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Oxygen Transmitter

PST PROCESS SENSING TECHNOLOGIES | NITRON Gas Measurement A PST BRAND

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

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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)
Weight — Flow through with orifice:	346 g (12.2 oz)	393 g (13.9 oz)
Weight — 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

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	+/- 3 ppm @ 100 ppm
	+/- 1 ppm @ 10 ppm	+/- 1 ppm @ 10 ppm
1 %	+/- 10 ppm @ 100 ppm	+/- 10 ppm @ 100 ppm
25 %	+/- 0.03 % @ 1 %	+/- 0.03 % @ 1 %
	+/- 0.02 % @ 0.1 %	+/- 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

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).

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:
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