



The SIL O2 Safety Integrity Level oxygen analyzer is highly reliable for the measurement of oxygen for safety critical applications.

This device is designed to measure oxygen concentration on safety critical applications within the chemical, pharmaceutical and additive manufacturing industries.

Applications

- » Gas generation (oxygen / nitrogen)
- » Additive manufacturing
- » Pharmaceutical industries
- » Industrial gas applications

Features

- » SIL2 rated unit - Analyzer and galvanic isolation barrier in one device
- » Measurement range: 0 to 25% O₂
- » Push button calibration
- » 3 configurable alarm outputs
- » Compact for easy integration.

SIL2
Rated

Electrochemical sensor

The key elements of the electrochemical sensors are a membrane, cathode, anode, electrolyte and measurement circuit. The sensing membrane (covering the cathode) is made of PTFE and is mounted over a metal perforated electrode. The space between the membrane and the electrode is filled either with an aqueous alkaline or an acid electrolyte. In normal operation, all portions of the anode and cathode are immersed in the electrolyte. As oxygen diffuses through the membrane into the electrolyte it causes a reaction between the cathode and anode generating an EMF. This current is proportional to the amount of oxygen present in the sample gas. In the absence of oxygen there is no output from the electrochemical sensor, meaning only one calibration is required.

Sensor construction

The main body of the sensor is fabricated from high density PVDF. The supporting ring at the face of the sensor is constructed of stainless steel. This results in an oxygen sensor that is chemically resistant to most sampling atmospheres and can be used with trace solvents and hydrocarbons present in the sample gas, unlike zirconia (due to the high temperature of the sensor).

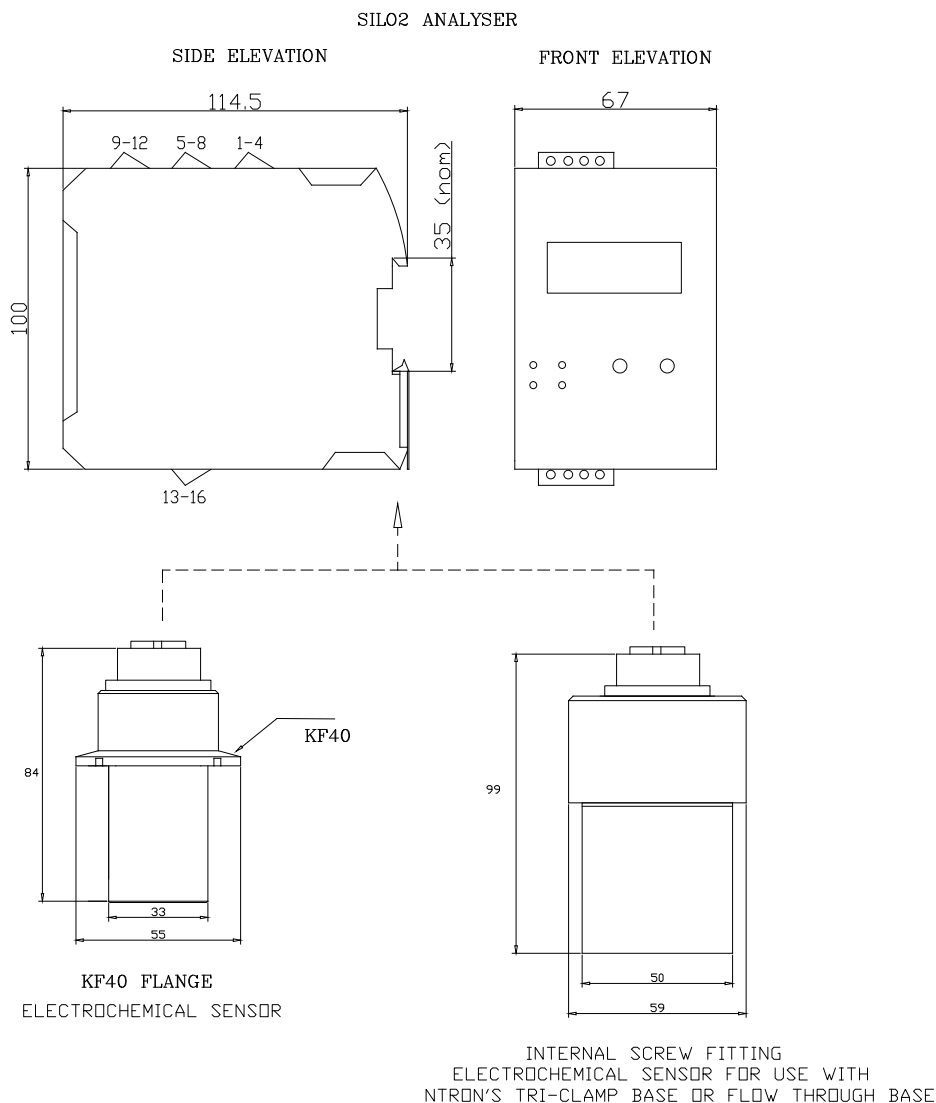
Low maintenance and cost of ownership

Due to the highly stable nature of the sensor, a calibration interval of once per year is required, allowing for significant cost savings.

Installation flexibility

Designed for the ambient detection of low Oxygen concentration with ease of installation.

Technical Drawings



Technical Specifications

Performance	
Transmitter Model	SIL O2
Measurement technology	Electrochemical (EC)
Measurement range	0 to 25%
Output resolution (for %)	0.01%
Accuracy	±1% of range
Response time (T90)	<20 seconds, typical 12 seconds
LDL (Sensitivity)	0.01%
Temperature range	-35°C to +50°C
Pressure range	900 to 1100 mBar _{abs}
Linearity	1% of range
Life expectation	1 year
Humidity	0-95% RH non-condensing
Shelf life	Up to 6 months
Electrical Input / Output	
Power supply	18-28 VAC / 19-30 VDC
Power consumption	Maximum load 160mA
Electrical connection	Screw terminals - quick disconnect. 2.5mm CSA Max
Signal output	4-20mA active
Digital communications	RS232
Digital output options	2 configurable alarm relays, 1 x transistor
Display format	% O ₂
Visual indicators	LCD and LED alerts on device
Mechanical Specifications	
Dimensions	114.5mm (h) x 67mm (w) x 99mm (d)
Weight	Approx 300g
Mounting	DIn Rail
Ingress protection	IP20 enclosure
Housing material	PBT
Certification	
Complies with EMC Directive 2004 / 108 / EC. UL/ETL Certification Number: UL-61010-1	

Related Products



SENZTX
Oxygen
Transmitter



SF82
Dew Point
Transmitter



Minox i
ATEX Rated
O₂ Transmitter



Microx-OL
Online Oxygen
Analyzer



Microx
Oxygen
Analyzer



Yellow Box
Portable O₂
Analyzer



GazTrak
Portable oxygen &
moisture measurement