CESI S.p.A.
Via Rubattino 54
I-20134 Milano - Italy
Tel: +39 02 21251
e-mail: info@cesi.it
www.cesi.it

CERTIFICATE

[1] SUPPLEMENTARY EU-TYPE EXAMINATION CERTIFICATE

[2] **Component intended for use on/in equipment or protective system intended for use in potentially explosive atmospheres Directive 2014/34/EU**

[3] Supplementary EU-Type Examination Certificate number:

CESI 11 ATEX 039U /01

[4] Component: **Gas sensors type IRNEX and type IRPEX**

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

[6] Address: **Via Campania 5, I-20006 Pregnana Milanese (MI), Italy**

[7] This supplementary certificate extends EC–Type Examination Certificate **CESI 11 ATEX 039U** to apply to Component designed and constructed in accordance with the specification set out in the Schedule of the said certificate but having any variations specified in the Schedule attached to this certificate and the documents therein referred to.

[8] CESI, notified body n. 0722 in accordance with Article 17 of the Directive 2014/34/EU of the Parliament and Council of 26 February 2014, certifies that this Component has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of components 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-C5014239**.

[9] In accordance with Article 41 of Directive 2014/34/EU, EC-Type Examination Certificates referring to 94/9/EC that were in existence prior to the date of application of 2014/34/EU (20 April 2016) may be referenced as if they were issued in accordance with Directive 2014/34/EU. Supplementary certificates to such EC-Type Examination Certificates, and new issues of such certificates, may continue to bear the original certificate number issued prior to 20 April 2016.

[10] The sign "U" placed after the certificate number indicates that this certificate must not be mistaken for a certificate intended for an equipment or protective system. This partial certification may be used as a basis for certification of an equipment or protective system.

[11] This EU-TYPE EXAMINATION CERTIFICATE relates only to the design, examination and tests of the specified Component in accordance to the Directive 2014/34/EU. Further requirements of the Directive apply to the manufacturing process and supply of this Component. These are not covered by this certificate.

[12] The marking of the Component shall include the following:

II 2G	**Ex db IIC Gb**
	or else
I M2	**Ex db I Mb**
	or else
I M1	**Ex db+ia I Ma**

Date 30/10/2025 - Translation issued the 30/10/2025

Prepared	**Verified**	**Approved**
Adrián Lucas Vagni	Alessandro Fedato	Giacomo Chiarini

Schema di certificazione

CESI-ATEX

PRODUCT CERTIFICATION ACCREDIA

00026

[13] # Schedule

[14] **SUPPLEMENTARY EU-TYPE EXAMINATION CERTIFICATE n. CESI 11 ATEX 039U /01**

[15] **Description of the variation to the Component**

Variation 1.1 Change of company address
Variation 1.2 Standard update
Variation 1.3 Extended the degree of protection IP54 to all types
Variation 1.4 Update of electronic components and PCBs
Variation 1.5 Minor mechanical changes were applied

Description of Component

Gas sensors series IRNEX and series IRPEX are components 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. On the one hand, the enclosure is closed by a sealed bushing with the pins for the connection to external circuits, on the other side a double-layer mesh (with a PTFE membrane filter inside) locked and sealed on the enclosure is placed.

Model identification

The various type of gas sensors series IRNEX and series IRPEX are identified by the following code:

**** * 20 *** * EX *****

- **IN** IRNEX (infrared sensor IRNET)
- **IP** IRPEX (infrared sensor IRPELL with output signal like pellistor sensor)

- **E** version PRO with electronic circuits, standard enclosure
- **X** (only for IRNEX) version with 7 pins without electronic circuits, standard enclosure
- **P** version PRO (with electronic circuits), open enclosure
- **7** (only for IRNEX) version with 7 pins without electronic circuits, open enclosure

- **20** = sensor size (diameter 20 mm)

type of gas

gas measuring range

EX version

other codes not relevant for the type of protection of the component

The complete identification codes of sensors series IRNEX and IRPEX, with their constructional characteristics, are detailed in the descriptive documents annexed to the certificate

Electrical characteristics

Maximum supply voltage:	5.5 V dc
Maximum absorbed current:	100 mA

For models with type of protection **Ex db+ia I Ma**:

Maximum input voltage Ui:	5.5 V dc
Maximum input current Ii:	100 mA

Ambient characteristics

Minimum ambient temperature:	- 40 °C for group II devices - 20 °C for group I devices

[13] # Schedule

[14] **SUPPLEMENTARY EU-TYPE EXAMINATION CERTIFICATE n. CESI 11 ATEX 039U /01**

Warning labels
None.

[16] **Report n. EX-C5014239**

Routine tests
None.

[17] **Schedule of limitations**

• The gas sensors series IRNEX and IRPEX shall be properly protected against the mechanical risks (impact and drop) by installation into a suitable enclosure.

• The maximum ambient temperature around the component must not exceed:

+60 °C for group II devices;

+45 °C for group I devices.

For group II application, with a local ambient temperature around the component up to +60 °C, the gas sensors series IRNEX and IRPEX respect the temperature class T6.

These limits take in account the external ambient temperature and the temperature rise inside the enclosure due to local heating.

• The connection pins shall be protected with a type of protection listed in IEC 60079-0; a minimum degree of protection IP54 shall be guaranteed.

• The devices shall not be installed ore removed when an explosive atmosphere is present.

• The devices with type of protection Ex db+ia I Ma shall be supplied by an intrinsic safety barrier with suitable output electrical parameters.

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

EHSR are assured by compliance with safety conditions and by compliance with the following standards:

EN IEC 60079-0:2018	Explosive atmospheres – Part 0: Equipment - General requirements
EN 60079-1:2014	Part 1: Equipment protection by flameproof enclosure "d"
EN 60079-11:2012	Part 11: Equipment protection by intrinsic safety "i"
EN 50303:2000	Group I, Category M1 equipment intended to remain functional in atmospheres endangered by firedamp and/or coal dust

[13] # Schedule

[14] **SUPPLEMENTARY EU-TYPE EXAMINATION CERTIFICATE n. CESI 11 ATEX 039U /01**

[19] **Descriptive documents (prot. EX-C5014243)**

*NTEX2879 Technical Note (pg.11) Rev.3	dated 15/10/2025
*MTEX2982 Safety Instructions (pg.5) Rev.1	dated 15/10/2025
*DS2203 IR Part Number (2 pg.) Rev.27	dated 28/03/2025
*MEEX2983 ATEX marking plate Rev.3	dated 15/10/2025
*ASEX2675 Assembly of IRNEX sensor Rev.5	dated 21/03/2025
*ASEX2893 Assembly of IRPEX sensor Rev.5	dated 26/08/2022
*DBAS3612 irnet 20mm KINETIS DAC_EXT pins board POS (pg.6) Rev.10	dated 19/02/2021
*DBAS3613 irnet 20mm KINETIS DAC_EXT pins board NEG (pg.6) Rev.10	dated 19/02/2021
*DBAS4945 irnet 20mm KINETIS DAC_INT pins board POS (pg.5) Rev.1	dated 24/11/2021
*DBAS4946 irnet 20mm KINETIS DAC_INT pins board NEG (pg.5) Rev.1	dated 24/11/2021
*DBAS5031 irnet 20mm KINETIS MKL17 DAC_EXT pins board POS (pg.5) Rev.1	dated 04/02/2025
*DBAS5543 irnet 20mm KINETIS MKL17 DAC_INT pins board NEG (pg.5) Rev.0	dated 03/02/2025
*DBAS5542 irnet 20mm KINETIS MKL17 DAC_INT pins board POS (pg.5) Rev.0	dated 03/02/2025
*DBAS5544 irnet 20mm KINETIS MKL17 DAC_EXT pins board NEG (pg.5) Rev.0	dated 03/02/2025
*SE3608 PIN BOARD 20mm KINETIS schematics (pg.2) Rev.7	dated 18/07/2022
*CSSE3608 Gerber (pag.15) Rev.7	dated 26/07/2022
*DBAS3632 irnet 20mm KINETIS sensor board (pg.5) Rev.11	dated 03/05/2021
*DBAS4286 irnet 20mm KINETIS sensor board G5.5G20 (pg.4) Rev.4	dated 09/04/2024
*DBAS4560 irnet 20mm KINETIS sensor board G5G20 (pg.4) Rev.1	dated 10/10/2019
*DBAS4834 irnet 20mm KINETIS sensor board G2G20 (pg.4) Rev.1	dated 03/05/2021
*SE3609 SENSOR_BOARD_IRNET 20mm schematics (pg.2) Rev.5	dated 29/07/2019
*CSSE3609 Gerber (pg.11) Rev.5	dated 06/08/2019
- DBAS2393 rNet Pro 20mm Booster board with pins (negative) Rev.2	dated 11/05/2011
- AS2393 rNet Pro 20mm Booster board with pins Rev.0	dated 11/05/2011
- SE2315 .S. Booster IRPELL 20 pins Rev.0	dated 03/01/2011
- DBAS2390 rNet Pro 20mm Connector board (pg.3) Rev.1	dated 11/05/2011
- AS2390 rNet Pro 20mm Connector board Rev.0	dated 11/05/2011
- CSSE2036 rNet Pro: C.S. CPU Connector Rev.3	dated 03/01/2011
- DBAS2379 rNet Pro 20mm sensor board (pg.3) Rev.4	dated 11/05/2011
- AS2379 rNet Pro 20mm sensor board Rev.2	dated 11/05/2011
- CSSE2037 rNet Pro: C.S. Pyroelectric Rev.3	dated 03/01/2011

*Note: an * is placed before the title of documents which are new or revised, annexed to this supplement.*

One copy of all documents mentioned above is kept in CESI files.

Certificate history

Issue N.	Issue Date	Summary description of variation
00	27/05/2011	Prima emissione del certificate
01	30/10/2025	Change of Manufacturer's address Standard update Degree of Protection IP54 extended to all models Updates of electronic components and PCB Minor mechanical changes