Портативные анализаторы кислорода GPR-1000, GPR-1100, GPR-2000, GPR-3500 MO

Технические характеристики

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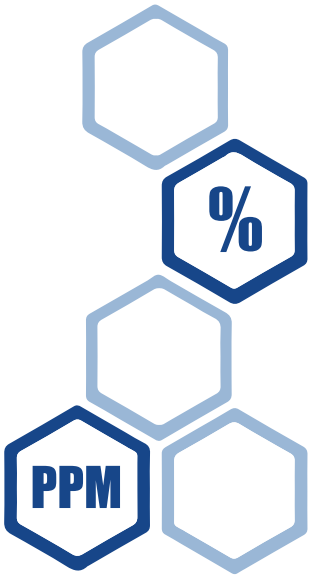
Portable Oxygen Analyzers from 0.1 ppm up to 100% oxygen

GPR-1000, GPR-1100, GPR-2000 & GPR-3500

Suitable for trace oxygen measurements from 0.1 ppm through to purity applications at 100% oxygen, these rugged portable instruments share the same advanced sensor technology as the online process oxygen analyzers ensuring confidence in their reliability and accuracy.

The Analytical Instruments' concept of using the same HMI and menu structures for portable and online analyzers makes it extremely easy for operators to use both types of instruments on their site without need for extra training.



Highlights

- Rugged- made to last in field operation
- Easy to use
- Up to 30 days battery life (40 hours with pump)
- Measurement ranges from 0-10 ppm up to 0-100% O_2
- 24 to 32 months sensor life span (in normal use).
- Lightweight – 2.5Kgs
- Internal pump option
- 0-1V output
- XLT sensor options for CO_2 backgrounds

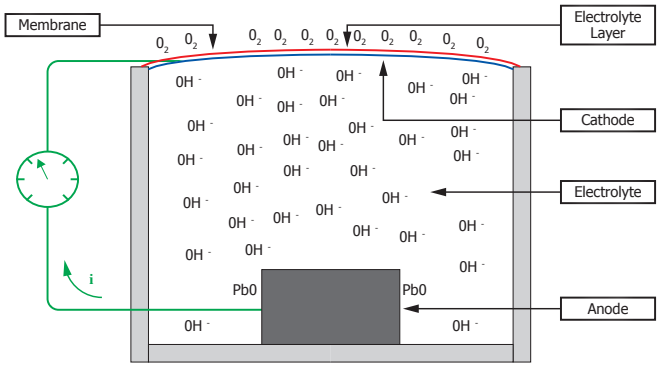
Applications

Spot checking for:

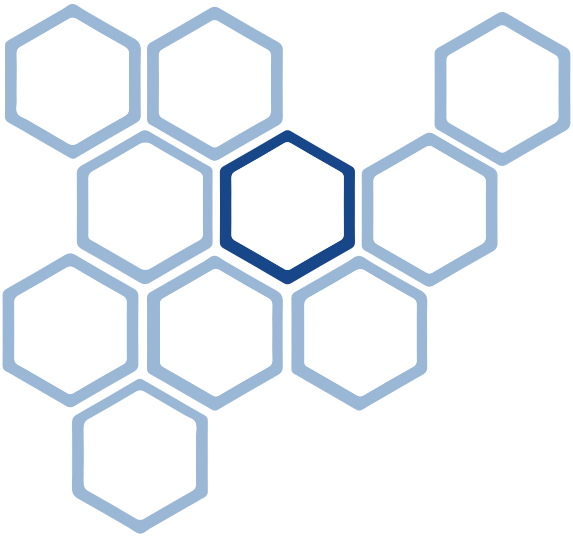
- Oxygen and nitrogen generators
- Storage holds on marine vessels post maintenance
- Oxygen in tankers during delivery
- Metal treatment processes
- Leak checking processes
- Double glazing manufacture
- Welding (under N_2 or Ar purge)

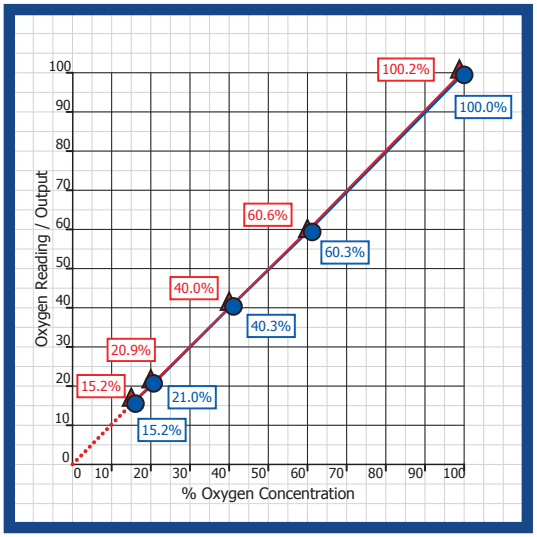
Sensor Technology

The sensors from AII have been designed to avoid potential weaknesses common in typical galvanic cell design. Our materials, construction and assembly methods have been continuously refined over decades. Each sensor type has been specifically engineered to provide the optimum balance between performance and longevity for individual applications. The result is confidence in the measurement and low maintenance. In the absence of oxygen, the sensor will produce zero output and the sensor is linear up to 100%, therefore only a span calibration is required in most cases (see graph).



Sensor Construction





Typical sensor output

The Analytical Industries' XLT sensor

For applications with a background gas containing more than 0.5% CO_2, the specially designed XLT sensor should be selected. With most standard electrochemical sensors an alkaline electrolyte is used and this is neutralised over time when exposed to acidic gases, such as CO_2. To combat this, AII developed the XLT sensor with a special electrolyte formula which has the added benefit of being able to operate in temperatures as low as -10°C.

Options available across the range:

- Internal sample pump option
- Coalescing filters
- Sampling accessories
- Carry case for easy storage and transport
- General purpose and hazardous area versions (ATEX)

GPR-1100 (ATEX)

The GPR-1100 model is an industry standard portable analyzer for trace oxygen measurements down to 0.1 ppm. Supplied with stainless steel wetted materials, the instrument is also equipped with quick connect fittings to trap the sample in the analyzer and extend the oxygen sensor service life by avoiding air diffusing into the sensor.

Options: XLT sensor for CO_2 backgrounds

Ranges Available: 0-10, 0-100, 0-1,000ppm & 0-1% (0-25% for calibration only)

GPR-1000 (ATEX)

Optimised for measuring oxygen below 1,000ppm with an LDL of 5ppm and is temperature compensated. The GPR-1000 oxygen meter can also be operated up to 1% range. It is supplied with brass fittings.

Options: XLT sensor for CO_2 backgrounds, stainless steel fittings, weld purge kit.

Ranges Available: 0-1,000ppm & 0-1% (0-25% for calibration only)

GPR-2000 (ATEX)

The GPR-2000 portable instrument is designed for percentage level oxygen measurements with an LDL of 0.005% (50ppm) O_2. This versatile oxygen analyzer will be suitable for many applications. It is supplied with barometric pressure and temperature compensation as well as stainless steel fittings and internal pipework.

Options: XLT sensor for CO_2 backgrounds

Ranges Available: 0-1%, 0-5%, 0-10% & 0-25%

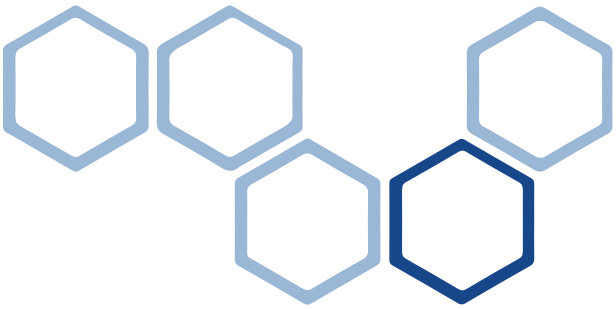
GPR-3500 MO

The GPR-3500 instrument has been developed for measuring 0-100% oxygen in general purpose areas. This portable oxygen analyzer features barometric pressure and temperature compensation and is supplied with stainless steel wetted parts, a flowmeter and needle valve. The LDL is 0.5% O_2 (the LDL can be further enhanced with a zero calibration). This unit also displays the ambient temperature and pressure.

For oxygen purity measurements a span gas with the desired target concentration should be used.

Range Available: 0-100% O_2

For the full selection of all portable and premium portable oxygen analyzer models offered by Analytical Industries Inc. please see our portables and hand-held data sheets available on www.aii1.com as well as the related instrument section at the end of this document.



Technical Specifications

	GPR-1100	GPR-1000	GPR-2000	GPR-3500 MO
Measurement range	0-10, 0-100, 0-1000 ppm, 0-1%, 0-25%	0-1000 ppm, 0-1%, 0-25%	0-1%, 0-5%, 0-10%, 0-25%	0-100%
Accuracy	< 2% of selected range at constant conditions			
Response time	T90 < 10 seconds			T90 < 13 seconds
Recovery time	60 sec in air to < 10 ppm in < 1 hour on N_2 purge	60 sec in air to < 100 ppm in < 15 min on N_2 purge	NA	
Sensitivity (LDL)	0.05 ppm	5 ppm	0.005%	0.1%
Linearity	< 1% of scale			
Sensor model	GPR-12-333	GPR-12-100-M	GPR-11-32-RTS	GPR-11-120-RTS
	XLT-12-333 for gas mixture with > 0.5% CO_2	XLT-12-100-M for gas mixture with > 0.5% CO_2	XLT-11-24-RTS for gas mixture with > 0.5% CO_2	
Sensor life at 25ºC (77°F) and 1 atm	24 months in < 1000 ppm O_2	GPR-11-32-RTS 32 months in air XLT-11-24-RTS 24 months in air		24 months in 100% O_2
Calibration interval	30 days			
Inlet pressure	0.34–2 barg (5-30 psig) with atmospheric vent			
Flow rate	0.5-1.0 Nl/m (1-2 SCFH)			
Gas connections	1/8" NPT male quick connect	1/8" quick connect WP 1/8" compression fittings	1/8" compression tube fittings	1/4" compression tube fittings
Wetted parts	Stainless steel	Brass connections; stainless steel optional	GP version: stainless steel fittings; plastic tubing ATEX version: Stainless steel flow housing, tubing and fittings	Stainless steel
Display	Graphical LCD 7 x 3.5cm (2.75 x 1.375")			
Resolution	0.01 ppm	1 ppm	0.001 %	0.1 %
Enclosure	Painted aluminum NEMA 4X, 10.1 x 22.9 x 7.6cm (4 x 9 x 3")			
	3.64Kg (8lbs)			
Compensation	Barometric pressure and temperature			
Signal output	0-1V			
LED indicators	LOW BATT (72 hr. warning); CHARGE mode			
Operating temperature	5°C to 45°C (41°F to 113°F) (GPR sensor), -10° to 45°C (14°F to 113°F) (XLT sensor)			5ºC to 45ºC (41°F to 113°F)
Power	Rechargeable battery (lead acid)			
Battery life	Up to 30 days on a single charge (40 hours with pump running)			Up to 30 days on a single charge
Area classification	ATEX: Ex II 2 G Ex ib IIC T4 Gb T_{amb}: 5°C to +45°C			General purpose only

Related instruments: Premium portables

AII's premium portable analyzers are built to last in demanding field conditions. With rugged enclosures, stainless steel wetted parts, integrated flow meters and needle valves, they offer purity measurements for inert gases, carbon-dioxide and oxygen.

Handheld devices

Compact and convenient handheld analyzers to measure oxygen concentrations for welding, diving and personnel safety applications.

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