equipment dust ignition protection by enclosures “t”.

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## EXTENSION n. 01/11

to EC-Type Examination Certificate CESI 10 ATEX 032X



Equipment: Gas detectors series **NET**  
Manufacturer: **N.E.T. S.r.l.**  
Address: Via Legnano, 2 – 20010 Cornaredo - MI - Italy

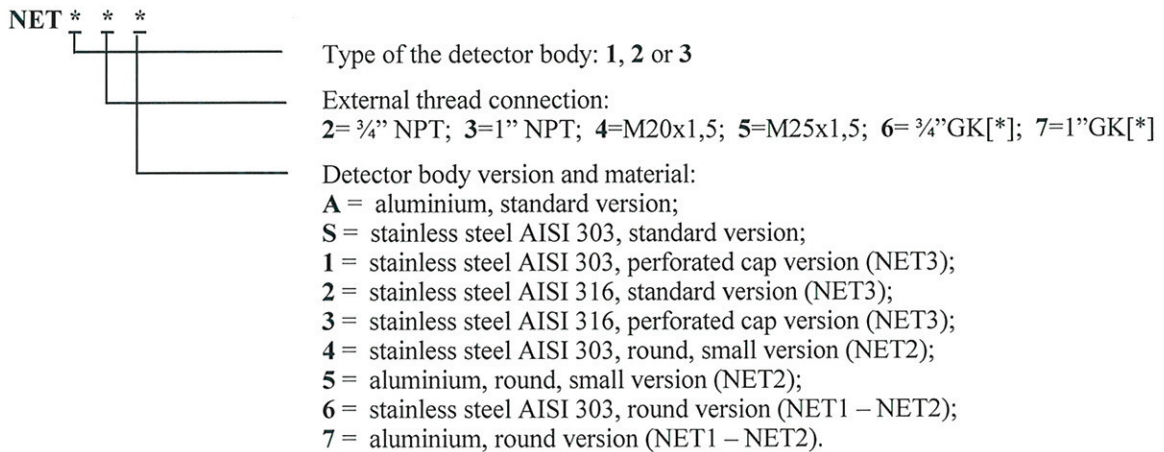
### Admitted variation

- Constructional modifications.
- New models.
- Update of the identification code.

Details of the admitted variations are specified in the descriptive documents annexed to this extension.

### Identification of the equipment

The various type of gas detector series NET are identified by the following code:



[\*] The GK thread is realized according to CEI EN 60079-1 (2008-11 Annex 1).

This extension and annexed descriptive documents must be annexed to the EC-Type Examination Certificate CESI 10ATEX032X

This document may only be reproduced in its entirety and without any change.

**date** 6 July 2011 - translation issued the 6<sup>th</sup> July 2011

**prepared** Enrico Radaelli

**verified** Mirko Balaz

**approved** Fiorenzo Bregani

**CESI** S.p.A.  
Testing & Certification Division

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## EXTENSION n. 01/11

to EC-Type Examination Certificate CESI 10ATEX032X

### Marking

Unchanged.

### Electrical characteristics

Unchanged.

Report n. EX-B1021559.

### Routine tests

The manufacturer shall carried out the routine tests prescribed at par. 27 of EN 60079-0 Standard.

### Descriptive documents (prot. EX-B1021573)

- Technical Note NTCX2864N	(pg. 5)	dated	09.12.2010
- MECX2564N rev. 1	(pg. 2)	dated	09.12.2010
- MECX2565N rev. 1		dated	09.12.2010
- MECX2566N rev. 1	(pg. 2)	dated	09.12.2010
- ASCX2561N rev. 1		dated	09.12.2010
- ASCX2288N rev. 1		dated	09.12.2010
- ASCX2287N rev. 1		dated	09.12.2010
- MECX2842N rev. 1		dated	09.12.2010
- MECX2537N rev. 1		dated	09.12.2010
- MECX2827N rev. 1		dated	09.12.2010
- MECX2828N rev. 1		dated	09.12.2010
- MECX2829N		dated	27.02.2010
- MECX2452N rev. 1		dated	09.12.2010
- MECX2805N		dated	27.02.2010
- MECX2339N rev. 1		dated	09.12.2010
- MECX2572N rev. 1		dated	09.12.2010
- MECX2560N rev. 1		dated	09.12.2010

One copy of all documents is kept in CESI files.

### Essential Health and Safety Requirements

The Essential Health and Safety Requirements are assured by compliance to the following standards:

- EN 60079-0: 2009 – Explosive atmospheres – Part 0: Equipment -General requirements.
- EN 60079-1: 2007 – Explosive atmospheres – Part 1: Equipment protection by flameproof enclosures “d”.
- CEI EN 60079-1: 2008 -11 – Explosive atmospheres – Part 1: Equipment protection by flameproof enclosures “d” (annex 1).
- EN 60079-31: 2009 – Explosive atmospheres – Part 31: Equipment dust ignition protection by enclosures “t”.

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**EXTENSION n. 02/16**

to EC-Type Examination Certificate CESI 10ATEX032X

**Equipment:** Gas detectors series NETC

**Manufacturer:** N.E.T. S.r.l.

**Address:** Via Legnano, 2 – 20010 Cornaredo (Milan) - Italy

**Admitted variation**

- Updating to EN60079-0: 2012 + A11: 2013, EN60079-1: 2014, EN60079-31: 2014 and EN60079-28: 2007 Standards.
- Updating of the identification code.
- Constructional modification to the body of the type NETC3 and added long version NETC3\*8.
- New models type NETC6, NETC7 and NETC8 (with combined type of protection).
- Updating of the electrical characteristics.

Details of the admitted variations are specified in the descriptive documents annexed to this extension.

**Description and identification of the equipment**

Starting from this extension the identification of the equipment is updated by introducing the "C" suffix to the identification code of the series, changing it by NET to NETC.

A new model NETC3 (long version) is introduced: it is realized with an extension between the base and the cover of the original NECT3 with perforated cap.

Moreover the new model type NETC6, NETC7 and NETC8 are introduced.

These models are characterized by the presence of a sealed glass in place of the sintered filter.

Within these new models of the detector, are present electronic circuits that use the principle of the optical radiation (infrared or laser) to measure the concentration of the gas detected. These circuits comply with EN60079-28 standard and the detectors have a combined type of protection: "Ex-db" flameproof associated with "Ex-op is" inherently safe optical radiation.

All new models use the body with the sealed bushing of the type NETC3 and with this extension some constructional modifications detailed in the attached descriptive documents have been introduced.

*(follows)*

This extension and annexed descriptive documents must be annexed to the EC-Type Examination Certificate CESI 10ATEX032X.

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**Date** 22 February 2016 - Translation issued the 22 February 2016

**Prepared**

Enrico Radaelli



**Verified**

Mirko Balaz



**CESI**

**Approved S.p.A.**

Roberto Piccin

Testing & Certification Division  
Business Area Certification  
Il Responsabile

(Roberto Piccin)



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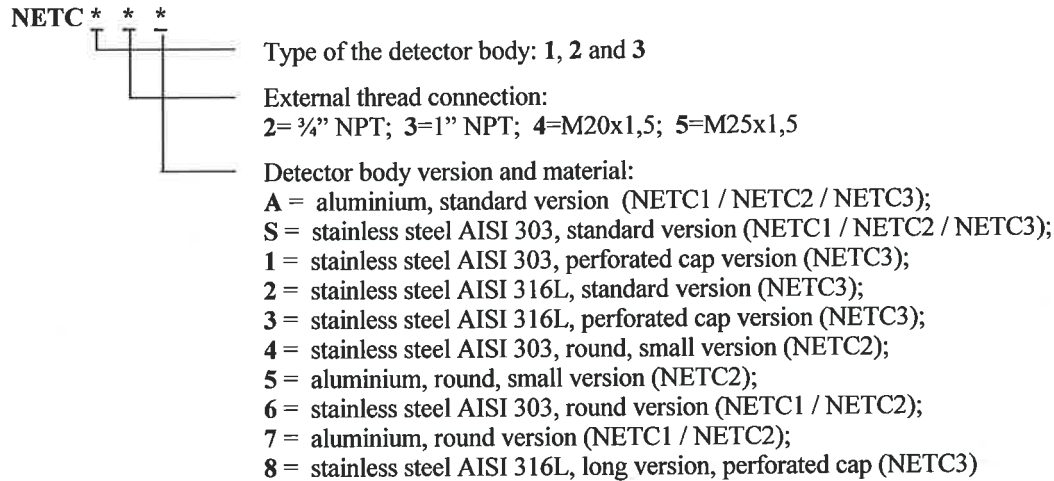
## EXTENSION n. 02/16

to EC-Type Examination Certificate CESI 10ATEX032X

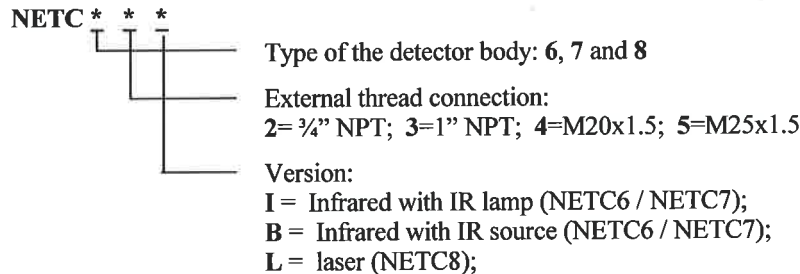
### Description and identification of the equipment *(follows)*

The various type of gas detector series NETC are identified by the following code:

For types 1, 2 and 3:



For types 6, 7 and 8:



### Marking

The equipment shall be marked as follows:

- ⊕ II 2G Ex db IIC T6 or T5 Gb (types NETC1, NETC2 and NETC3)
- ⊕ II 2D Ex tb IIC T85°C or T100°C Db (types NETC2 and NETC3 equipped with GD adapter)  
IP65
- ⊕ II 2G Ex db op is IIC T6 or T4 Gb (types NETC6 and NETC7)
- ⊕ II 2G Ex db op is IIC T6 or T5 or T4 Gb (type NETC8)

*(follows)*

## EXTENSION n. 02/16

to EC-Type Examination Certificate CESI 10ATEX032X

**Description and identification of the equipment** (*follows*)

**Electrical characteristics**

- Maximum supply voltage: 30 Vdc
- Maximum absorbed current: 400 mA or 500 mA (depending on the type)
- Maximum dissipated power: 0.7 W (types NETC1 and NETC2)  
1.4 W (types NETC3 – long version excluded)  
2.5 W (type NETC3\*8 – long version)  
0.9 W (types NETC6 and NETC7)  
2.5 W (type NETC8)
  
- Ambient temperature: -40 /-30 /-20 ÷ +40 / +45 / +50 /+55 / +60°C

The ambient temperature values above reported represent the upper and lower limits of the applicable temperature range, taking into account the constructional and functional characteristics of the gas detectors, as specified in the descriptive documents annexed to the certificate.

In the following table are reported the temperature class (for EPL Gb) and the maximum surface temperature (for EPL Db) in function of the maximum ambient temperature and of the power dissipated within the enclosure of the gas detector.

detector type	maximum dissipated power [W]	maximum ambient temperature [°C]	temperature class (Gb)	maximum surface temperature (Db)
NETC1	0.7	60	T6	--
NETC2	0.7	50	T6	T85 °C
		55	T6	T85 °C
		60	T5	T100 °C
NETC3	1.4	55	T6	T85 °C
		60	T5	T100 °C
NETC3 long version	2.5	45	T6	T85 °C
		50	T5	T85 °C
		60	T5	--
NETC6 (IR lamp)	0.9	60	T6	--
NETC7 (IR lamp)	2 x 0.9			
NETC6 (IR source)	0.9	60	T4	--
NETC7 (IR source)	2 x 0.9			
NETC8	2.5	40	T6	--
		50	T5	--
		60	T4	--

The marking nameplate shows the temperature class and the ambient temperature range assigned to the equipment.

## EXTENSION n. 02/16

to EC-Type Examination Certificate CESI 10ATEX032X

**Report n. EX-B6003944**

**Routine tests**

The manufacturer shall carry out the routine tests prescribed at clause 27 of EN 60079-0 and at clause 16 of EN 60079-1 Standards.

The gas detectors type NETC1, NETC2 and NETC3 are exempted from the routine overpressure test since the internal volume is less than to 10 cm<sup>3</sup>.

The gas detectors type NETC6, NETC7 and NETC8, equipped with sealed window, shall be submitted to the overpressure test, carried out with the static method according to paragraph 15.2.3.2 of EN60079-1, with a pressure value of 17.5 bar.

The individual routine overpressure test may be replaced by a batch testing on the gas detectors according to paragraph 16.6 of EN 60079-1: 2014 with the pressure value of 17.5 bar.

**Descriptive documents (prot. EX-B6003951)**

- Technical Note NTEX3732	(pg. 15)	dated	26.11.2015
- MEEEX2564N rev. 2	(pg. 3)	dated	30.07.2015
- MEEEX2565N rev. 2	(pg. 2)	dated	30.07.2015
- MEEEX2566N rev. 2	(pg. 3)	dated	30.07.2015
- MEEEX3793		dated	24.07.2015
- ME3904	(pg. 2)	dated	20.11.2015
- ASEX2561N rev. 2		dated	09.10.2015
- MEEEX2568N rev. 1		dated	08.05.2015
- MEEEX2842N rev. 2		dated	08.05.2015
- ASEX2288N rev. 2		dated	09.10.2015
- MEEEX2537N rev. 2		dated	08.05.2015
- MEEEX2338N rev. 1		dated	08.05.2015
- MEEEX2828N rev. 2		dated	08.05.2015
- MEEEX2827N rev. 2		dated	08.05.2015
- ASEX3739	(pg. 2)	dated	19.05.2015
- MEEEX3733		dated	19.05.2015
- MEEEX2453N rev. 1		dated	08.05.2015
- MEEEX2339N rev. 2		dated	08.05.2015
- ASEX3738	(pg. 2)	dated	19.05.2015
- MEEEX2829N rev. 1		dated	08.05.2015
- ASEX3827	(pg. 2)	dated	14.09.2015
- MEEEX3826		dated	14.09.2015
- ASEX3716	(pg. 2)	dated	19.05.2015
- MEEEX3645		dated	25.03.2015
- MEEEX3646		dated	25.03.2015
- MEEEX3647		dated	25.03.2015
- MEEEX3648		dated	25.03.2015
- MEEEX3652		dated	25.03.2015
- MEEEX3715		dated	19.05.2015
- MEEEX3725		dated	19.05.2015
- MEEEX3795		dated	25.03.2015
- ASEX3735	(pg. 2)	dated	19.05.2015
- MEEEX3724		dated	19.05.2015
- MEEEX3736		dated	19.05.2015
- MEEEX3737		dated	19.05.2015
- ASEX3717	(pg. 2)	dated	19.05.2015
- MEEEX3722		dated	16.05.2015
- MEEEX3845		dated	25.09.2015

*(follows)*

## EXTENSION n. 02/16

to EC-Type Examination Certificate CESI 10ATEX032X

(descriptive documents follows)

- ASEX3718	(pg. 2)	dated	19.05.2015
- MEEEX3734		dated	19.05.2015
- MEEEX2559N rev.1		dated	06.05.2015
- MEEEX3876		dated	12.11.2015
- MEEEX3877		dated	12.11.2015
- MEEEX3878		dated	12.11.2015
- MEEEX3902		dated	19.10.2015
- MEEEX3903		dated	12.11.2015
- ASEX2599N rev. 3	(pg. 5)	dated	12.10.2015
- ASEX2600N rev. 2	(pg. 2)	dated	12.10.2015
- ASEX3857	(pg. 2)	dated	14.10.2015
- Safety Instructions MTEX3749	(pg. 6)	dated	16.06.2015
- Safety Instructions MTEX3799	(pg. 6)	dated	16.06.2015
- Declaration of Conformity DCEX3750 ( <i>fac simile</i> )		dated	26.11.2015
- Declaration of Conformity DCEX3800 ( <i>fac simile</i> )		dated	26.11.2015
- Declaration of Conformity DCEX3803 ( <i>fac simile</i> )		dated	26.11.2015

One copy of all documents is kept in CESI files.

### Special conditions for safe use (X)

- The supply cable of the gas detector must be protected against mechanical damages caused by impact or friction.
- User side connection of the supply cable must be in a safe area or be protected by one of the types of protection listed in EN 60079-0 standard.
- The installation of the gas detector shall guarantee the equipotential bonding and metal continuity of the enclosure.
- The gas detectors series NET are designed for stationary installation and shall not be used for portable applications.
- The flamepaths are specified in the manufacturer drawings. For information regarding the dimensions of the flameproof joints the manufacturer shall be contacted.
- The conditions of the installation of the equipment are included within the safety instructions. For a safe use these mounting instructions are to be followed precisely. In case of use with enclosure subject of a separate certification for a type of protection listed in EN60079-0 standard, the coupling enclosure/gas detector shall not affect the type of protection of the enclosure. The requested degree of protection IP shall be guaranteed.
- The gas detectors can be coupled, without any supplementary test, to explosion-proof enclosures with a reference pressure not exceeding 20 bar.

### Essential Health and Safety Requirements

The Essential Health and Safety Requirements are assured by compliance to the following standards:

- EN 60079-0: 2012 + A11:2013 – Explosive atmospheres – Part 0 - Equipment -General requirements.
- EN 60079-1: 2014 – Explosive atmospheres – Part 1 - Equipment protection by flameproof enclosures “d”.
- EN 60079-31: 2014 – Explosive atmospheres –Part 31 - Equipment dust ignition protection by enclosures “t”.
- EN 60079-28: 2007 – Explosive atmospheres – Part 28 - Protection of equipment and transmission systems using optical radiation.