



# TECHNICAL INFORMATION SHEET

## NE4-NO<sub>2</sub> Electrochemical Nitrogen dioxide (NO<sub>2</sub>) Gas Sensor

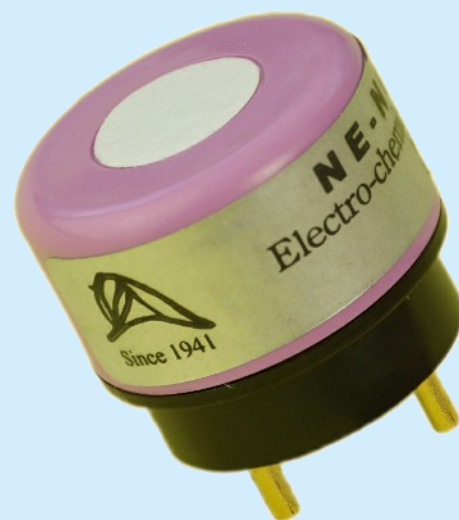
Nemoto Sensor  
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Suginami-ku, Tokyo,  
JAPAN

### General Description

The NE4-NO<sub>2</sub> is a new electrochemical gas sensor with 3 electrodes for the detection of Nitrogen Dioxide (NO<sub>2</sub>) in a variety of gas detection applications.

Exhibiting high performance with long-term stability, this compact (20.4mm dia) sensor is suitable for portable Gas Detection Instruments or Fixed Gas Detection heads alike. The NE4-NO<sub>2</sub> is particularly suitable for use in fixed monitoring systems measuring NO<sub>2</sub> levels in underground car parks, where long term reliability and low cost are essential requirements.

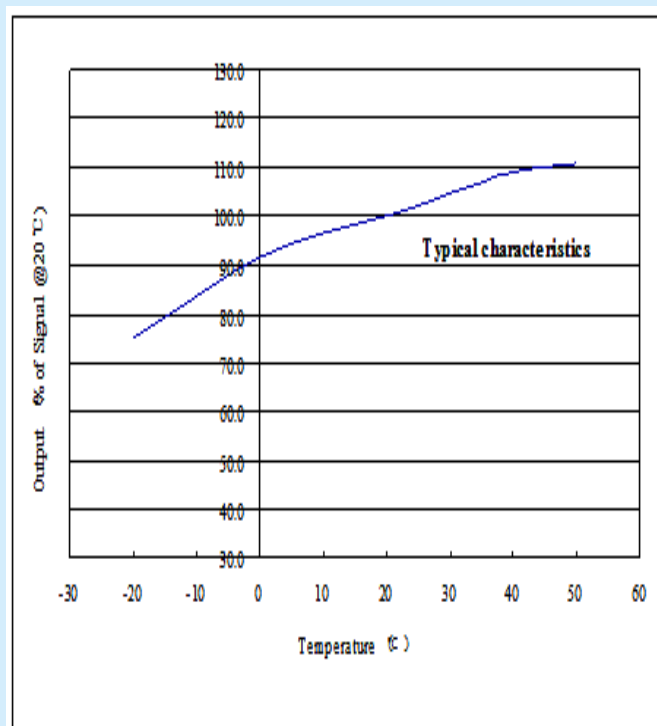
Nemoto's porous electrode technology enables accurate gas detection with high sensitivity. The mechanical design of the sensor gives optimum gas diffusion characteristics, and the hermetically sealed enclosure prevents costly electrolyte leakage.



### Specifications:

Detectable Gas	Nitrogen dioxide (NO <sub>2</sub> )
Detection Range	0-30 ppm
Maximum overload	150 ppm
Output Current *	600 +/- 150 nA/ppm
Lowest detectible limit	0.1 ppm
Reproducibility (same day)	+/- 2%
Zero in clean air	< +/- 0.2 ppm
Long term drift:	
Zero	< +/- 0.2ppm / Year
Span	< 2% Signal / Month
Response time (T <sub>90%</sub> )	< 25 seconds
Temperature drift (zero)	< +/- 1ppm (-20°C to +50°C)
Expected lifetime	> 2 years
Temperature Range:	-20°C to +50°C
Humidity range (constant)	15-90% RH
Humidity range intermittent)	0-99% RH
Pressure	0.9 - 1.1 atm
Recommended load resistor	10 Ω
Recommended Storage time	< 6 months

### Temperature response



\* Note that the polarity of the signal is negative - i.e. it is in the opposite direction to various other similar electrochemical sensors such as those for CO, H<sub>2</sub>S etc.

Test data on drift, poisoning, temperature performance, linearity are available on the Characterisation Document.

Nemoto 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

ne4-no2.ppp, issue 7, Dec 2020

### Contact Information:

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Asia Area  
Americas Area

### Website

[www.nemoto.eu](http://www.nemoto.eu)  
[www.nemoto.co.jp](http://www.nemoto.co.jp)  
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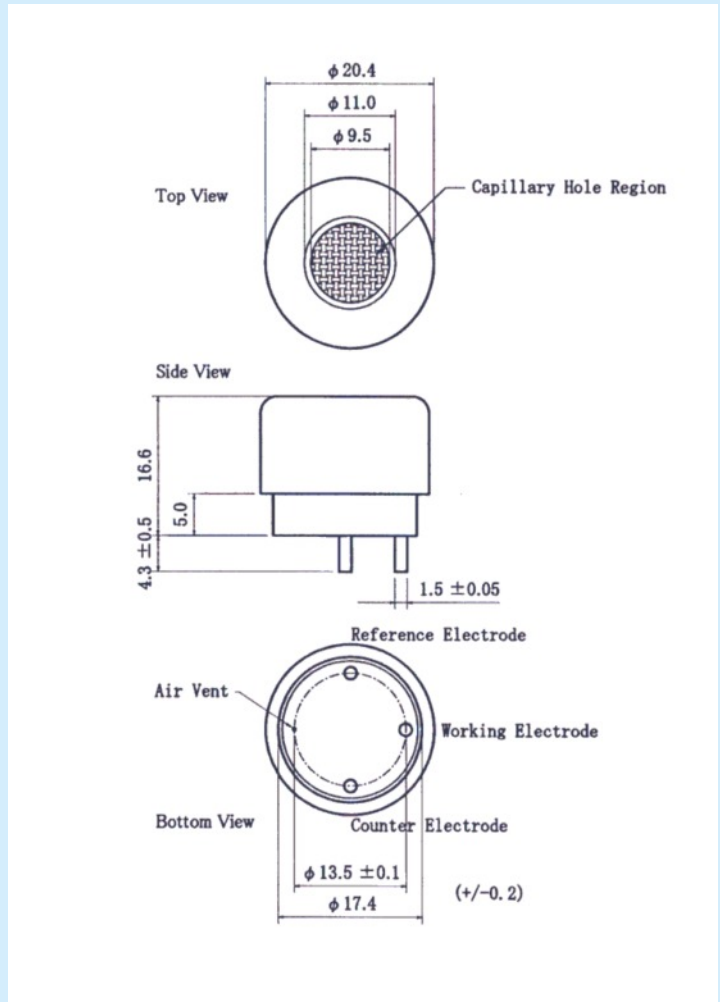
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## Dimensions:



## Typical Cross-Sensitivities:

Gas	% Cross-sensitivity
Nitrogen dioxide	100
Hydrogen sulphide	< 40
Hydrogen	< 1
Methane	0
Carbon dioxide	0
Sulphur dioxide	< 1
Ammonia	< 1
Nitric oxide	< 20
Carbon monoxide	< 1
Ethanol	< 1
Chlorine	< 70

**Note: The output signal of the NE4-NO<sub>2</sub> sensor is of negative polarity compared to (for example) CO and H<sub>2</sub>S sensors.**

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