

TECHNICAL INFORMATION SHEET

NE4-CL2 Electrochemical Chlorine (Cl₂) Gas Sensor

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General Description

The NE4-CL2 is a new electrochemical gas sensor with 3 electrodes for the detection of Chlorine gas (Cl₂) 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.

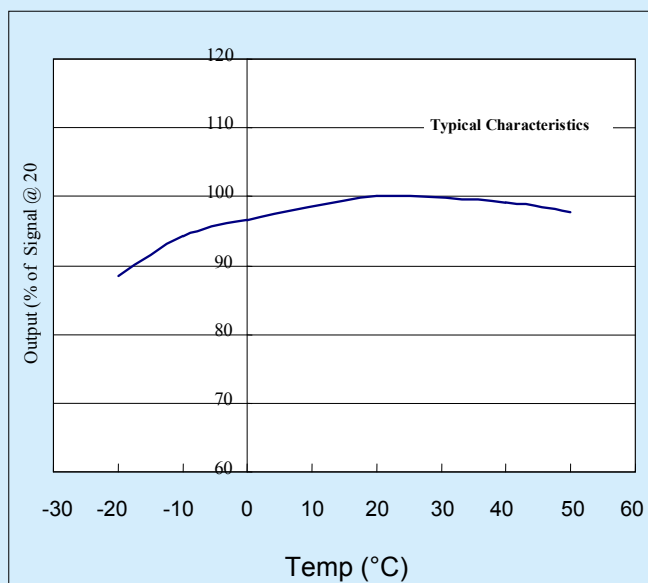
Nemoto's porous electrode technology enables accurate gas detection with high sensitivity. The mechanical design of the sensor gives optimum gas diffusion characteristics, and the hermetically sealed enclosure prevents costly electrolyte leakage.



Specifications:

Detectable Gas	Chlorine (Cl ₂)
Detection Range	0-10 ppm
Maximum overload	50 ppm
Output Current	600 +/- 150 nA/ppm
Reproducibility (same day)	+/- 2%
Zero in clean air	< +/- 0.2ppm Cl ₂
Long term drift:	
Zero	< +/- 0.2ppm / Month
Span	< 2% Signal / Month
Response time (T _{90%})	< 40 seconds
Temperature drift (zero)	< +/- 0.5ppm (-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	33 Ω
Storage time	6 months
(Without compromising lifetime)	

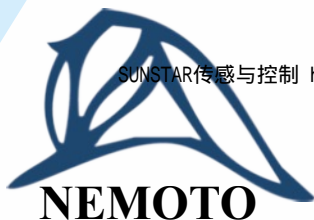
Temperature response



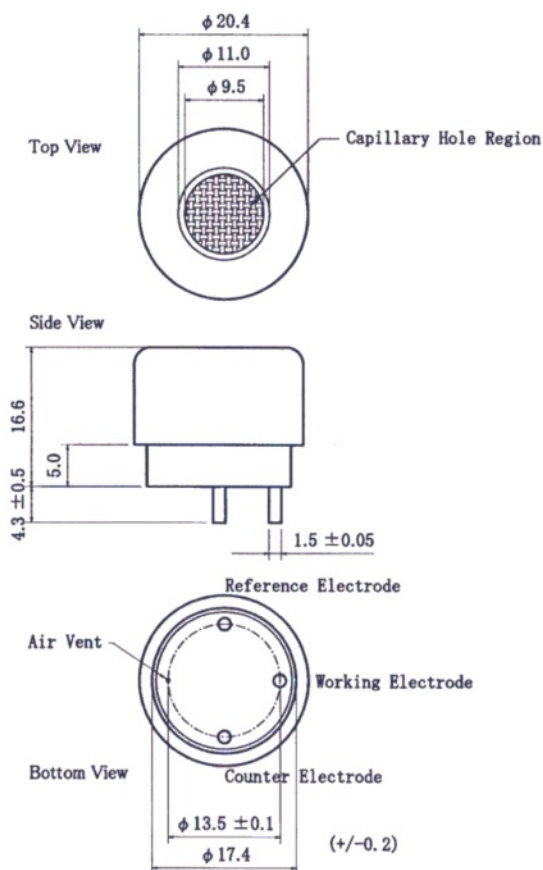
Test data on drift, poisoning, temperature performance, linearity are available on the Characterisation Document.

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

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Dimensions:



Typical Cross-Sensitivities:

Gas	Test Gas Used (ppm in Air)	Test result (ppm equivalent)	% Cross-sensitivity
Chlorine	10	10	100
Carbon Monoxide	400	< 1	< 0.5
Hydrogen	1000	< 1	≈ 0
Methane	5000	0	0
Carbon Dioxide	5000	0	0
Sulphur Dioxide	30	< 5	< 15
Nitric Oxide	50	< 1	< 2
Nitrogen Dioxide	10	10	100
Ammonia	100	0	< -30
Ethanol	100	< 1	< 1
Ethylene	100	< 1	< 1
Hydrogen Sulphide	20	< -20	< -100

Note: The output signal of the NE4-CL2 sensor is of negative polarity compared to (for example) CO and H₂S sensors.

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