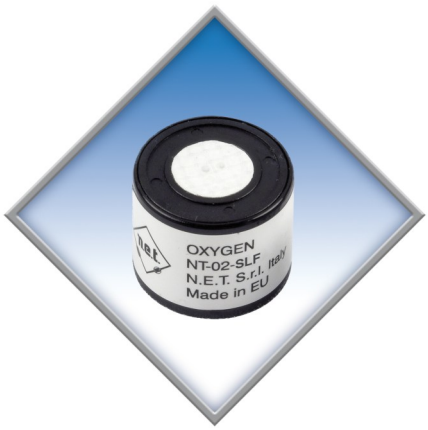
NT-O2-SLF

Safety Line Electrochemical Oxygen Sensor

DS4883 rev.2 dated 23/01/2026



Key Features

The NT-O2-SLF is a lead free, **RoHS compliant** electrochemical gas sensor with three electrodes for detection of **Oxygen (O_2)** in industrial as well as commercial applications. The NT-O2-SLF exhibits high linearity, long-term stability and very fast response time in a very cost effective package.

The warranted lifetime is 3 years from the date of purchase. The expected lifetime is exceptionally long—more than **5 years**. It also exhibit a particular resilience in challenging environments with an **extended operating temperature** range with respect to many other electrochemical cells. The sensor has industry accepted dimensions (Ø 20.4 mm) and pin-out footprint, making the sensor compatible with a variety of commercially available fixed and portable gas detection systems and detection heads.

The 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.

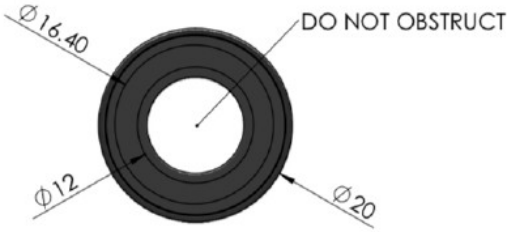
NET Safety Line Electrochemical Cells

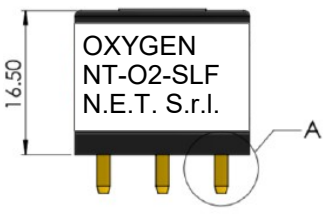
Our SAFETY LINE sensors are selected by N.E.T. and manufactured, on OEM basis, by the companies leading in the field, such as DD Scientific Ltd and Alphasense.

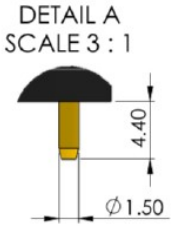
Extremely cost-effective, this sensor range include solutions for Oxygen (O_2) depletion plus Carbon Monoxide (CO) and Nitrogen dioxide (NO_2) detection for light industrial, residential or building automation applications along with car park ventilation according to EN 50545-1.

F14 and SLI1000 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

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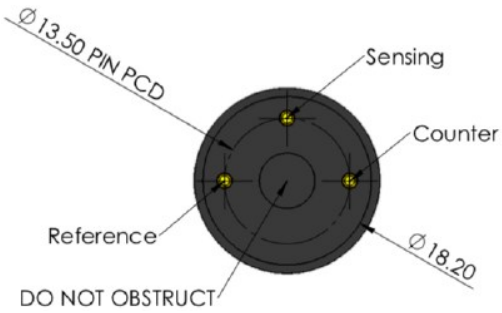
Pinout



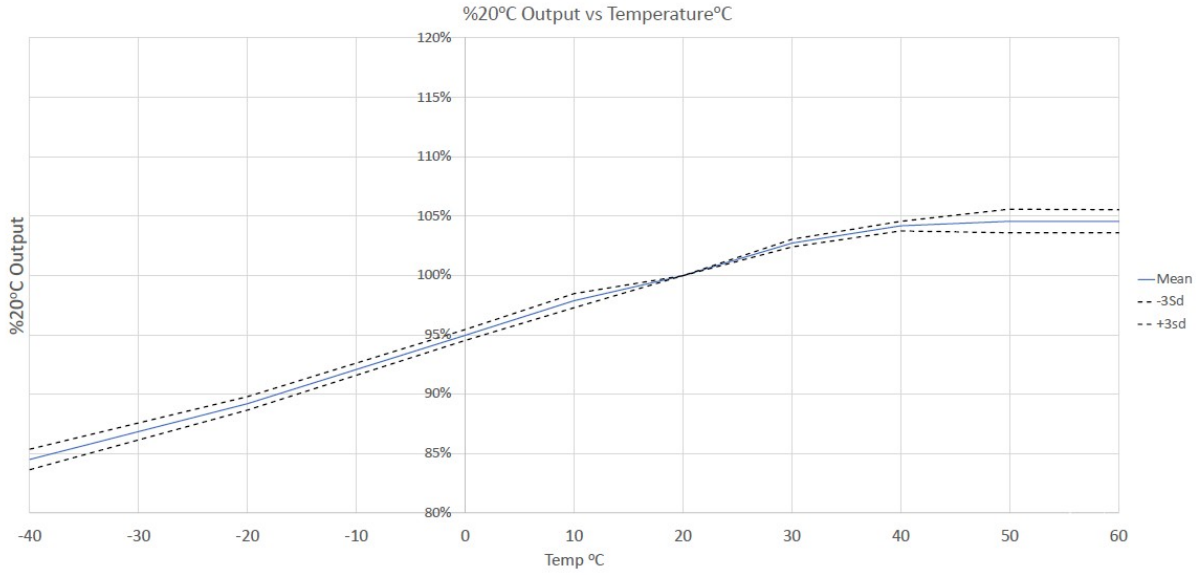
Product specifications

Technical Specifications	**Detectable Gas**	Oxygen
	Detection Range	0 – 25% vol
	Maximum Overload	30% vol
	Output Signal	0.1 ± 0.03 mA in air
	Typical Baseline Range (pure air)	< 0.3% vol O_2
	Response Time (t_{90})	< 10 s (typically < 5 s)
	Long Term Output Drift	< 5% over operating life
	Weight	Approximately 4.5 g
Operating conditions	**Operating Temperature**	-40°C to + 60°C
	Operating Humidity (non-condensing)	15 to 90% RH (continuous) 0-99% RH (short term)
	Operating Pressure Range	800 to 1200 mbar
	Bias Voltage	-600 ± 10 mV
	Recommended Storage Temperature	0-20 °C
	Position Sensitivity	None
	Storage Life	< 6 months
	Warranty	2 years on mechanical defects only
	Expected Life Time	>5 years
Intrinsic Safety Data	**Maximum current in normal operation (pure O_2)**	0.01 A
	Maximum o/c Voltage (10 to 100% O_2)	0,9 V
	Maximum s/c Current (10 to 100% O_2)	0,5 A

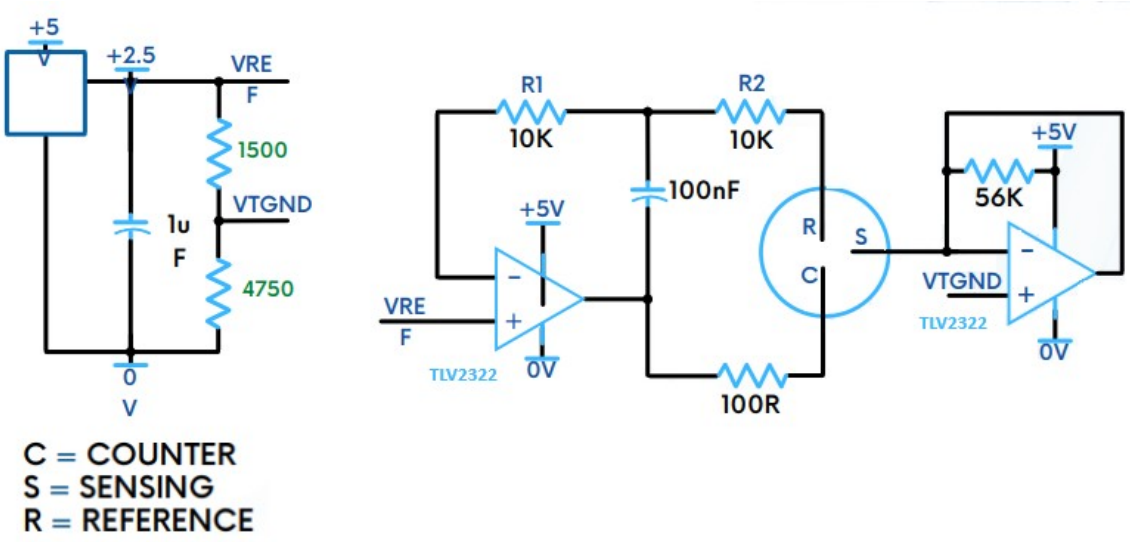
Performance data conditions: 20°C, 50%RH and 1013mBar

Note 1: When bias is not applied to the sensor, it will become saturated with oxygen gas which is consumed when the bias is reapplied. This results in a settling time which can be as long as 15 minutes. During this time, the sensor may not meet all of the performance parameters provided in this datasheet.
Note 2: In order to function correctly, the rear of the sensor must not be blocked and adequate venting must be available when the sensor is fitted to an analyser or detector.

Temperature dependancy



Recommended Circuit Diagram



C = COUNTER
S = SENSING
R = REFERENCE

Warranty and warning

- Use within specified conditions.
- It is customer's responsibility to confirm that device can be used under actual conditions of use without any problems.
- Calibration is required to maintain correct sensitivity. It is necessary approximately once every one or two years.
- Sensor characteristics must be measured in clean air without noise gases.
- Resolution depends on the measurement system and the circuit.
- 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.

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