# O3 1 Satellix Electrochemical Gas Sensor for Ozone

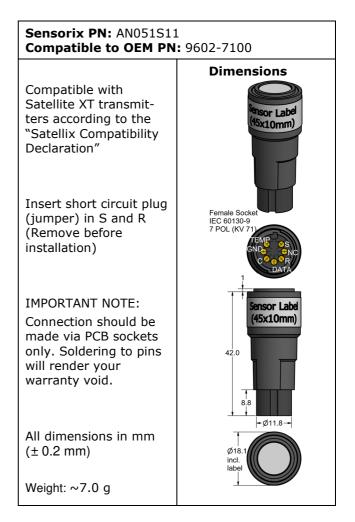


### 3-electrode sensor with EPROM for industrial safety applications

Class leading stability | Highly selective | Fast response | Very stable baseline

| Performance Characteristics / PSDS                   |                                 |
|--|---------------------------------|
| Measurement Range                                    | 0 – 1 ppm                       |
| Maximum Range  | 10 ppm                          |
| Sensitivity  | 1500 ± 500 nA/ppm               |
| Response Time (T <sub>90</sub> )                     | ≤ 60 s<br>at 3 min gas exposure |
| Baseline (in clean air)                              | < ± 20 nA                       |
| Baseline (in clean air)<br>(at midpoint sensitivity) | < ± 0.01 ppm                    |
| Lower Detectable Limit<br>(LDL)                      | 0.05 ppm                        |
| Alarm 1  | 0.1 ppm                         |
| Linearity  | < 5% of full scale              |
| Repeatability  | < 2%                            |
| Product Safety<br>Datasheet (PSDS)                   | organic gel electrolyte         |

| Operating Conditions  |  |
|---|--|
| Temperature Range   | -20°C to +40°C                                     |
| Humidity Range  | 15% to 90% r.h.<br>non-condensing                  |
| Pressure Range  | 800 – 1200 hPa                                     |
| Bias Voltage  | no   |
| Sensor warm-up time<br>(of sensors with short circuit plug) | 5 s  |
| Recommended<br>Orientation                                  | sensor front pointing<br>downwards or<br>sidewards |



| Lifetime                       |                                 |
|--------------------------------|---------------------------------|
| Long Term Output Drift         | < 10% per 6 months              |
| Expected Operating Life        | > 18 months in air              |
| Recommended Storage conditions | 5 – 20°C<br>in sealed container |

Performance and lifetime data are based on conditions at 20°C, 40 ... 60 % r.h. and ambient pressure.

#### SAFETY NOTE

This sensor is designed to be used in safety critical applications. The sensor is compatible with the selftest functionality of the Satellite XT Gas Detector Transmitter. In addition to this electrical diagnostic, Sensorix recommends that the function of the sensor is confirmed by exposure to a suitable test gas (bump check) regularly according to national and local regulations. Failure to carry out such tests may jeopardize the safety of people and property.

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**Cross Sensitivity & Filter** Gas concentration Reading after 5 min Ammonia 10 ppm 0 ppm Arsine 1 ppm 0 ppm Chlorine 1 ppm 1.2 ppm Carbon Dioxide 5000 ppm 0 ppm 0 ppm Carbon Monoxide 100 ppm Chlorine Dioxide 1 ppm 1 ppm Ethanol 1000 ppm 0 ppm Fluorine 1 ppm 0.7 ppm Hydrocarbons (saturated) 0 ppm 1% Hydrogen 1000 ppm 0 ppm Hydrogen Cyanide 10 ppm 0 ppm Hydrogen Fluoride 5 ppm 0 ppm Hydrogen Sulfide 1 ppm 0 ppm\* Isopropanol 600 ppm 0 ppm Nitrogen Dioxide 1 ppm 0.6 ppm Phosphine 1 ppm 0 ppm Sulphur Dioxide 2 ppm 0 ppm **Chemical Filter** None

\* In the presence of this gas, the sensitivity to O3 may be reduced.

Signals below LDL as well as negative readings will be displayed as zero.

#### IMPORTANT NOTE:

Interference factors may differ from sensor to sensor, with changing ambient conditions and with lifetime. It is not advisable to calibrate with interference gases. This table does not claim to be complete. The sensor may also be sensitive to other gases.



#### **Temperature performance**

Temperature dependence is compensated with microprocessor.

#### Poisoning

Sensorix cells are designed for operation in a wide range of environments and harsh conditions. However, it is important that exposure to high concentrations of solvent vapors is avoided, both during storage, fitting into instruments, and operation. When using sensors with printed circuit boards (PCBs), degreasing agents should be used before the sensor is fitted.

#### Recycling

At the end of the product's life, do not dispose of any electronic sensor, component, or instrument in the domestic waste, but contact the vendor or Sensorix for disposal instructions. Sensorix will take back sensors for professional recycling.

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Characteristics on this data sheet outline the performance of newly supplied sensors.

