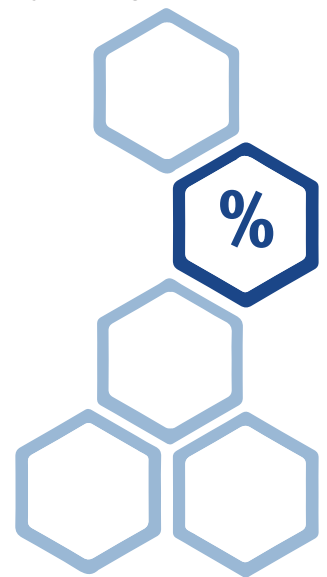


# Ambient Oxygen Monitors

**GPR-35, GPR-2500 SN (ATEX), GPR-2800 IS /AIS-S**

The GPR-35, GPR-2500 SN and GPR-2800 IS/AIS-S are reliable oxygen deficiency monitors for measuring the oxygen concentration in rooms where there is potential for gas leaks to prevent oxygen depletion or asphyxiation and ensure safety of personnel. The Analytical Industries' experience in designing precise and reliable oxygen monitors equipped with proprietary oxygen sensors proven in thousands of personal oxygen alarms and diving equipment offer the highest level of protection to the staff that depend on such room oxygen monitors. Our oxygen analyzer range also includes oxygen deficiency monitors with remote sensors.



## Highlights

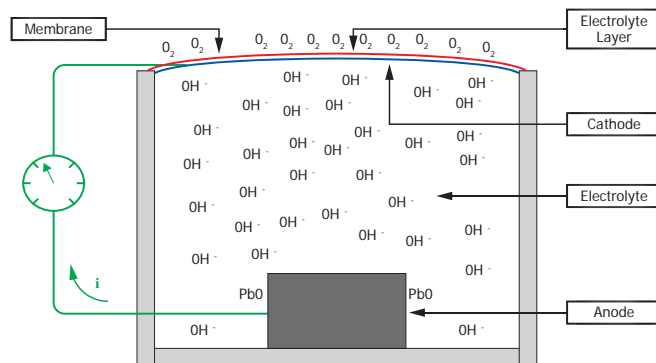
- Up to four measurement ranges
- Accuracy of <2% of span
- Mains power with battery back-up (GPR-35)
- Remote sensor & pump options (GPR-35)
- Typically 32 months sensor life
- Analog output for connection to DCS
- 12-28 V DC operation (GPR-2500 versions)
- Audible and visual alarm options available

## Applications

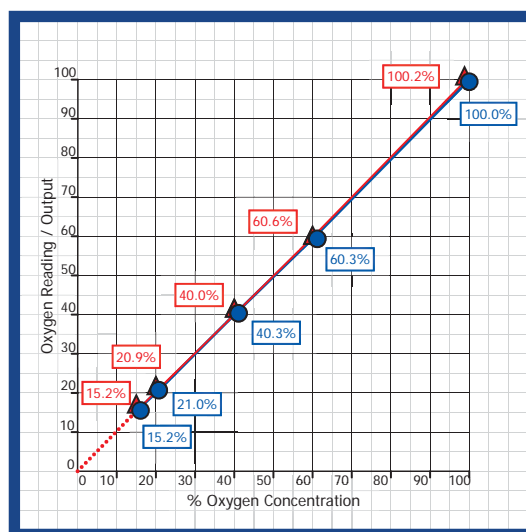
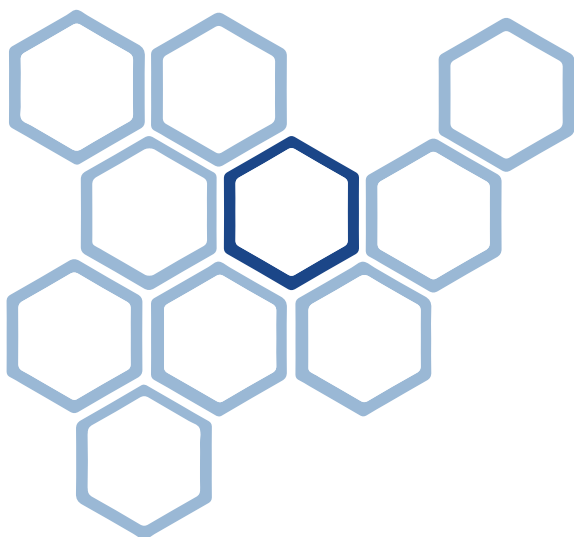
- Cylinder storage areas
- Rooms with gas lines
- Rooms with purged processes or vessels
- Large chambers that are purged with inert or other gases
- Confined spaces

## 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<sub>2</sub>, 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<sub>2</sub>. 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.

## **GPR-35**

The GPR-35 is specifically designed for ambient monitoring and has an accuracy of better than 2% of reading under constant conditions. This model offers barometric pressure and temperature compensation, is mains powered with a battery back-up that will last up to 8 hours in alarm mode. It is supplied with dual red/green alarm indicators, low battery and failure LEDs and a 0-1V output. Other features include two adjustable alarms for oxygen concentration and these are pre-set to OSHA levels of 20.0% (caution) and 19.5% (danger).

### **Options:**

- HI and LO alarm configuration (23% and 19.5% O<sub>2</sub>)
- Audio and visual alarms
- 4-20 mA output
- Internal sample pump
- Remote sensor

## **GPR-2500 SN (ATEX)**

For measuring ambient air in general purpose or hazardous area, the GPR-2500 SN is ideal, it is 18-24V loop powered with ranges of 0-1%, 0-5%, 0-10% & 0-25% O<sub>2</sub>. The unit is a basic 24V loop powered transmitter with the sensor located at the bottom of the NEMA box and open to the atmosphere. When used in a hazardous area an external barrier (MTL7706+ or equivalent) is required. The XLT sensor is available with this model.



## **GPR-2800 IS 5**

For measuring ambient air in a hazardous area, the GPR-2800 is ideal, with a single range of 0-25% O<sub>2</sub>. The unit is a basic 24V loop powered transmitter with the sensor located at the bottom of the NEMA box and open to the atmosphere. The XLT sensor is available with this model.

## **GPR-2800 AIS 5**

The AIS model adds alarms and the ability to be mains powered as well as the option of MODBUS (24V DC only) providing greater flexibility.



## Technical Specifications

	GPR-35	GPR-2500-S	GPR-2800-IS/AIS-S
Measurement range	0-25%		
Accuracy	< 2% of range at constant conditions		
Response time	T90 < 10 seconds		
Sensitivity (LDL)	0.1% O <sub>2</sub>		
Linearity	< 1% of scale		
Sensor model	GPR-11-32-RTS	GPR-11-32-4 XLT-11-24-4 for gases containing >0.5% CO <sub>2</sub>	
Sensor life at 25°C (77°F) and 1 atm	32 months in air	GPR-11-32-4 32 months in air XLT-11-24-4 24 months in air	
Calibration interval	30 days		
Inlet pressure	Atmospheric sampling		
Gas connections	None		
Display	3½ digit LCD; resolution 0.1%	Graphical LCD 7 x 3.5cm (2.75 x 1.375"); resolution 0.1%	
Enclosure	Painted aluminum, suitable for indoor use only	Fiberglass NEMA 4X	Fiberglass NEMA 4X, plus painted aluminum Exd enclosure
Dimensions	10.1 x 22.8 x 7.6cm (4x9x3")	17.1 x 21.3 x 10.8cm (6.75 x 8.375 x 4.25")	25.3 x 40cm (10 x 15.7")
Weight	3.6kg (8lbs)		6.5kg (14.6 lbs)
Compensation	Barometric pressure and temperature (GPR-35) Temperature (GPR-2500 and GPR-2800 IS/AIS-S)		
Signal output	0-1V	4-20 mA (or 1-5V on GPR-2800 IS/ AIS)	
Alarms	Two adjustable SPDT Form C non-latching relay contacts	None	Two user-configurable alarms magnetic coil relays rated 3A at 100 V AC (AIS only)
Operating temperature	0°C to 45°C (32°F to 113°F)	GPR sensor: 5°C to 45°C (41°F to 113°F) XLT sensor: -10° to 45°C (14°F to 113°F)	
Humidity	Non-condensing up to 95% RH		
Power	100-240 V AC with battery back-up (battery life up to 30 days or 8 hours in alarm mode)	18-28 V DC	18-24 V DC (IS model) 18-24 V DC or 110 to 220 V AC (ATEX AIS only)
Area classification	General purpose CSA/NRTL approved	General purpose or with external safety barrier MTL-7706 or equivalent ATEX: II 2 G Ex ia IIB T4 Gb T <sub>amb</sub> -20°C to +50°C	ATEX: II 2 G Ex d [ib] ib IIB Gb T4 T <sub>amb</sub> -20°C to +45°C

### Related Products:

### GPR-7500 AIS-S and GPR-7500 IS-S

Ambient monitors for hydrogen sulphide (H<sub>2</sub>S)



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Please note: Analytical Industries Inc. adopts a continuous development program which sometimes necessitates specification changes without notice. Please contact us for the latest version. Issue No: Ambient Monitors\_partnumber\_V2\_UK\_1018