The

SenzTx

Zirconia Oxygen Analyzer

WITH 0-10V ANALOGUE OUTPUT

Short Form user Manual

NTRON
Gas Measurement

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1.1. General Information

1.1.2 Intended Use of the SenzTx

The Analyzer are designed to monitor a sample containing an oxygen content to be measured within the specified ppm or % ranges.

The Analyzer can be used in combination with the control system (PLC) or as a standalone oxygen-measuring-system.

1.1.3 The Measuring Cell/Sensor Element

This Analyzer uses a semiconductor measuring cell made of Zirconium dioxide and is specific to oxygen. Due to the high temperature and the catalytic activity of the platinum coating of the sensor it has low cross-sensitivities to other gasses. The benefits of this technology give a long sensor life, typically 5 years or more however it should be noted that exposure to aggressive gaseous substances can reduce the operational life of the sensor.

1.1.4 Unintended Use of the SenzTx Analyzer

The Analyzer can also be used in other applications outside of those described in this manual. However, the user should check with the manufacture beforehand.

	**CAUTION**
	Risk of damage! **The SenzTx Analyzer should only be operated in the way set out in this manual.**

1.1.5 Construction

The **SenzTx Zirconia** Oxygen Analyzer consists of a measuring cell and associated electronics, separated by a gastight clamp flange. The measuring cell (sensor) is mounted within a metal bracket, provided with a thread for easy changing of the measuring cell. The measuring cell is connected with the electronics by a vacuum-tight arrangement. The electronics is arranged in a metal housing, which is mounted directly on a flow through adapter. The Analyzer is powered by 24VDC and provides an analogue output signal of 0-10V DC and other additional interface signals. See section 1.2.1 for specific information.

1.1.6 Calibration of the Measuring Instruments

The equipment is calibrated before shipping. The calibration cycles are dependent on

the application and the applied gases.

!	**Note!** **Though the SenzTx Zirconia Sensor is a very stable instrument, Ntron recommends a calibration check be made at least annually by suitably trained technicians. If it is determined that a re-calibration is required, please contact Ntron for details. Calibration is not within the scope of this manual.** **After changing of measuring cells a recalibration is mandatory.**

Electronics and measuring cell are calibrated with certified calibration gases by the manufacturer; there are no setting options available for the user.

1.2. Technical Description

1.2.1 Connection

The Oxygen measurement equipment is connected by a M12x1mm threaded-connecting plug (8pin).

Pin Assignment:

Pin-No.	Contact	Cable colour
1	0-10V Output (+)	Black
2	Not used	N/A
3	0-10V output Ground	Green
4	Serial RS485 (B)	Yellow
5	Serial RS485 (A)	Grey
6	Power Ground OVDC	White
7	Supply +24 VDC	Blue
8	Not Used	N/A

Industry standard 0-10V interface required. Active 0-10V DC output from the Senz Tx

1.2.2 Technical Data

Mechanical Data	Dimensions:	Ø47mm x 143mm(L)(Depends on model)
	Process Connection	Typically G1/8" (Flow Through base)
	Weight:	0.260 kg
Electrical Data	Supply Voltage:	24 VDC ±10%, max. 50mA
	Protection Class:	IP 53
Environment	Ambient temperature:	+5 to +50° C
	Pressure:	800 to 1200 mbar *(Differential pressure between Analyzer and electronics max. =100 mbar)*
	Volumetric flow-rate:	0.25 LPM ±10% recommended
Measuring	Range:	0-1000ppm, 0-25%,0-96%
	Sensitivity:	0.01% O2
	Response time (0 - 90 %):	< 5Hours to 1ppm for ppm range. <3minutes for % range..
	Warming up time:	10 minutes

	Cell Life [1]:	3-5 Years
	Cross sensitivities	none for normal applications (no aggressive gases)

1) In absence of reactive gases.
2) Sensor life is typical but dependent on many factors. *(See also chapter 1.1. Intended Use).*

1.2.3 Installation

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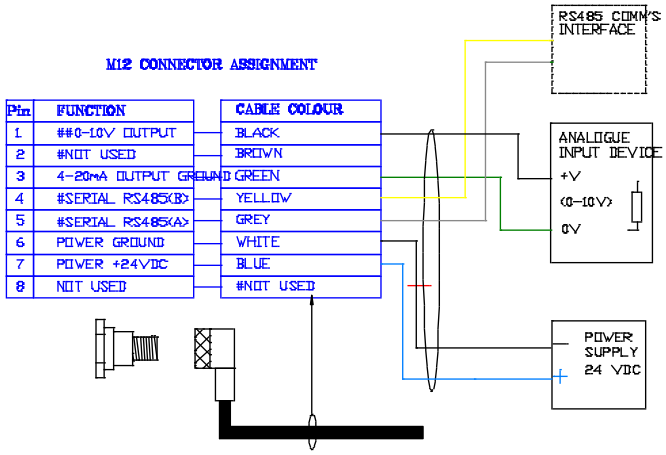
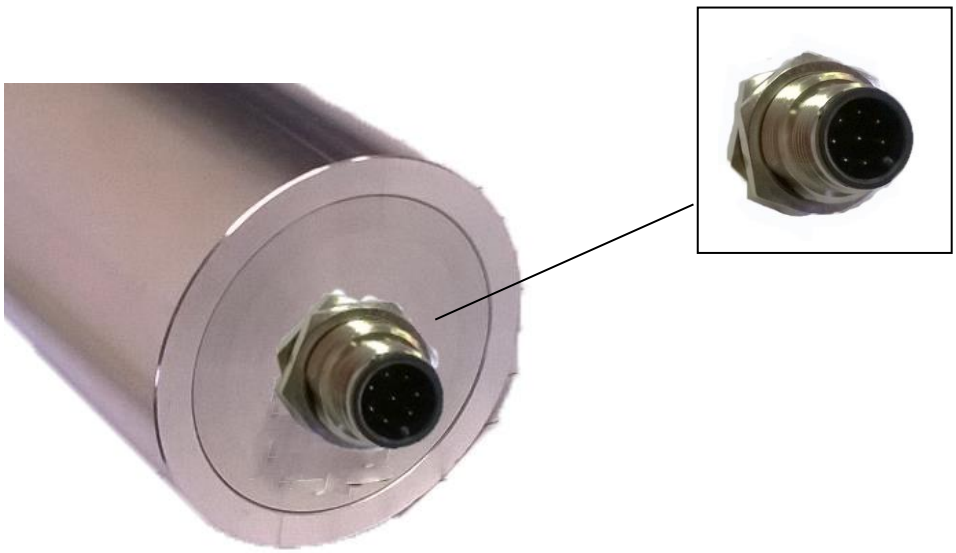
!	**Note!** **Before connecting voltage, the SenzTx Oxygen Analyzer should be exposed to inert gas for at least 1 minute.**

⚠	**CAUTION** **Risk of damage!** **The SenzTx Zirconia Oxygen Analyzer should not be subjected to moisture in the sample gas stream when cold (not powered). It is advised than any moisture and other contaminants are removed from the sample gas stream prior to entering the SenzTx measurement stream.**

Typical connection diagram.



insulated. Cable supplied.



M12 connector

1.3. Maintenance and Calibration of Measuring Cells

All **SenzTx** Oxygen Analyzers undergo a certified calibration before shipping.

User calibration is not within the scope of this manual