

# NT-02-A3

## Safety Line Electrochemical Oxygen Sensor

DS4479 rev.1 dated 13/03/2019



### Key Features

Oxygen makes up 21% of the atmosphere by volume. This is halfway between 17% (below which breathing for un-acclimatised people becomes difficult) and 25% (above which many organic compounds are highly flammable). The element and its compounds make up 49.2% by mass of the Earth's crust, and about two-thirds of the human body.

Accurate measurement of Oxygen is core to NET's portfolio, be it require for safety, medicine, air quality or specialist processes. NET Oxygen Sensors have proved the test of time as cost effective, low cost and robust in a host of applications. Unlike partial pressure oxygen sensors, this design has good pressure and temperature dependence, making it the best choice in safety applications.

### NET Safety Line Electrochemical Cells

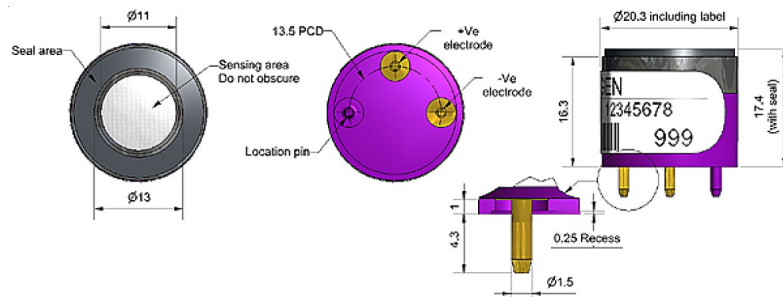
Our SAFETY LINE sensors are selected by N.E.T. and manufactured, on OEM basis, by the companies leading in the field, such as DD Scientific Ltd and Alphasense.

Extremely cost-effective, this sensor range includes solutions for Oxygen (O2) depletion plus Carbon Monoxide (CO) and Nitrogen dioxide (NO2) detection for light industrial,

residential or building automation applications along with car park ventilation according to EN 50545-1.

SLI1000 cells are tested and approved by TUV Rheinland (Certificate no. S 459 2014 C2) and are UL2075 recognized components.

### Mechanical specifications



All dimensions are in mm with a tolerance of +/- 0.15 mm unless stated otherwise

## Product specifications

Technical Specifications	Detectable Gas	Oxygen
	Detection Range	0 – 25% vol
	Maximum Overload	30% vol
	Output Signal @ 20.9% O <sub>2</sub>	55 to 85 µA
	Zero current in N <sub>2</sub>	< 2.5 µA
	Typical Response Time (t <sub>90</sub> from 20.9% to 0% O <sub>2</sub> )	< 15 s
	Long Term Output Drift	<2% change in output @ 3 months
	Weight:	Approximately 16 g
Operating conditions	Operating Temperature	-30 °C to + 55 °C
	Operating Humidity	15 to 95 % RH non condensing
	Operating Pressure Range	800 to 1200 mbar
	Recommended Load Resistor	47 to 100 Ω
	Bias Voltage	Not required
	Recommended Storage Temperature	3-20 °C
	Storage Life	< 6 months
	Warranty	2 years
	Expected Life Time	3 years

## Cross sensitivities

Toxic gases at TLV levels will have no cross-sensitivity effect on NT-03-O2 oxygen sensors. At very high levels (i.e. percent levels), highly oxidising gases (e.g. ozone, chlorine) will interfere to the extent of their oxygen equivalent, but most other commonly occurring gases will have no effect.

## 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.

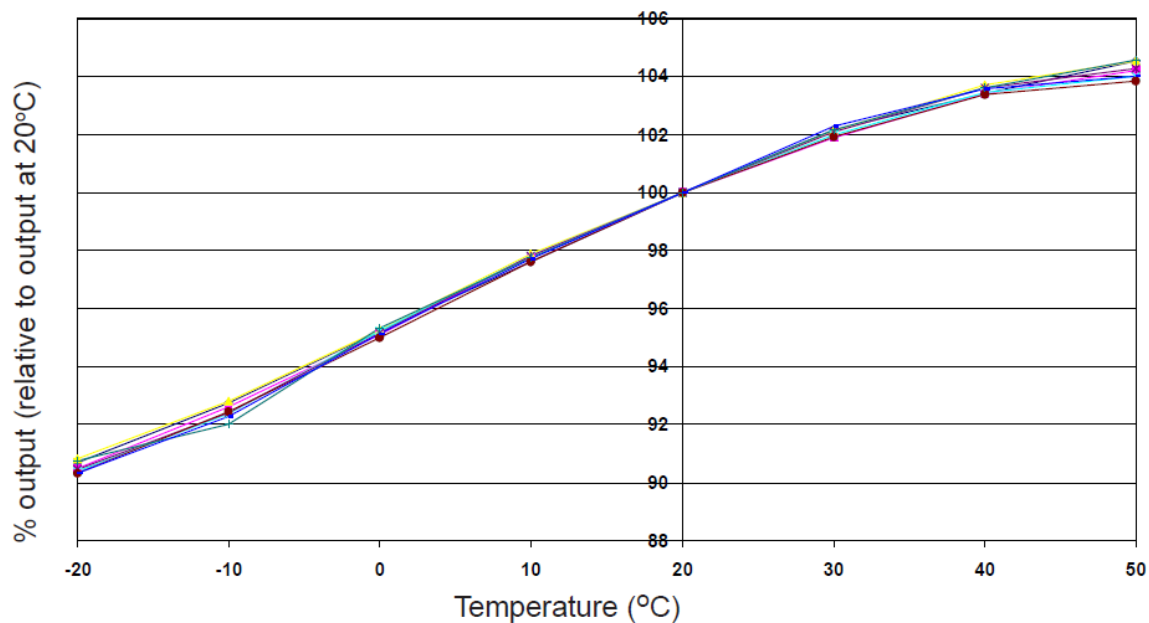
If sensor housing is damaged or scratched, do not use sensor.

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.

## Temperature dependency



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.

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