



# NT-NO-PL300

## Premium Line Electrochemical Nitric Oxide Sensor

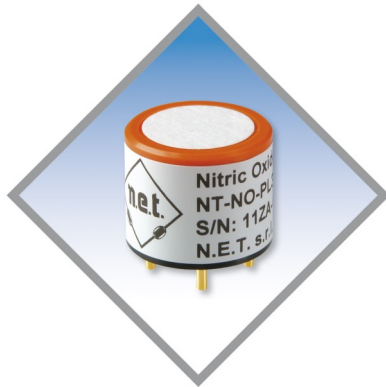
052591 rev.4 dated 22/12/2021

### Key Features

The NT-NO-PL300 is an electrochemical gas sensor with 3 electrodes for detection of Nitric Oxide (NO) in a variety of gas detection applications. Exhibiting high performance with long-term stability, this compact sensor (20.4 mm diameter) is suitable for both portable and fixed gas detection instruments.

The porous electrode technology enables accurate gas detection with high sensitivity. The mechanical design of the sensor gives optimum gas diffusion characteristics, and the hermetically sealed enclosure prevents costly electrolyte leakage.

NET Premium Line design offers several advantages with respect to traditional industrial sensors. For example it gives the possibility to use a general OP amplifier instead of the high-cost OP97.



### NET Premium Line Electrochemical Cells

The European Standard EN 45544-2 (Workplace atmospheres. Electrical apparatus used for the direct detection and direct concentration measurement of toxic gases and vapours. Performance requirements for apparatus used for exposure measurement) specifies the performance requirements for electrical apparatus used for the direct detection and direct concentration measurement of toxic gases and vapours in workplace atmospheres, including sensors. This standard provides a consistent approach and framework for the assessment of performance criteria to manufacturers, test laboratories and users of apparatus.

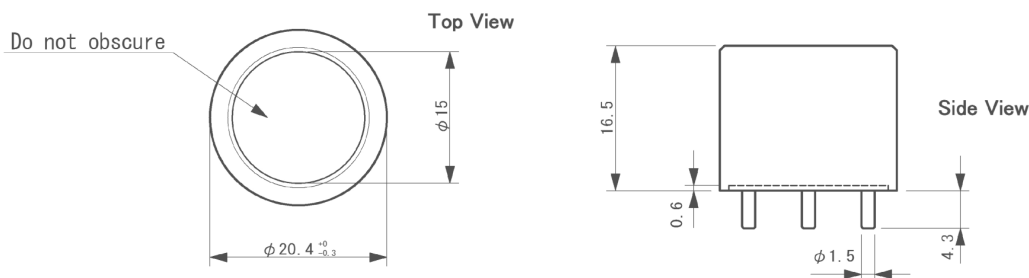
But, the standard states, "It is the manufacturer's primary responsibility to ensure that the apparatus meets the requirements laid down, including environmental influences

which can be expected to affect performance".

With this in mind, N.E.T. has designed its PREMIUM LINE: a range of electrochemical cells to exceed all the performance requirements of EN 45544-2 – including upper and lower limit of measurement, deviation of the measured values in clean air and in standard test gas, deviation of the measured values at all temperatures, pressures and at any humidity, time of response (t90, t50), time of recovery (t10, t50), over-range and stability.

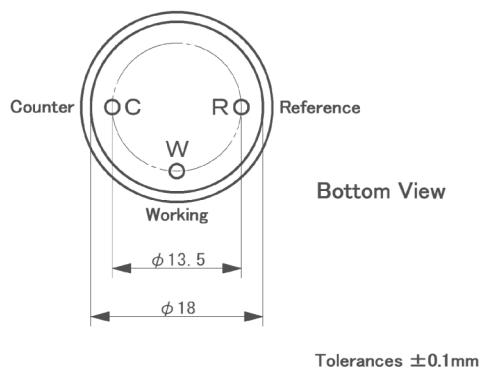
The Premium Line is manufactured exclusively for N.E.T. in Japan and includes sensors for CO, NO, NO2, H2S, SO2, HCl, Cl2, NH3 (available in 4 different ranges) and the new H2S-HT cell for high temperatures.

### Mechanical specifications



All dimensions are in mm with a tolerance of +/- 0.1 mm unless stated otherwise

## Pinout



## Product specifications

Technical Specifications	Detectable Gas	Nitric Oxide
	Detection Range	0 – 300 ppm
	Maximum Overload	1000 ppm
	Output Signal	400 $\pm$ 80 nA/ppm
	Resolution	0.5 ppm
	Repeatability	$\pm$ 2%
	Typical Baseline Range (pure air)	< 3 ppm
	Typical Response Time ( $t_{90}$ )	< 40 s
	Baseline Shift (-20 ~ 40 degree C)	< 4 ppm
	Long Term Output Drift	< 2%/month
	Weight:	Approximately 4.5 g
Operating conditions	Operating Temperature	-20°C to + 50°C
	Operating Humidity	15 to 90 % RH
	Operating Pressure Range	900 to 1100 mbar
	Recommended Load Resistor	10 $\Omega$
	Bias Voltage	+300 mV
	Recommended Storage Temperature	0-20 °C
	Position Sensitivity	None
	Storage Life	< 6 months
	Warranty	2 years on mechanical defects only
Expected Life Time	2 years	

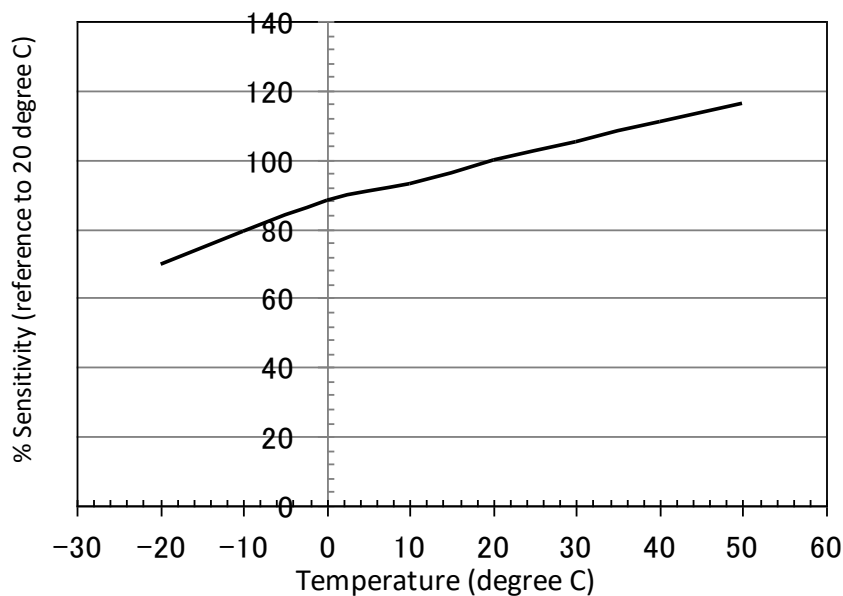
Performance data conditions: 20°C, 50%RH and 1013mBar

## Typical cross sensitivities

Gas	Test Gas Concentration (ppm)	Typical Chlorine Concentration Equivalent (ppm)
Chlorine	5	5
Carbon Monoxide	300	0
Carbon Dioxide	5000	0
Hydrogen	1000	0
Nitrogen Dioxide	10	10
Nitric Oxide	35	< -0.5
Hydrogen Sulfide	15	< -12
Sulphur Dioxide	20	0
Ethanol	100	0

**Important note:** The values above are typical values and should not be used as a basis for cross calibration. Cross sensitivities may not be linear and should not be scaled either. Above data based on gassing for 5 minutes using test equipment. Should be noted some cross interference break through will occur if gas is applied for a longer period of time.

## Temperature dependency



Linearity characteristics of NT-NO-PL300 (25°C)

