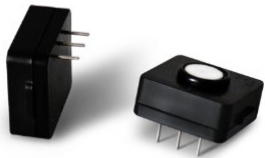




# SGX

## SENSORTECH

An Amphenol Company



**PS1-NO2-50**



**PS4-NO2-50**

# Nitrogen Dioxide sensor Datasheet

### SGX Solid Polymer Electrolyte Gas Sensors

The SGX series of PS1 and PS4 Electrochemical gas sensors are using a revolutionary 'Solid Polymer Electrolyte' technology that is based on the principle of catalytic reaction. The target gas to be measured generates a very small current, proportional to the gas concentration. Our technology offers a stable, high quality and cost-effective manufacturing process. The SGX solid polymer electrolyte gas sensors are available in a very small size, are highly sensitive, do not use power and have very low cross sensitivity from other gases.



*Quality, Safety, Responsibility*

# Technical Specifications

## Performance

|                              |                         |
|------------------------------|-------------------------|
| Sensitivity                  | -20 ± 10 nA / ppm       |
| Measurement Range            | 0 – 50 ppm              |
| Zero Current                 | ± 2 nA                  |
| Maximum Overload             | 100 ppm                 |
| Response Time                | T50 < 10s,<br>T90 < 30s |
| Repeatability                | < 1%                    |
| Lower Detectable Limit (LDL) | ≤ 1ppm                  |
| Linear Range                 | 50ppm                   |
| Resolution (16Bit ADC)       | < 0.1ppm                |

## Environmental Details

|                          |                 |
|--------------------------|-----------------|
| Temperature Range        | -40°C to +55°C  |
| Pressure Range           | 800 to 1200 hPa |
| Operating Humidity Range | 15-95% RH       |
| Storage Temperature      | 0 to 20°C       |

## Lifetime Details

|                         |                  |
|-------------------------|------------------|
| Long-Term Drift         | < 1 %/month      |
| Expected Lifetime       | > 3 years in air |
| Zero Drift in Clean Air | < 0.2 ppm        |
| Storage conditions      | 0-20°C           |
| Storage Life            | 12 months        |
| Warranty                | 12 months        |

## Operation

|                           |                              |
|---------------------------|------------------------------|
| Operating Principle       | Amperometric,<br>3-electrode |
| Bias Voltage              | 0 mV                         |
| Recommended Load Resistor | 100 Ω                        |
| Warm Up Time              | < 60 s                       |

## Housing

|                  |                                      |
|------------------|--------------------------------------|
| Housing Material | PPO                                  |
| Weight           | PS1-NO2-50 < 0.7g<br>PS4-NO2-50 < 6g |



## Features

- Small size
- High sensitivity
- Wide temperature range
- Fast response time
- No electrolyte leakage
- Low cost at large volumes
- Individually calibrated (including test report)



## Key applications

- TLV Monitoring
- Environment
- Parking Garages



## Important Notes

- All performance is based on conditions at 20°C, 50% RH and 1 atm, flow rate > 150 qcm/min, using SGX recommended circuitry.
- Sensor performance is temperature dependant; please contact SGX for temperature performance other than 20°C.
- Do not solder to the connector pins as this may damage the sensor and thereby invalidate the warranty.
- Details on recommended connector pins can be found in the Frequently Asked Questions within the Gas Sensor section of the SGX website.