



NETC3 DETECTION HEAD

Full conformity ATEX/IECEX gas detection head

052993 rev. 7 dated 15/02/2024



Key Features

- Ready-to-use detector heads tested and full conformity certified according to the ATEX and IECEx directives
- ¾", 1" or M20 back thread for connection to the detector's main body or junction boxes
- Front M46 thread for connection to flanges and calibration caps
- Optional GD protection (IP65)
- Accommodates N.E.T. comprehensive detection range:
 - Infrared sensors for CO₂, CH₄, hydrocarbons, SF₆ and refrigerant gases
 - Electrochemical cells for O₂, CO, NO₂, NO, H₂S, NH₃, CL₂, SO₂
 - Catalytic pellistors for flammable gases

General Description

NET3X/NETC3 are ready-to-use detector heads or gas sensor housings, already certified as a component or a complete device to be mounted on a gas detector in any environment.

The N.E.T. detector head is the ideal solution for gas detection system manufacturers who prefer not to invest in designing their own detection head and/or obtaining ATEX/IECEX certification for it. NET3X/NETC3 can house 20mm (4-series) or 32mm (7-series) size sensors from N.E.T.'s full array of detection technologies.

The two-piece design of the housing allows the internal sensor to be field replaceable.

The user can select among ¾", 1" or M20 thread for connection to the detector's main body. An additional M46 front thread allows easy fit for selected accessories (splash guard, calibration cap and additional filter for GD protection).

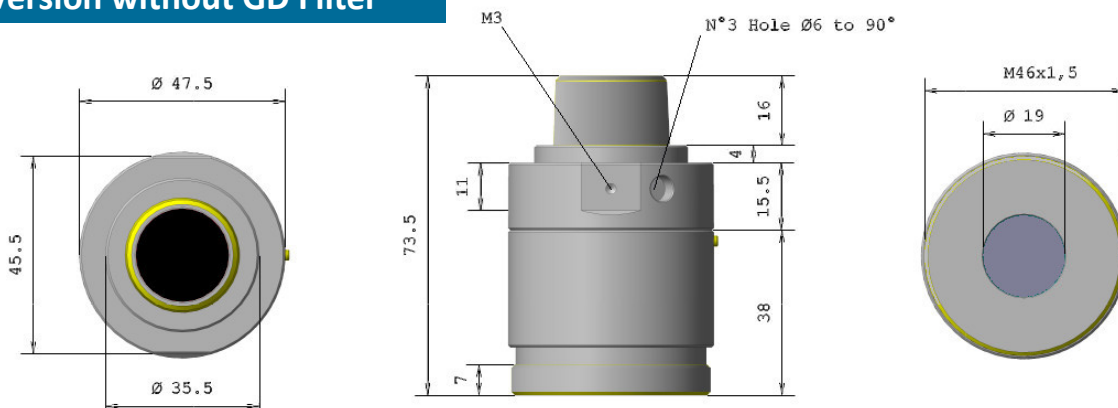
The flameproof enclosure is equipped with an integral stainless steel sinter filter guaranteeing safe entry of the atmosphere being detected.

NETC3 heads have been tested and full-conformity certified as complete instruments according to ATEX and IECEx standards.

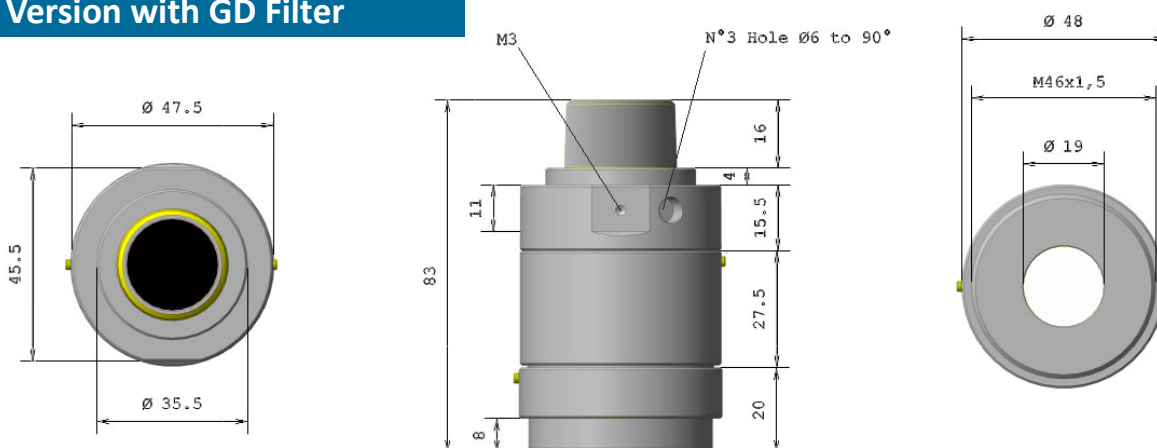
The NETC3 enclosure is available also in aluminum.

Mechanical specifications

Version without GD Filter



Version with GD Filter



Wiring scheme

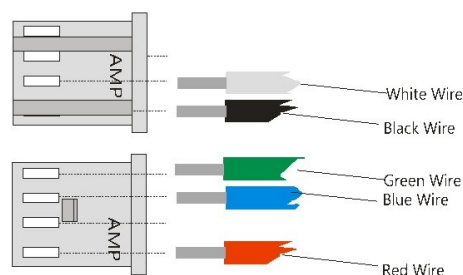
Electrochemical cells and Catalytic pellistors



| Wire colour | Catalytic bead Version | Electrochemical Cell Version | Oxygen Cell Version |
|-------------|------------------------|------------------------------|---------------------|
| Black | -Vcc, Detector | Counter | Not used |
| Red | +Vcc, Compensator | Reference | -Ve |
| White | Common | Working | +Ve |

Connector type: AMPMODU II 280359
Mating connector: AMPMODU II 280371-1

Infrared sensors



| Wire colour | IR Sensor Version |
|-------------|-------------------|
| Red | Vcc (+5V) |
| White | Signal (Vout) |
| Black | Gnd |
| Green | RX |
| Blue | TX |

Connector type: AMPMODU II 280365
Mating connector: AMPMODU II 280384-1

Certification details

| | | | |
|----------------------------------|--|---|---|
| ATEX/IECEx certification details | Certificate number | CESI 10 ATEX 032X | IECEx CES 12.0009X |
| | Marking (only gas) | II 2G Ex db IIC T6 or T5 Gb ⁽¹⁾ | Ex db IIC T6 or T5 Gb ⁽¹⁾ |
| | Marking (gas and dust, with dust cover) | II 2D Ex tb IIIC T85°C or T100°C Db IP65 ⁽¹⁾ | Ex tb IIIC T85°C or T100°C Db IP65 ⁽¹⁾ |

⁽¹⁾ The temperature class (T6 or T5) depends on the sensor power dissipation inside the sensor head and is thus dependent on the type of sensor used. See certificate for details.

Product specifications

| | | | |
|---------|--|--------------------------------|--------------------|
| General | Sensing Element: | EC cell & Pellistor | NDIR sensor |
| | Response time | Depend by the sensor | <60 seconds |
| | All the other functional parameters and warranty/ warning information are indicated inside datasheet of the specific sensor used inside the head. | | |

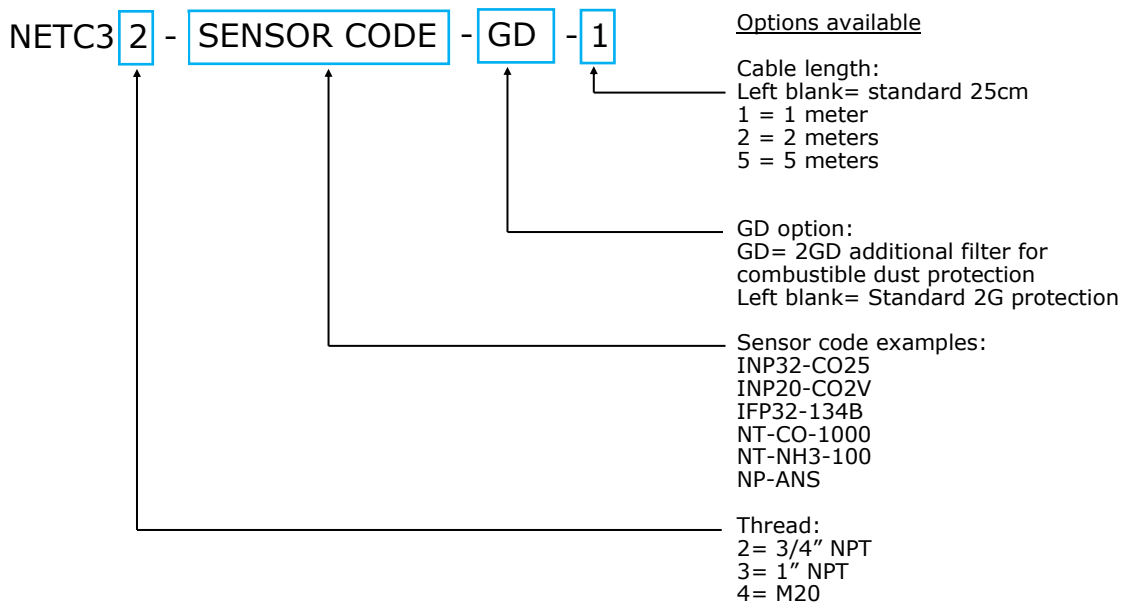
Examples of Head part numbers

| Gas | | Technology | Range | Part number |
|---------------------|----------------------------------|------------|------------|----------------------|
| Methane | CH ₄ | NDIR | 0-5%Vol | NETC3X-INP32-CH45-VS |
| Propane | C ₃ H ₈ | NDIR | 0-2,1%Vol | NETC3X-INP32-PRO2-VS |
| Carbon Dioxide | CO ₂ | NDIR | 0-5000 ppm | NETC3X-INP32-CO2P-VS |
| Carbon Dioxide | CO ₂ | NDIR | 0-5% Vol | NETC3X-INP32-CO25-VS |
| Carbon Dioxide | CO ₂ | NDIR | 0-100% Vol | NETC3X-INP20-CO2V-VS |
| Sulfur Hexafluoride | SF ₆ | NDIR | 0-2000ppm | NETC3X-IFP32-SF6B-VS |
| R-134a | CH ₂ FCF ₃ | NDIR | 0-2000ppm | NETC3X-IFP32-134B-VS |
| Carbon Monoxide | CO | EC cell | 0-300 ppm | NETC3X-NT-CO-PL1000 |
| Hydrogen Sulfide | H ₂ S | EC cell | 0-100 ppm | NETC3X-NT-H2S-PL100 |
| Ammonia | NH ₃ | EC cell | 0-100 ppm | NETC3X-NT-NH3-PL100 |
| Nitrogen Oxide | NO | EC cell | 0-300 ppm | NETC3X-NT-NO-PL300 |
| Chlorine | Cl ₂ | EC cell | 0-10 ppm | NETC3X-NT-CL2-PL10 |
| Sulfur Dioxide | SO ₂ | EC cell | 0-20 ppm | NETC3X-NT-SO2-PL20 |
| Oxygen | O ₂ | EC cell | 0-25% vol | NETC3X-NT-O2-A2 |

| Gas | | Technology | V | mA | Range | Part number |
|--------------|-----------------|------------|-----|-----|------------|-----------------|
| Hydrocarbons | HC | Pellistor | 2,0 | 175 | 0-100% LEL | NETC3X-NP-17SHM |
| Hydrocarbons | HC | Pellistor | 2,5 | 170 | 0-100% LEL | NETC3X-NP-18SHM |
| Hydrocarbons | HC | Pellistor | 2,0 | 300 | 0-100% LEL | NETC3X-NP-30SHM |
| Ammonia | NH ₃ | Pellistor | 2,2 | 175 | 0-100% LEL | NETC3X-NP-ANSHM |
| Hydrogen | H ₂ | Pellistor | 1,6 | 140 | 0-100% LEL | NETC3X-NP-AHSHM |

Ordering details

When making an order, we kindly ask our customers to specify the basic physical and electrical properties that are needed for their specific application. This is made through the part number here below. The squared fields of the part number below can be modified according to the options on the right.



N.E.T. has a policy of continuous development and improvement of its products. As such the specification for the device outlined in the data sheet may be changed without notice. In case of modification of the product, N.E.T. disclaims all liability.

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