

# NT-NO-PL300

# Premium Line Electrochemical Nitric Oxide Sensor

DS2591 rev.4 dated 22/12/2021

# Nitri NT-NO

#### **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 atmos- which can be expected to affect performance". pheres. Electrical apparatus used for the direct detection and direct concentration measurement of toxic gases and a range of electrochemical cells to exceed all the perforvapours. Performance requirements for apparatus used for exposure measurement) specifies the performance requireand direct concentration measurement of toxic gases and vapours in workplace atmospheres, including sensors. This humidity, time of response (t90, t50), time of recovery (t10, standard provides a consistent approach and framework for t50), over-range and stability. the assessment of performance criteria to manufacturers, test laboratories and users of apparatus.

ry responsibility to ensure that the apparatus meets the H2S-HT cell for high temperatures. requirements laid down, including environmental influences

With this in mind, N.E.T. has designed its PREMIUM LINE: mance requirements of EN 45544-2 - including upper and lower limit of measurement, deviation of the measured ments for electrical apparatus used for the direct detection values in clean air and in standard test gas, deviation of the measured values at all temperatures, pressures and at any

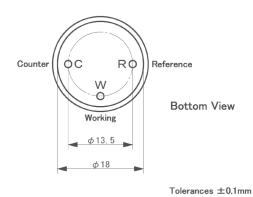
The Premium Line is manufactured exclusively for N.E.T. in Japan and includes sensors for CO, NO, NO2, H2S, SO2, But, the standard states, "It is the manufacturer's prima- HCI, Cl2, NH3 (available in 4 different ranges) and the new

#### Top View Do not obscure LC Side View 9. 6 $\phi 20.4^{+0}_{-0.3}$ φ1.5

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

T +39.02.9354.4190 E info@nenvitech.com www.nenvitech.com

### **Mechanical specifications**



# **Product specifications**

Technical Specifications	Detectable Gas	Nitric Oxide
	Detection Range	0 – 300 ppm
	Maximum Overload	1000 ppm
	Output Signal	400 ± 80 nA/ppm
	Resolution	0.5 ppm
	Repeatability	± 2%
	Typical Baseline Range (pure air)	< 3 ppm
	Typical Response Time (t <sub>90</sub> )	< 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 Ω
	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

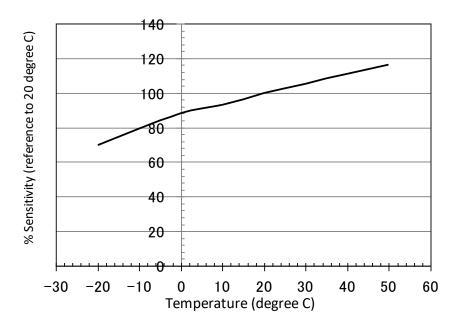


# **Typical cross sensitivities**

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.

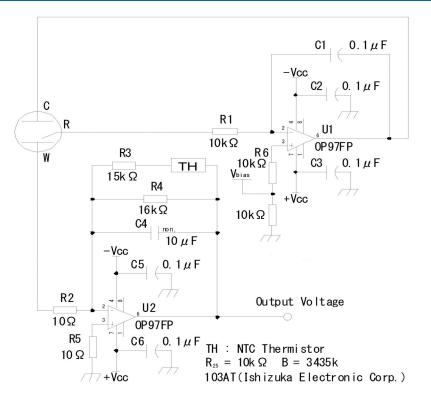
# **Temperature dependancy**



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



#### Typical circuit with temperature compensation



#### Warranty and warning

Use within specified conditions.

Sensor characteristics must be measured in clean air without noise gases.

Electrode pins must be correctly connected. Wrong connection does not allow correct functions.

Do not apply voltage directly to electrode pins.

Do not bend pins.

Do not solder to electrode pins directly. Use exclusive sockets.

Do not use contact grease on electrode pins.

Do not put excess strength on electrode pins.

If sensor housing is damaged or scratched, do not use sensor.

Do not blow organic solvents, paints, chemical agents, oils, or high concentration gases onto sensor.

Do not disassemble or change any parts.

If sensor is used under irregular atmosphere, contact us for assistance.

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.

No part of this publication may be reproduced, distributed, or transmitted in any form or by any means, including photocopying, recording, or other electronic or mechanical methods, without the prior written permission of N.E.T. For permission requests or technical support please contact or write to the address below:

N.E.T. SRL Via Campania, 5 | 20006 | Pregnana Milanese | MI | Italy T +39.02.9354.4190 E info@nenvitech.com www.nenvitech.com

