



TECHNICAL INFORMATION SHEET

NE4-NO Electrochemical Nitrogen monoxide (NO) Gas Sensor

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JAPAN

General Description

The NE4-NO is a new electrochemical gas sensor with 3 electrodes for the detection of Nitrogen Monoxide gas (NO) 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.

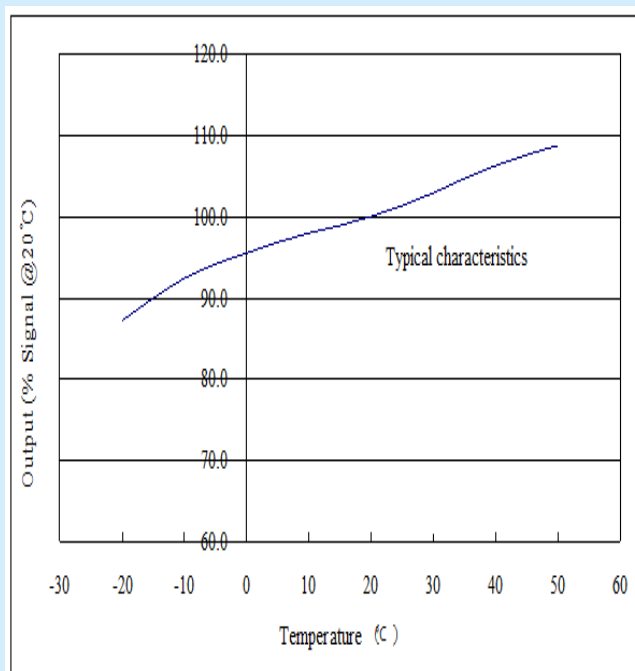
Nemoto's porous electrode technology enables accurate gas detection with high sensitivity. The mechanical design of the sensor gives optimum gas diffusion characteristics, and the hermetically sealed enclosure prevents costly electrolyte leakage.



Specifications:

Detectable Gas	Nitrogen Monoxide (NO)
Detection Range	0-250 ppm
Maximum overload	1000 ppm
Output Current	400 +/- 80 nA/ppm
Reproducibility (same day)	+/- 2%
Zero in clean air	< +/- 5 ppm equivalent
Long term drift:	
Zero	< +/- 2 ppm / Month
Span	< 2% Signal / Month
Response time (T _{90%})	< 40 seconds
Temperature drift (zero)	< +/- 4 ppm (-20°C to +40°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
Bias voltage	300mV
Maximum storage time	6 months

Temperature response



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-no.ppp, issue 5, Jan 2016

Contact Information:

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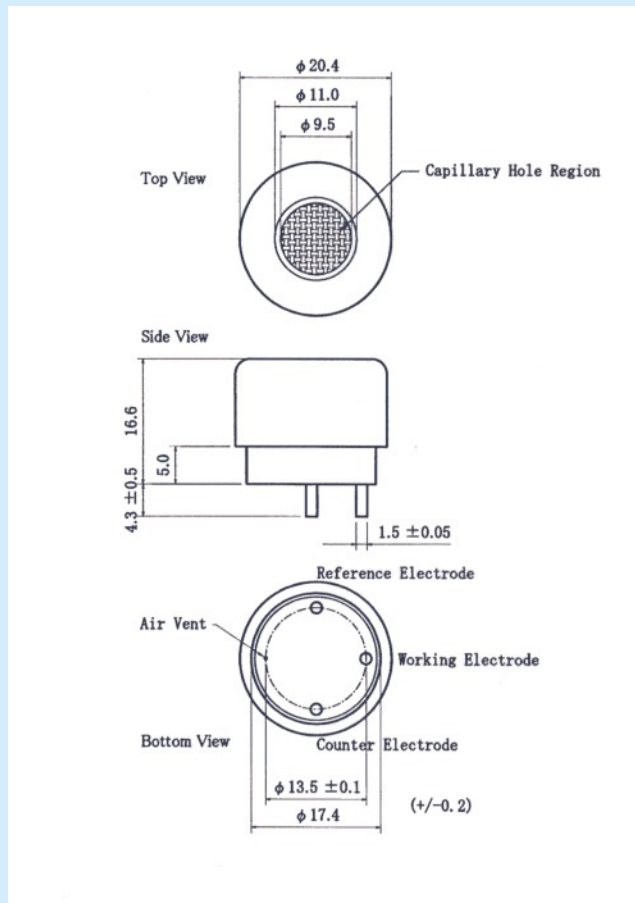
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Dimensions:



SPECIAL NOTE

Most 3- electrode electrochemical gas sensors (e.g. sensors for CO, H₂S etc...) require the potential of the working electrode to be held at the same potential as the reference electrode by the external circuit during operation. For correct operation of the NE4-NO sensor, however, the external circuit is required to hold the potential electrode at a potential around **300mV HIGHER** than the potential of the reference electrode. This is termed "biased" operation.

Typical Cross-Sensitivities:

Gas	Test Gas Used (ppm in Air)	Test result (ppm equivalent)	% Cross-sensitivity
Nitric oxide	100	100	100
Hydrogen sulphide	20	<10	<50
Hydrogen	500	<5	<1
Methane	5000	0	0
Carbon dioxide	5000	0	0
Sulphur dioxide	25	<1.25	<5
Ammonia	20	<0.2	<1
Nitrogen dioxide	10	< 4	< 40
Carbon Monoxide	100	< -1	< -1
Ethanol	100	-10 to +5	-10 to +5
Ethylene	1000	0	0
Chlorine	1	0	0

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