



NETC32/PB HEAD with 4-20mA output

For residential, commercial, light-industrial applications

054558 Rev.2 dated 22/09/2022

Key Features



- IP65 rating
- Industry-standard 4-20mA analogue output
- RS485 (Modbus) for digital addressable systems
- Optimal shock protection and environmental limits of -40 +60°C
- Decomposable in two parts, for easy sensor inspection and replacement
- 3/4" back thread for connection to detectors' housings or junction boxes
- Front M46 thread for connection to flanges and calibration caps
- Supplied ready-to-use with a sensor configured and pre-calibrated from N.E.T. comprehensive detection range:
 - Infrared sensors for CO₂, CH₄, Propane, SF₆ and Refrigerant gases
 - Electrochemical cells for O₂, CO, NO₂, NO, H₂S, NH₃, CL₂, SO₂

General Description

The classic NET3 Heads from N.E.T. is an ATEX/IECEX certified stainless steel enclosure complete with sensor and optional electronic transmitter, designed for application in classified areas. It has been the preferred choice of many instrument manufacturers worldwide: a ready-made solution, bringing a complete sensor+electronics+housing package to be directly integrated in a gas detector or even to be used as a complete standalone field device directly connected to a controller.

But for less demanding applications in residential, commercial and light industrial settings, customers have been asking for a lighter, cost-effective solution. Enters the new NETC3/PB detection head from N.E.T. – an enclosure bringing you at a compact price all the benefits of our classic NET3 heads, including IP65 rating, front M46 thread and 3/4" back thread.

NETC3/PB heads are made of robust POM-C acetal copolymer, ensuring optimal shock protection and environmental limits of -40 +60°C.

The enclosures are decomposable and the sensor can be easily inspected and replaced at the end of its life time.

The head is supplied ready-to-use with a sensor configured and pre-calibrated from N.E.T. comprehensive detection range:

- Infrared sensors for CO₂, CH₄, Propane, SF₆ and Refrigerant gases.
- Electrochemical cells for O₂, CO, NO₂, NO, H₂S, NH₃, CL₂, SO₂.

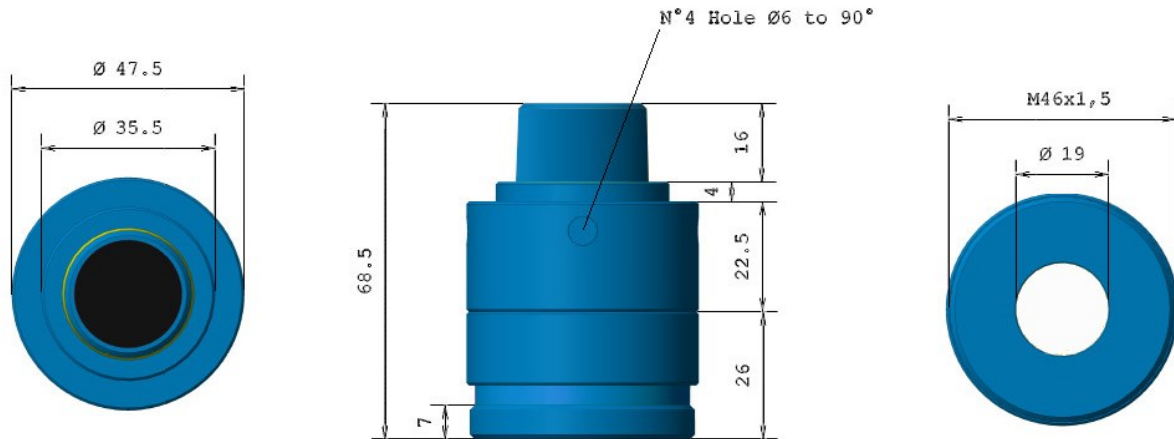
A variety of spacer inserts are available to allow the NETC3/PB gas sensing head to be fitted with standard formats of electrochemical toxic and oxygen gas sensors. The two piece design of the NETC3/PB allows the internal sensor to be field replaceable.

The full Cyber version features 4...20mA output and RS485 Modbus output, along with fault and alarm contacts, over a 10-30 Vdc power supply.

The cheaper XIN/DIN version has 4...20mA and/or Modbus protocol RS485 output.

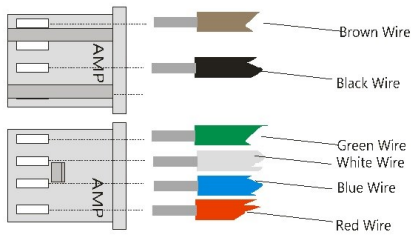
Full PC software and connection boards are available to perform calibrations and modify the unit's settings.

Mechanical specifications

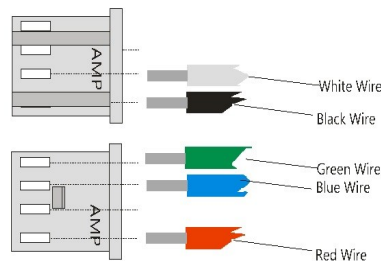


Wiring scheme

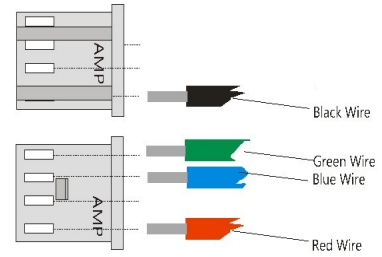
CYBER 4-20mA Version



XIN 4-20mA Version



DIN RS485 version



Wire colour	Cyber 4-20mA Version
Red	Vcc (12/24V)
Black	Gnd
Green	RS485 B
White	RS485 A
Blue	Signal (4-20mA current)
Brown	Fault

Wire colour	IR Sensor + 4-20mA board Version
Red	Vcc (12/24V)
White	Signal (4-20mA current)
Black	Gnd
Green	RS485A
Blue	RS485B

Wire colour	IR Sensor board Version
Red	Vcc (12/24V)
Black	Gnd
Green	RS485A
Blue	RS485B

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

Certification details

IP Certification	IP test report number	IPTR_175175-1
	Reference standards	EN 60529:1991-10+corr 1993+A1:2000+A2:2003+AC:2016

Product specifications

	Product type:	Cyber 4-20mA	XIN/DIN 4-20mA
General	Sensing Element:	IR sensor, EC cell	NDIRsensor
	Operating temperature range	Depend by the sensor technology (See Sensor specification)	
	Storage temperature range	Depend by the sensor technology (See Sensor specification)	
	Maximum temperature cycle variations	± 1°C/min	
	Operating humidity range	0-95% non condensing NDIR 20-90% EC cell	0-95% non condensing
	Operating pressure range	800-1200 mBar NDIR sensor 900-1100 mBar EC cell	800-1200 mBar
	Enclosure	Acetal Copolymer	
	Calibration	Individually calibrated with temperature compensation. Test report supplied.	
	Measurement	Sensing method	EC cell; NDIR
Range		ppm; %vol; %lel	ppm; %vol
Response time		Depend by the sensor	<60 seconds
Digital to analog error		±3%F.S	±2%F.S
Digital error		±5%F.S	Depend by the sensor
Electrical	Power Voltage	Nominal 12-24Vdc	
	Current Consumption @12V	20-25mA with EC cell 75-85mA with NDIR	<80 mA Idc
	Current Consumption @24V	25-35mA with EC cell 40-50mA with NDIR	<40 mA Idc
	Warm up time	90 s	60 s for full operation @ 25 °C 1 hour for full specification @ 25 °C
	Max output current	24 mA	
	Output load resistor range	330Ω with Vin between 12-15V 500Ω with Vin between 15-24V	100-350 Ω
	DC output impedance	100 Ω	30 Ω
Signal Output	Analog output	4-20mA	4-20mA *not available in DIN version
	Digital communication	Modbus protocol RS485	Modbus protocol RS485
	Baud Rate	9600 bps	4800;9600;19200;38400 bps

Examples of Head part numbers

Gas		Technology	Range	Part number
Methane	CH ₄	XIN version	0-5%Vol	NETC32/PB-XIN-INP32-CH45
Carbon Dioxide	CO ₂	XIN version	0-5% Vol	NETC32/PB-XIN-INP32-CO25
R-134a	CH ₂ FCF ₃	XIN version	0-2000ppm	NETC32/PB-XIN-IFP32-134B
Methane	CH ₄	CYBER+NDIR	0-100% LEL (5%Vol)	NETC32/PB-AIN-INP32-CH45
Propane	C ₃ H ₈	CYBER+NDIR	0-100% LEL (2,1%Vol)	NETC32/PB-AIN-INP32-PRO2
Carbon Dioxide	CO ₂	CYBER+NDIR	0-5000 ppm	NETC32/PB-AIN-INP32-CO2P
Carbon Dioxide	CO ₂	CYBER+NDIR	0-5% vol	NETC32/PB-AIN-INP32-CO25
Carbon Dioxide	CO ₂	CYBER+NDIR	0-100% vol	NETC32/PB-AIN-INP20-CO2V
Sulfur Hexafluoride	SF ₆	CYBER+NDIR	0-2000ppm	NETC32/PB-AIN-IFP32-SF6B
R-134a	CH ₂ FCF ₃	CYBER+NDIR	0-2000ppm	NETC32/PB-AIN-IFP32-134B
Carbon Monoxide	CO	CYBER+Electrochemical cell	0-300 ppm	NETC32/PB-ATX-CO-1000
Hydrogen Sulfide	H ₂ S	CYBER+Electrochemical cell	0-100 ppm	NETC32/PB-ATX-H2S-100
Ammonia	NH ₃	CYBER+Electrochemical cell	0-100 ppm	NETC32/PB-ATX-NH3-100
Nitrogen Oxide	NO	CYBER+Electrochemical cell	0-300 ppm	NETC32/PB-ATX-NO-300
Chlorine	Cl ₂	CYBER+CYBER+Electrochemical cell	0-10 ppm	NETC32/PB-ATX-CL2-10
Sulfur Dioxide	SO ₂	CYBER+Electrochemical cell	0-20 ppm	NETC32/PB-ATX-SO2-20
Oxygen	O ₂	CYBER+Electrochemical cell	0-25% vol	NETC32/PB-AO2-O2-A2

Warranty and warning

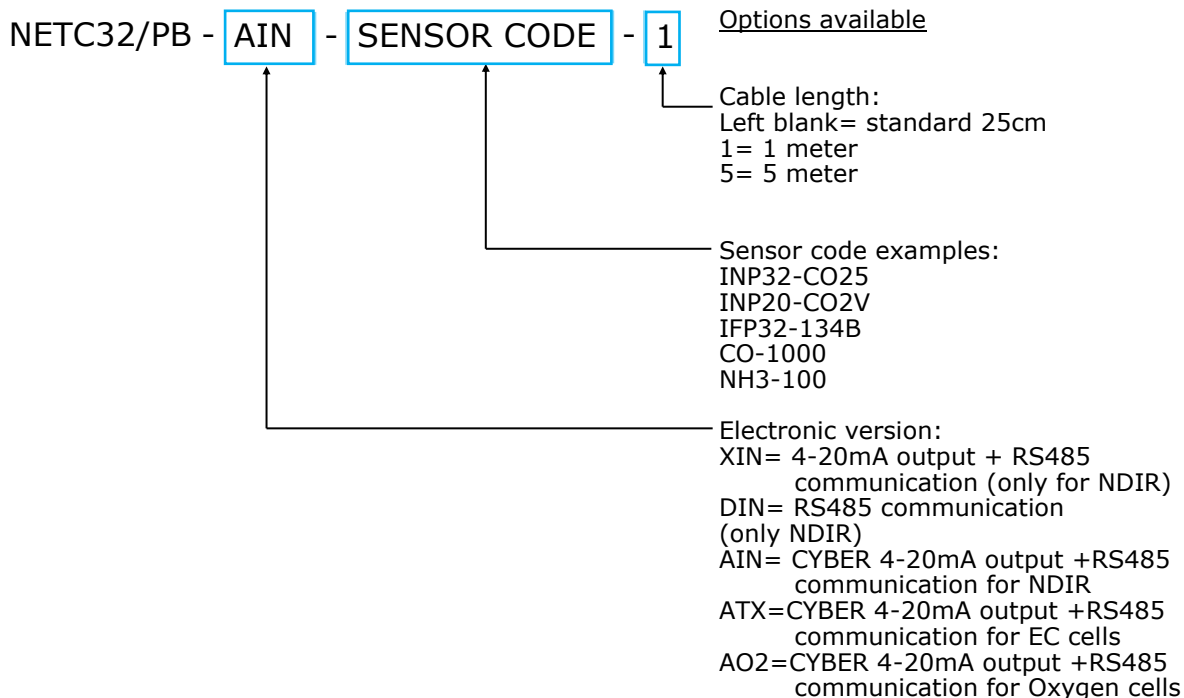
The WARRANTY of the product is 3 years from the purchased date against defects in materials or production. This warranty however is not valid for articles that have been broken, repaired by a third person or not used according to the instructions contained in this document or supplied with the products, related to the storage, installation, operation, maintenance, or servicing of the products.

The WARRANTY on the specific sensor coupled with the CYBER board is specified in the relevant data sheet available at www.nenvitech.com

Recalibration of the sensor will void the calibration warranty

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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