



# NETC2 DETECTION HEAD

## Full conformity ATEX/IECEX gas detection head

052990 Rev.9 dated 15/02/2024



### Key Features

- Ready-to-use detector heads tested and full conformity certified according to the ATEX and IECEx directives
- ¾" or 1" back thread for connection to the detector's main body or junction boxes
- Front M35 thread for connection to flanges and calibration caps
- Optional GD protection (IP65)
- Accommodates N.E.T. comprehensive detection range:
  - Infrared sensors for CO<sub>2</sub>, CH<sub>4</sub> and hydrocarbons
  - Electrochemical cells for O<sub>2</sub>, CO, NO<sub>2</sub>, NO, H<sub>2</sub>S, NH<sub>3</sub>, CL<sub>2</sub>, SO<sub>2</sub>
  - Catalytic pellistors for flammable gases

### General Description

NET2X 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.

NET2X/NETC2 can house 20mm (4-series) size sensors from N.E.T.'s full array of detection technologies.:

- Single header catalytic pellistor gas sensors
- A wide range of electrochemical oxygen or toxic gas sensors
- NDIR sensors for hydrocarbons, refrigerants and CO<sub>2</sub>

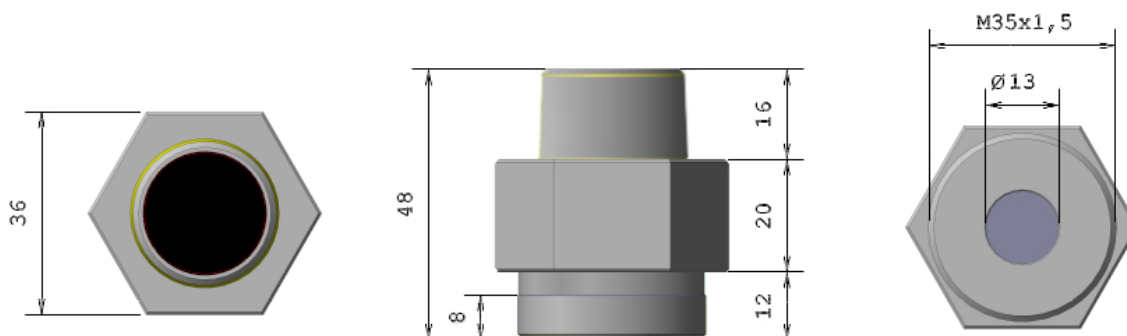
It is a completely sealed device, designed to be fully replaced at the end of the product's life. The single sensing element is not removable or accessible.

The user can select among ¾" or 1" thread for connection to the detector's main body. An additional M35 front thread allows easy fit for selected accessories (splash guard, calibration cap and additional filter for GD protection).

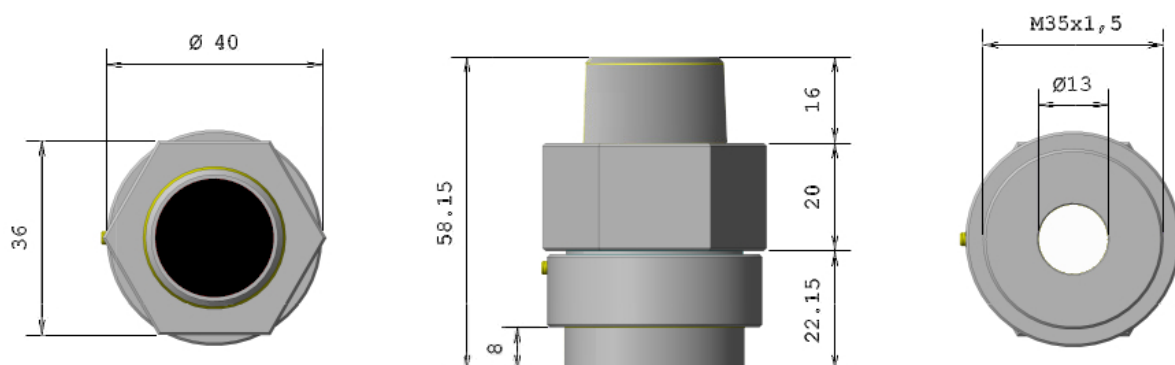
The flameproof enclosure is equipped with an integral stainless steel sinter filter guaranteeing safe entry of the atmosphere being detected. NETC2 heads have been tested and full-conformity certified as complete instruments according to ATEX and IECEx standards.

## Mechanical specifications

### Version without GD Filter



### Version with GD Filter



## Wiring scheme

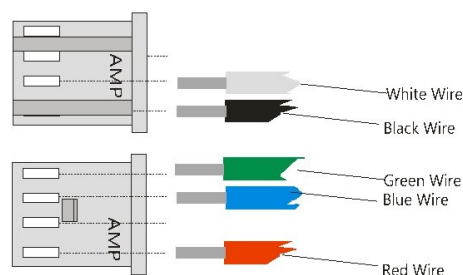
### Electrochemical cells and Catalytic pellistors



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

<sup>(1)</sup> 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	<b>Sensing Element:</b>	<b>EC cell &amp; Pellistor</b>	<b>NDIR sensor</b>
	<b>Response time</b>	Depends on the sensor	<60 seconds
	<b>All the other functional parameters and warranty/ warning information are indicated inside datasheet of the specific sensor used inside the head.</b>		

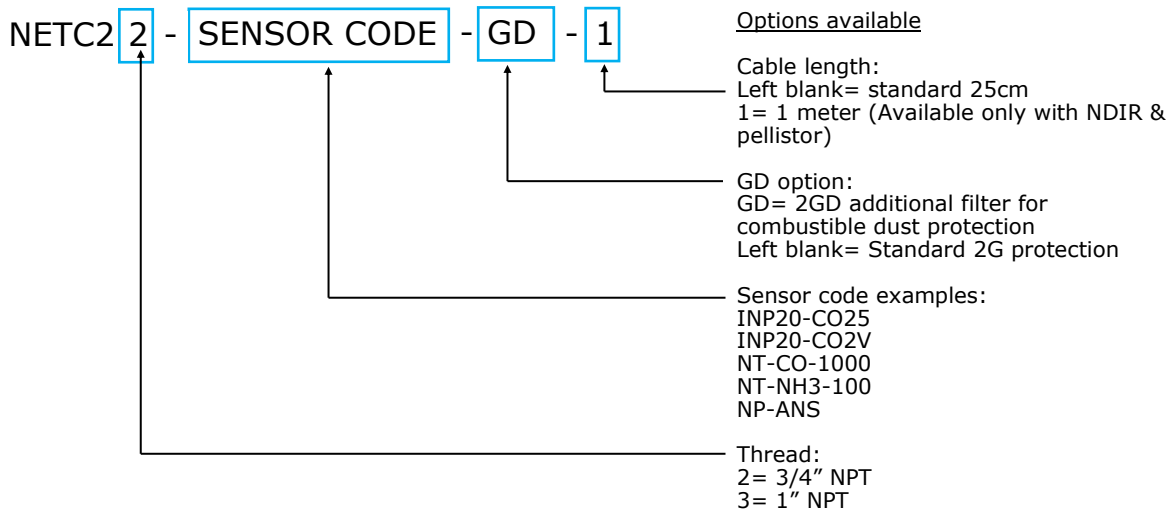
## Examples of Head part numbers

Gas		Technology	Range	Part number
Methane	CH <sub>4</sub>	NDIR	0-5%Vol	NETC2X-INP20-CH45-VS
Propane	C <sub>3</sub> H <sub>8</sub>	NDIR	0-2,1%Vol	NETC2X-INP20-PRO2-VS
Carbon Dioxide	CO <sub>2</sub>	NDIR	0-5000 ppm	NETC2X-INP20-CO2P-VS
Carbon Dioxide	CO <sub>2</sub>	NDIR	0-5% Vol	NETC2X-INP20-CO25-VS
Carbon Dioxide	CO <sub>2</sub>	NDIR	0-100% Vol	NETC2X-INP20-CO2V-VS
Carbon Monoxide	CO	EC cell	0-300 ppm	NETC2X-NT-CO-PL1000
Hydrogen Sulfide	H <sub>2</sub> S	EC cell	0-100 ppm	NETC2X-NT-H2S-PL100
Ammonia	NH <sub>3</sub>	EC cell	0-100 ppm	NETC2X-NT-NH3-PL100
Nitrogen Oxide	NO	EC cell	0-300 ppm	NETC2X-NT-NO-PL300
Chlorine	Cl <sub>2</sub>	EC cell	0-10 ppm	NETC2X-NT-CL2-PL10
Sulfur Dioxide	SO <sub>2</sub>	EC cell	0-20 ppm	NETC2X-NT-SO2-PL20
Oxygen	O <sub>2</sub>	EC cell	0-25% vol	NETC2X-NT-O2-A2

Gas		Technology	V	mA	Range	Part number
Hydrocarbons	HC	Pellistor	2,0	175	0-100% LEL	NETC2X-NP-17SHM
Hydrocarbons	HC	Pellistor	2,5	170	0-100% LEL	NETC2X-NP-18SHM
Hydrocarbons	HC	Pellistor	2,0	300	0-100% LEL	NETC2X-NP-30SHM
Ammonia	NH <sub>3</sub>	Pellistor	2,2	175	0-100% LEL	NETC2X-NP-ANSHM
Hydrogen	H <sub>2</sub>	Pellistor	1,6	140	0-100% LEL	NETC2X-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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