O_2 Gas Analyzer (%)

O_2 Gas Analyzer (%)

HIGHEST ACCURACY & LOWEST COST

Transdox-3100E O_2

6 available configurations:

* Transdox 3100 E: O_2.
* Transdox 3100 EA: O_2 - CO_2.
* Transdox 3100 EB: O_2 - CO.
* Transdox 3100 ED: O_2 - H_2O.
* Transdox 3100 EO: O_2 - O_3.
* Transdox 3100 EAB: O_2 - CO_2 - CO.

Optional swing handle, Pely-style carry case, printer and gas filter.

amperis

www.amperis.com

AMPERIS PRODUCTS S.L
Agricultura,34
27003, Lugo, Spain

Contact

+T [+34] 982 20 99 20 | F [+34] 982 20 99 11
info@amperis.com | www.amperis.com

The Transdox 3100E analyzer allows accurate oxygen analysis over the range 0 to 100% O_2 in steps of 0.01%. Ranges of CO&CO_2 concentrations from ppm up to 100% for Transdox 3100EA and Transdox 3100EB (range specified by the customer at the time of ordering), in steps of 0.01%. Ranges of CO_2 0-5% & CO 0-10% for Transdox 3100EAB. Range of H_2O concentrations from either -60°C to +20°C or -100°C to +20°C dp (dew-point). Range of ozone concentrations from 0 to 2ppm in steps of 0.01ppm. The analyzer provides continuous on-line oxygen analysis, with a typical response time of 20 seconds for a 90% response to a step change in gas compositions and ten minutes for dew-point gas compositions. The dew-point sensors are OEM modules

At the heart of the Transdox 3100E is an electrochemical oxygen sensor, which has a five year life expectancy and can be used in a wide range of gases such as nitrogen, argon, helium, carbon dioxide. The sensor is not affected by the presence of hydrocarbons and is resistant to attack from acid gases. At the heart of the Transdox 3100EO is an ozone sensor capable of detecting ozone down to <20ppb O_3 in the range 0-2ppm and comes with a two year performance warranty. The analyzer contains a powerful Nitto motor-driven diaphragm vacuum pump which draws a gas sample at a rate that can be set by the user. The flow of gas can be adjusted using the flow gauge/needle valve on the front panel of the analyzer. Typical flow rate is 1 liter per minute. An internal pressure sensor compensates for small changes in gas pressure to maintain the accuracy of sensor readings. The dew-point sensors are high precision transmitters that are fully factory calibrated and is supplied with its own Calibration Certificate, providing direct traceability to both UK (NPL) and US (NIST) Humidity Standards The sensor is certified at thirteen dew-point levels across its operating range against a certified reference hygrometer, using a mass flow humidity generator system as a source of reference calibration gas. The CO_2 and CO sensors are based on infra-red cell technology which gives extremely stable and accurate readings over a period of many years. The cells have a life-expectancy in excess of ten years and are supplied fully calibrated.

The analyser is packed with features including fully programmable alarm circuits (voltage-free contacts), programmable analogue outputs (0-5V and 4-20mA), easy calibration (user selectable gases), RS232 (optionally RS485) communications and a full set of communications/data-logging software that is MS Excel compatible. Optional swing handle, Peli-style carry case, printer, gas filters and a gas recovery bag are available.

Features:

- Continuous gas sampling via powerful yet quiet internally located motor-driven pump.
- Flow rate controlled by needle valve/flow gauge on front panel.
- Measurement range available:
  - Transdox 3100 E : 0 to 100% O_2.
  - Transdox 3100 EA : 0 to 100% O_2 & 0-5000ppm, 0-1%, 0-5%, 0-10%, 0-30% and 0-100% CO_2.
  - Transdox 3100 EB : 0 to 100% O_2 & 0-3%, 0-10%, 0-30% and 0-100% CO.
  - Transdox 3100 ED : 0 to 100% O_2 & -60°C to +20°C or -100°C to +20°C H_2O dew-point range.
  - Transdox 3100 EO : 0 to 100% O2 & 0 to 2ppm O_3.
  - Transdox 3100 EAB : 0 to 100% O_2 & 0-5% CO_2 & 0-10% CO.
- Accuracy ±1% of full scale oxygen, ±2% full scale accuracy for CO_2 and CO, <±5% full scale accuracy for O_3.
- Easy to calibrate by the user using user selectable gases.
- Large back-lit LCD display showing O_2 , O_3 , CO, CO_2 temperature and pressure (user-selectable units).
- RS232 / RS485, 0-5V and 4-20mA current loop outputs (both user programmable).
- Windows configuration and data logging software with MS-Excel compatible graphing included.
- Fully programmable alarms with outputs and visual/audible warning.
- Optional printer, carry handle & transport case available (gas recovery for Transdox3100EO).
- Works on any worldwide mains voltage 90-260 Vac.
- Accurate oxygen analysis in hydrogen, helium and gases containing solvents. Internal pressure sensor fitted for automatic pressure correction (3100ED).

AMPERIS PRODUCTS S.L
Agricultura,34
27003, Lugo, Spain

Contact

+T [+34] 982 20 99 20 | F [+34] 982 20 99 11
info@amperis.com | www.amperis.com

Applications:

Transdox 3100 E:

- Laboratory scale furnace experiments where the control and monitoring of residual oxygen is critical.
- Air separation plants.
- Industrial processes using low oxygen environments. e.g. wave soldering under nitrogen, vacuum welding.
- Medical Monitoring.
- Control of critical oxygen atmospheres where high partial pressures are required.
- Glove Boxes.
- Food production.
- Testing the purity of oxygen gas cylinders.
- Gases containing hydrogen, helium or CH_4.
- Gases containing VOCs, solvents and fuels.

Transdox 3100 EA and Transdox 3100EB:

- Measuring oxygen and CO or CO_2 in helium and hydrogen containing gases.
- Industrial processes using low O_2 environments, e.g., wave soldering under nitrogen, vacuum welding.
- Control of critical O_2 or CO/CO_2 atmospheres where low O_2 partial pressures are required.
- Testing the purity of inert gases such as argon and nitrogen.
- Measuring oxygen and CO or CO_2 in gases containing VOCs, solvents and fuel.
- Applications where it is not possible to use a hot zirconia sensor.
- Multi-layer capacitor furnaces.
- Laboratory scale furnace experiments where the control and monitoring of oxygen and carbon dioxide is critical.
- Food production & Environmental monitoring (Transdox 3100 EA).

Transdox 3100 ED:

- Laboratory scale furnace experiments where the control and monitoring of oxygen is critical.
- Applications where extremely dry gases must be used.
- Industrial Gas Production.
- Gases used in electronics production and medical applications.
- Catalytic reformer cycle.
- Moisture in natural gas or gases where zirconia sensors are not suitable, Moisture in high-voltage switchgear quench gases.
- Monitoring of desiccant dryers for compressed air or plastic moulding apparatus.

Transdox 3100 EO:

- Drinking water treatment.
- Wastewater treatment.
- Ultra-pure and de-ionized water systems.
- Air treatment.
- Pulp and paper (bleaching, wastewater disinfection).
- Semiconductor manufacture applications.

Transdox 3100 EAB:

- Biomedical research using anaerobic atmospheres.
- Research and development applications with CO, CO_2 and O_2 measurement requirements.
- Cooled flue gas measurements, dependent on clean sample gas stream (filters can be supplied).
- Food production including MAP packing of fresh meat under inert gases.
- Gas purity testing, single analyser allows multiple gas mixtures to be tested.
- Glove box applications.
- Concrete production processes where CO, CO_2 and O_2 monitoring are paramount to success.

AMPERIS PRODUCTS S.L
Agricultura,34
27003, Lugo, Spain

Contact

+T [+34] 982 20 99 20 | F [+34] 982 20 99 11
info@amperis.com | www.amperis.com

Specifications Transdox 3100E O_2

Technical Data: Analyzer

Voltage	90-260Vac, 50/60Hz
Analyzer dimensions	350mm x 263mm x 150mm
Weight	7 kg (5,5kg Transdox 3100 EAB)
Display	16 x 2 character (9mm) back lit LCD (20x4 Transdox 3100 EAB
Warm up time	3-4 minutes at 20°C
Operating temperature	5°C to 35°C
Voltage outputs	0-5V linear, user-programmable
Current outputs	4-20mA linear, user-programmable
Digital outputs	RS232 (RS485 option available): data streamed on demand
Calibration	Requires 1 or 2 user selectable gas mixtures
Sample pump	24Vdc motor-driven diaphragm pump

Technical Data: Sensor

O_2 Sensor	0-100%; ±1% of full scale
CO_2 Sensor	0-5000ppm, 0-1%, 0-5%, 0-10%, 0-30% and 0-100%; ±2% of full scale
CO Sensor	0-3%, 0-10%, 0-30% or 0-100%; ±2% of full scale
H_2O Sensor	-60°C to +20°C or -100°C to +20°C dp; ± 2°C dp
O_3 Sensor	0-2ppm; <±5% of full scale
Life expectancy	3-5 years: O_2, >5 years H_2O, >10 years CO_2 & CO, 2 years O_3
Response time O_2 (gas flow rate 1ltr.min^{-1})	Approximately 20 secs for a 90% step change
Response time CO and CO_2	T90 approximately 10s (90% response time)
Response time H_2O (gas flow rate 1ltr.min^{-1})	Approximately 10 minutes for a 90% step change in dew-point
Response time O_3	T90 approximately 30s (90% response time)
Maximum free air displacement	7 litres per minute (0-28 cfm)
Noise level	45db (max) at 1 meter
Maximum inlet temperature	50°C
Sample connections	4mm ID / 6mm OD nipple type

Optional Accessories

Optional Transdox Gas Recovery Bag

Optional Transdox Sampling Kit

- Transdox 3100E analyzer
- Handle
- Thermal printer
- Heavy duty Peli-style case

AMPERIS PRODUCTS S.L
Agricultura,34
27003, Lugo, Spain

Contact

+T [+34] 982 20 99 20 | F [+34] 982 20 99 11
info@amperis.com | www.amperis.com