



Oxygen Transmitter



SenzTx

Compact OEM Oxygen Transmitter

SenzTx is PST's intelligent compact oxygen transmitter that uses proven zirconia or electrochemical technology for reliable oxygen concentration measurement.

The zirconia sensor delivers fast response times and a long service life with low drift, whilst the electrochemical sensor allows measurement of background gases containing hydrocarbons. SenzTx is a low-maintenance oxygen transmitter that is easy to integrate. It is a unique solution, delivering reliable performance in critical process applications.



Plug & Play Technology

Pictured with zirconia flow-through and KF40 process connection options.



Highlights

- Wide variety of ppm and % measurement ranges
- Designed for in-line and extractive gas applications
- Combined sensor and high integrity electronics
- Compact integrated solution with a range of process connections
- Analog 4...20 mA and digital Modbus outputs
- Modular design with custom labeling available

Applications

- Gas generation (oxygen and nitrogen)
- Glove box and containment solutions
- Additive Manufacturing
- Inert gas blanketing
- Semiconductors
- Industrial gas testing / analysis

Technical Specifications

| Sensor | | | |
|--|----------------------------|--|---|
| | | Zirconia (ZR) | Electrochemical (EC) |
| Measurement Range* | | 0...1000 ppm _v , 0...1 %, 0...25 %, 0...96 %, 0...100 % | 0...1,000 ppm _v , 0...1 %, 0...25 % |
| Accuracy | | Please see Accuracy Table below | |
| Output Resolution (4...20 mA) | | 1 ppm _v / 0.01 % | 0.5 ppm _v / 0.01 % |
| Lower Detection Limit (LDL) | | 1 ppm _v (ppm ranges) / 0.01 % (% ranges) | |
| Sample Flow Rate (application dependent) | | Flow-through / extractive: 100...500 ml/min (250 ml/min optimal) in a vented atmosphere Direct insertion: Up to 6 m/s | |
| Pressure Range | | 900...1100 mBar _{abs} | |
| Response Time (T90) | | < 15 seconds @ 25 °C (77 °F) within selected range | |
| Operating Temperature Range | | -25 °C...+60 °C (-13 °F...140 °F) | 0 °C...+45 °C (32 °F...113 °F) |
| Life Expectancy (application dependent) | | Up to 5 years | Up to 18 months |
| Humidity | | 0...95 %rh non-condensing (with normal use) | |
| Shelf Life (in original packaging) | | Unlimited | Up to 3 months |
| Calibration Interval (application dependent) | | 12 months | 3...6 months |
| *Other measurement ranges are available on request | | | |
| Transmitter | | | |
| Electrical | | | |
| Output Signal | | 4...20 mA | |
| Digital Communications | | RS485 Modbus | |
| Electrical Interface | | Industry standard M12 | |
| Power Supply | | 24 V DC +/- 15 % | |
| Maximum Power Consumption | | 4.8 W | 2.4 W |
| Cable Length | | 1 meter (supplied as standard) / 3 meter / 10 meter | |
| Mechanical | | | |
| Ingress Protection | | IP66 | |
| Housing Material | | Chromated aluminum | |
| Process Connection | | Flow-through (1/8" NPT) or KF40 flange | |
| Weight | Flow-through: | 344 g (12.1 oz) | 391 g (13.8 oz) |
| | Flow through with orifice: | 346 g (12.2 oz) | 393 g (13.9 oz) |
| | KF40 : | 350 g (12.4 oz) | 397 g (14.0 oz) |
| Standards and Certification | | | |
| ETL: UL-610101-1, EMC: EN 50270, UKCA | | | |
| Marine approved version available - Lloyd's Register: EN 60945 | | | |



CAUTION

Ntron Gas Measurement is part of the Process Sensing Technologies Group (PST). As customer applications are outside of PST control, the information provided is given without legal responsibility. Customers should test under their own conditions to ensure the equipment is suitable for the intended application(s).

Accuracy Table

| Accuracy at standard temperature and pressure (STP) | | |
|---|---|---|
| Range | ZR | EC |
| 10 ppm | +/- 0.5 ppm | +/- 0.5 ppm |
| 100 ppm | +/- 1 ppm | +/- 1 ppm |
| 1000 ppm | +/- 3 ppm @ 100 ppm +/- 1 ppm @ 10 ppm | +/- 3 ppm @ 100 ppm +/- 1 ppm @ 10 ppm |
| 1 % | +/- 10 ppm @ 100 ppm | +/- 10 ppm @ 100 ppm |
| 25 % | +/- 0.03 % @ 1 % +/- 0.02 % @ 0.1 % | +/- 0.03 % @ 1 % +/- 0.02 % @ 0.1 % |
| 96 % | +/- 0.5 % @ 20.9 % +/- 0.3 % @ 95 % | - - |

Dimensions (mm)

| | EC Flow-through | ZR Flow-through | EC KF40 | ZR KF40 |
|---|-----------------|-----------------|---------|---------|
| a | 47 | 47 | 47 | 47 |
| b | 115.2 | 115.2 | 115.2 | 115.2 |
| c | - | - | 35 | 70 |
| d | 47 | 47 | 39 | 26 |
| e | 163.2 | 156.2 | 163.2 | 198.2 |

We adopt a continuous development program which sometimes necessitates specification changes without notice. For technical assistance or enquiries about other options, please contact us here: oxygen@processsensing.com.