

# TECHNICAL INFORMATION SHEET

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

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### 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.



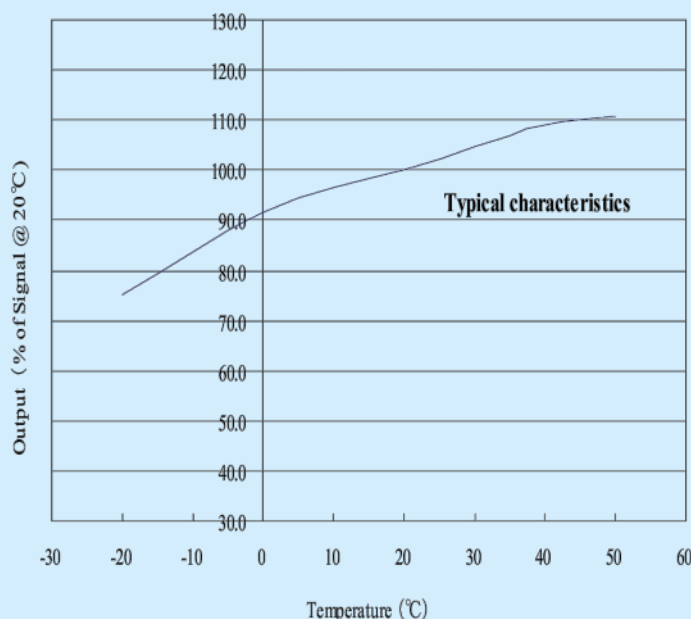
### Specifications:

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

\* 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.

### Temperature response

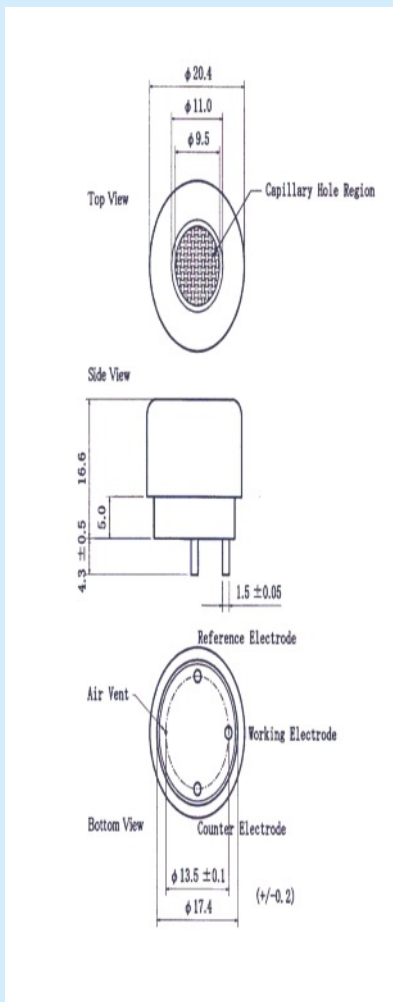


Nemoto has a policy of continuous development and improvement of its products. As such the specification for the device outlined in the data sheet may be changed without notice

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## Dimensions:



## Typical Cross-Sensitivities:

Gas	Test Gas Used (ppm in Air)	Test result (ppm equivalent)	% Cross-sensitivity
Nitrogen dioxide	20	20	100
Hydrogen sulphide	20	< -25	< -125
Hydrogen	500	0	0
Methane	5000	0	0
Carbon dioxide	5000	0	0
Sulphur dioxide	30	< -0.6	< -2
Ammonia	100	0	0
Nitric oxide	50	0	0
Carbon monoxide	400	0	0
Ethanol	100	0	0
Toluene	50	< 1.5	< 3
Chlorine	1	1	100

**Note: The output signal of the NE4-NO2 sensor is of negative polarity compared to (for example) CO and H<sub>2</sub>S sensors.**

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