

EC4-500-ETO Datasheet

Industrial Ethylene Oxide Sensor

PERFORMANCE

| | |
|---|------------------------|
| Sensitivity | 58nA ±33nA/ppm |
| Typical Baseline Range (pure air) | -0.2 to 2.5 µA |
| Baseline Drift | 0 to 25 ppm equivalent |
| T90 Response Time | ≤ 120 seconds |
| Measurement Range | 0-500 ppm |
| Linearity | Linear |
| Resolution (Electronics dependent) | 10 ppm |
| Bias Voltage | +300mV |

OPERATING CONDITIONS

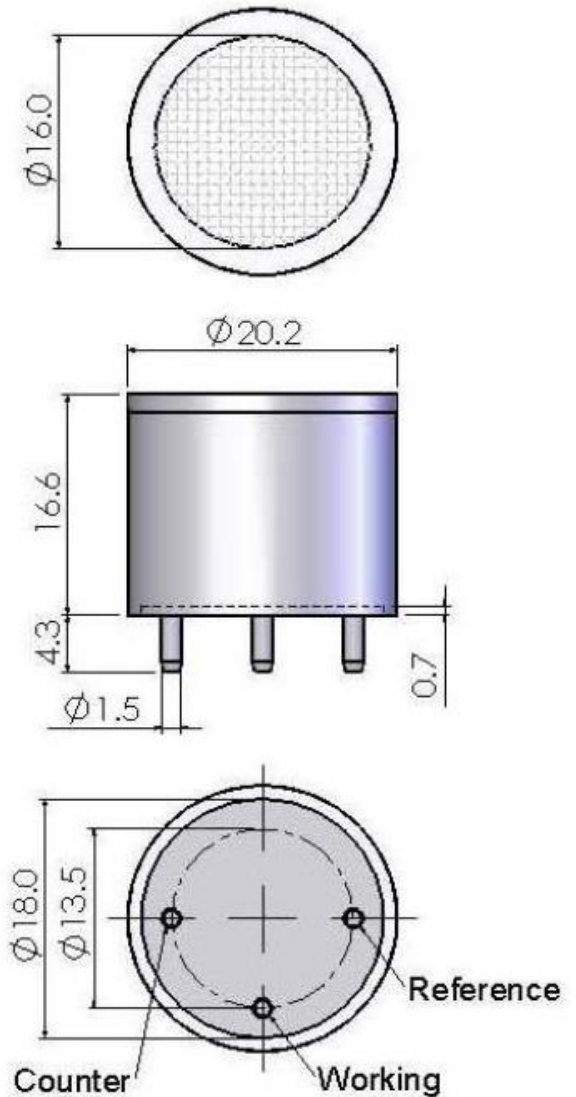
| | |
|-------------------------------------|------------------|
| Temperature Range Continuous | -20°C to +50°C |
| Pressure Range | 900 to 1100 mbar |
| Operating Humidity Range | 15% to 90% RH |

LIFETIME

| | |
|------------------------------------|-----------------------|
| Long Term Sensitivity Drift | < 2% signal per month |
| Recommended Storage Temp | 0°C to 20°C |
| Expected Operating Life | 24 months in air |

OUTLINE

All dimensions are in mm
 All tolerances are ±0.2mm

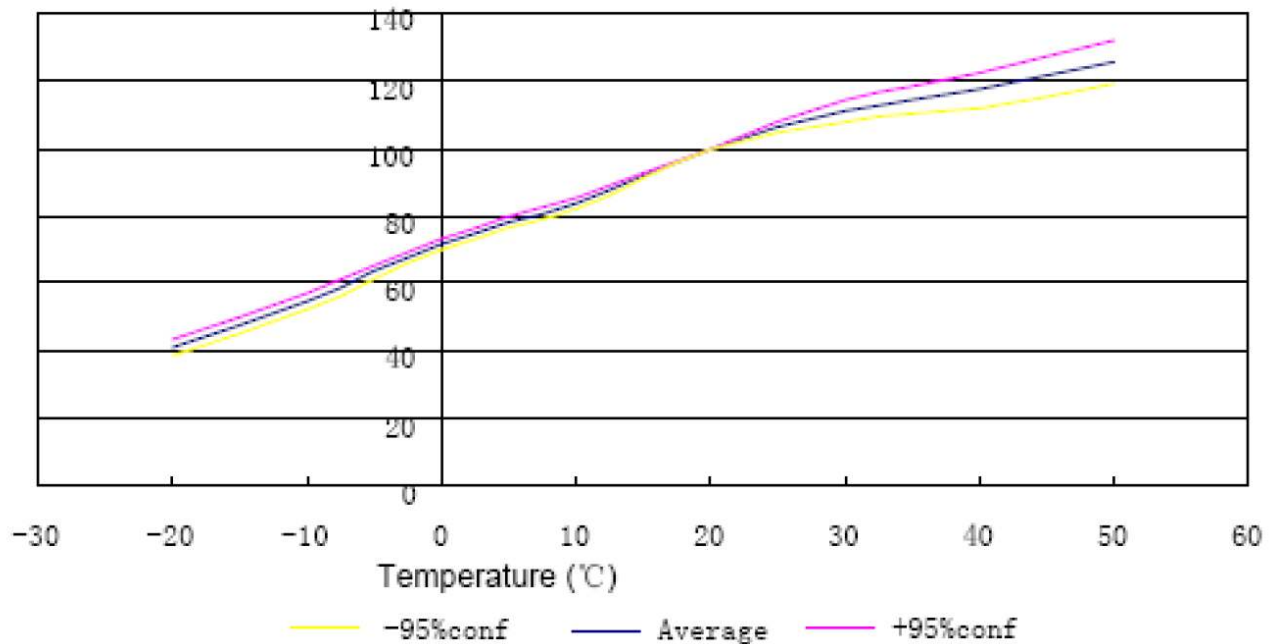


CROSS – SENSITIVITY DATA

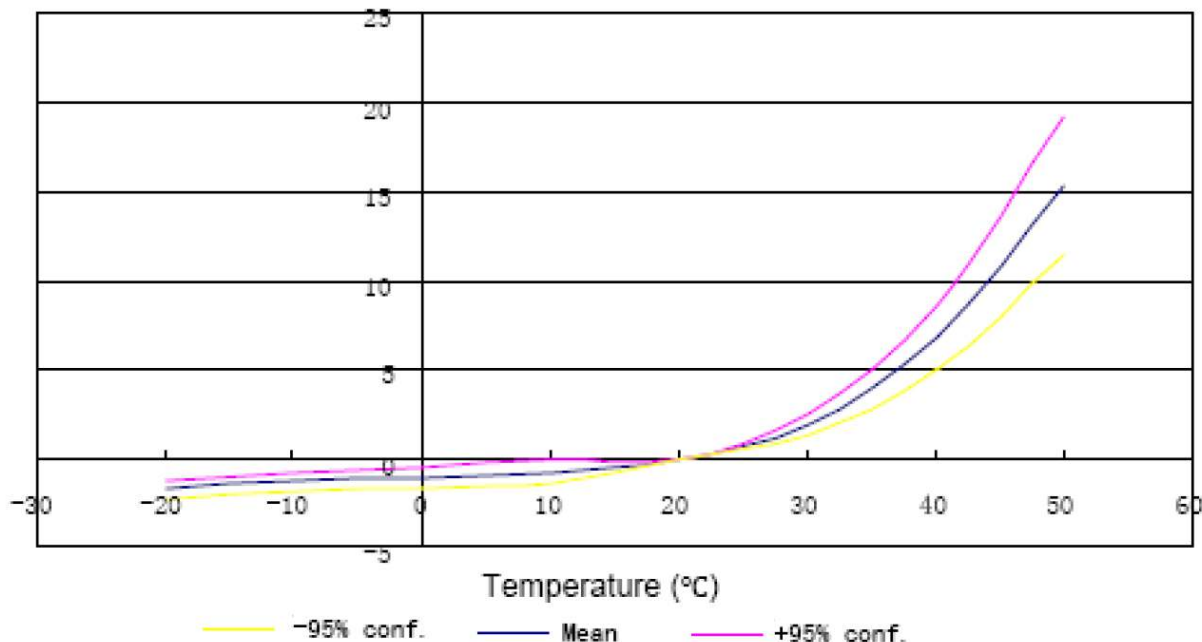
| GAS | Correction factor to ETO (Sensitivity of ETO/Sensitivity of test gas) |
|-----------------|--|
| Ethylene Oxide | 1.0 |
| Carbon Monoxide | 2.5 |
| Ethanol | 2.5 |
| Methanol | 0.5 |
| Isopropanol | 5.0 |
| i-Butylene | 2.5 |
| Butadiene | 0.9 |
| Ethylene | 0.8 |
| Propane | 1.7 |
| Vinyl Chloride | 1.4 |
| Vinyl Acetate | 2.5 |
| Formic Acid | 5.0 |

* See Important Notes

Output vs Temperature



Baseline vs Temperature



IMPORTANT NOTES

1. Calibration with cross-sensitivity gas is not recommended. The cross-sensitivity may fluctuate between $\pm 30\%$ and may differ from batch to batch and within the sensor lifetime. The cross-sensitivities are including but not limited to the above gases. The sensor may also respond to other gases.
2. PCB sockets are recommended for the sensor pin connection. Soldering to the sensor should be avoided and will invalidate warranty.
3. All performance specification are based upon the following environment conditions $+20^{\circ}\text{C}$, 50% RH and 1atm (1013mBar or ambient pressure).
4. Sensors are designed to operate in a wide range of harsh environments and conditions. However, it is important to avoid exposure to high concentrations of solvent during storage, fitting into instrumentation and operation. When using sensors on PCBs, degreasing agents should be used prior to the sensor being fitted.

Warning:

By the nature of the technology used, any electrochemical gas sensor offered by SGX Europe Sp. z o.o. can potentially fail to meet specification without warning. SGX Europe Sp. z o.o. makes every effort to ensure the reliability of our products of this type, where life safety is a performance requirement of the product, we recommend that all sensors and instruments using these sensors are checked for response to gas before use. SGX Europe Sp. z o.o. reserves the right to make product changes without notice. No liability is accepted for any consequential losses, injury or damage resulting from the use of this document or from any omissions or errors herein. The data is given for guidance only. It does not constitute a specification or an offer for sale. The products are always subject to a program of improvement and testing which may result in some changes in the characteristics quoted. As the products may be used by the client in circumstances beyond the knowledge and control of SGX Europe Sp. z o.o., we cannot give any warranty as to the relevance of these particulars to an application. It is the clients' responsibility to carry out the necessary tests to determine the usefulness of the products and to ensure their safety of operation in a particular application. Performance characteristics on this data sheet outline the performance of newly supplied sensors. Output signal can drift below the lower limit over.