

TGS 4260 Potentiostatic Electrolysis-type Oxygen Sensor

Features:

- * Lead-free
- * In 20mm industrial standard packages
- * Linear output
- * Quick response to Oxygen
- * High repeatability/selectivity to O₂
- * Long life
- * High impact resistance

Applications:

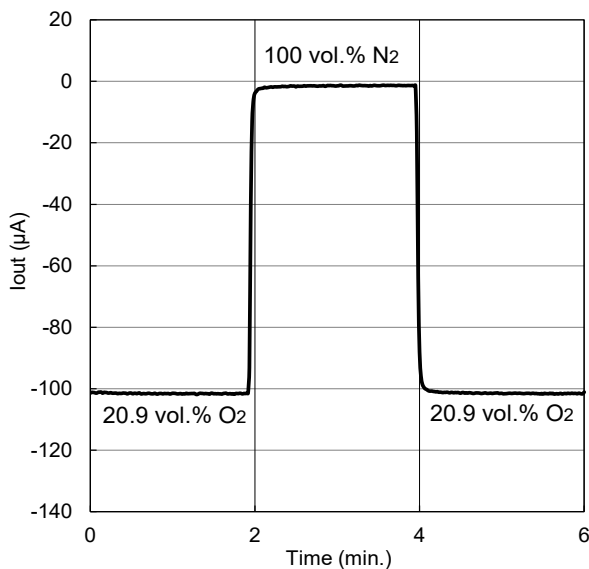
- * Oxygen concentration monitors
- * Stationary O₂ detectors
- * Portable O₂ detectors
- * Multi-gas detectors

TGS4260 is a potentiostatic electrolysis-type oxygen sensor which has a wide measuring range and operating temperature range. Its performance is compliant with the technical requirements of relevant US and European standards. It is easy to incorporate this sensor in size oriented applications such as portable oxygen detectors and multi-gas detectors.



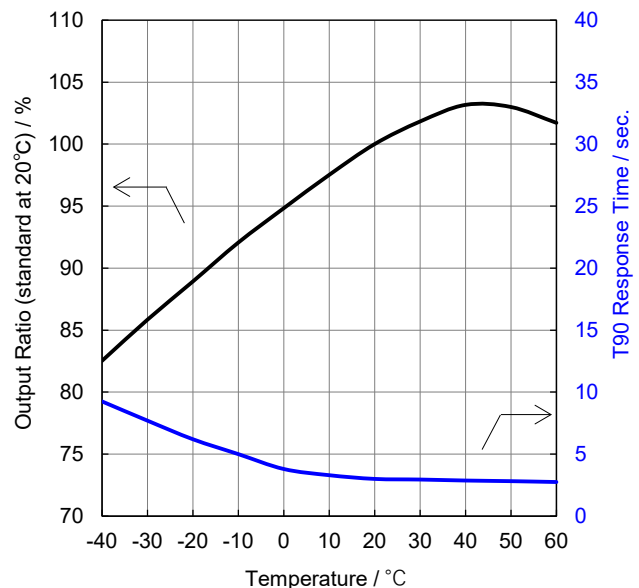
The figure below represents typical response curves when the sensor is placed into 100 vol.% N₂ and taken out to the 20.9 vol.% O₂ at 20°C, 50% RH. It is possible to measure oxygen concentrations with quick response and high accuracy.

Response Characteristics:



The figure below represents typical temperature dependency of sensor output and response time measured under various temperature conditions in ambient air conditions of 20.9 vol.% O₂. The temperature dependence of sensor outputs can be easily compensated utilizing a thermistor. The response is very fast and has little temperature dependence.

Temperature Dependency:



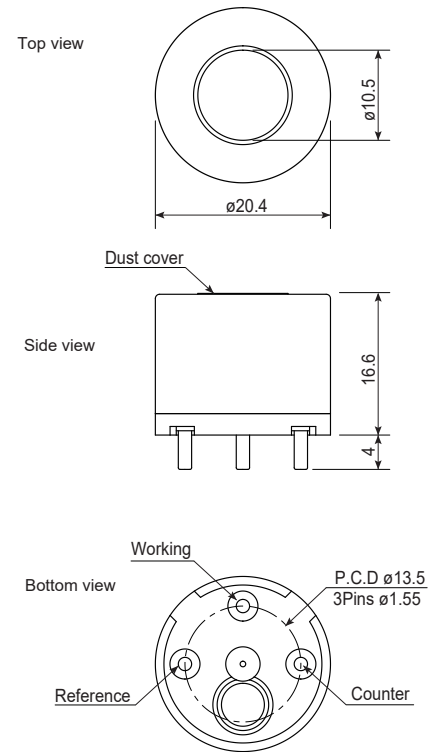
* The above test data represent typical characteristics that are not guaranteed.

IMPORTANT NOTE: OPERATING CONDITIONS IN WHICH FIGARO SENSORS ARE USED WILL VARY WITH EACH CUSTOMER'S SPECIFIC APPLICATIONS. FIGARO STRONGLY RECOMMENDS CONSULTING OUR TECHNICAL STAFF BEFORE DEPLOYING FIGARO SENSORS IN YOUR APPLICATION AND, IN PARTICULAR, WHEN CUSTOMER'S TARGET GASES ARE NOT LISTED HEREIN. FIGARO CANNOT ASSUME ANY RESPONSIBILITY FOR ANY USE OF ITS SENSORS IN A PRODUCT OR APPLICATION FOR WHICH SENSOR HAS NOT BEEN SPECIFICALLY TESTED BY FIGARO.

Specifications (tentative):

| | |
|----------------------------|-------------------------------|
| Model Number | TGS4260 |
| Detection Gas | Oxygen |
| Detection Range | 0 ~ 25 vol.% |
| Maximum Overload | 30 vol.% |
| Output Signal | -80 ~ -130 μ A in Air |
| Repeatability | \pm 2% (*1) |
| Resolution | 0.1 vol.% |
| Response Time (t_{90}) | < 10 sec (*2) |
| Long Term Output Drift | < 5% over operating life (*3) |
| Expected Life Time | > 5 years (*3) |
| Operating Temperature | -40°C ~ 60°C (*4) |
| Operating Humidity | 5% RH ~ 95% RH (*5) |
| Operating Pressure Range | 100kPa \pm 20kPa |
| Recommended Load Resistor | 20 Ω |
| Bias Voltage | -600mV \pm 10mV |
| Position Sensitivity | None |
| Recommended Storage Temp. | 0°C ~ 20°C |
| Weight | 6.0g (approx.) |
| Warm-Up Time | 2hour. or more (*6) |

Structure and Dimensions:



Unit: mm

* The specifications shown in the table above are based on the standard test conditions, using Figaro's recommended measuring circuit.

*1: When tested under constant operating conditions

*2: When tested within the range from -20°C to 60°C

*3: Under standard test conditions of 20°C, 50%RH and 1013 hPa

*4: A range -40°C ~ 60°C is valid only for a limited time use.

(-20°C ~ 50°C for continuous operation)

*5: A range 5 ~ 95 %RH is valid only for a limited time use.

(15 ~ 90%RH for continuous operation with no condensation)

*6: No sudden changes of ambient temperature or humidity

Recommended Measuring Circuit:

Please refer to the circuit diagram described in the Product information for the evaluation module EM4260.

Caution:

- 1) If voltage is applied to the sensor, the sensor may be damaged. Please contact us for more details.
- 2) The sensor pins should not be soldered directly to PC board since the internal structure may be damaged by the heat of soldering, causing electrolyte leakage. Pin sockets should be used for sensor connection. (e.g. Mac8 PD-152)

All sensor characteristics shown in this brochure represent typical characteristics. Actual characteristics vary from sensor to sensor. The only characteristics warranted are those in the Specification table above.

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