

Oxygen Analyser for applications in the Vol. % - Range AMS 5225



available options:

- sample gas pump
- electronical flowmeter
- automatic calibration
- pressure reducer
- different housings

The Application:

The Oxygen Analyser AMS 5225 is equipped with a electrochemical sensors for the measurement of Vol. % concentrations. The analyser AMS 5225 is a micro-processor equipped instrument for highly accurate measurements off Oxygen in the Vol. % range. Changes in the Oxygen concentration < 0,1 Vol. % can be determined with a resolution of 0,01 Vol. %. The analyser is available in housings for General Applications.

The Measuring principle:

The electrochemical sensors for the measurement of trace oxygen are mainly consisting of five components:

- Oxygen sensitive cathode
- Anode
- Electrolyte
- Diffusion membrane
- Housing with electrical connections

The measuring gas diffuses through a membrane to a thin layer of electrolyte. At the cathode the oxygen reduces. The free flowing electrons are drifting to the Anode. This generates an electrical current which is direct proportional to the oxygen concentration of the measuring gas. The use of electrochemical sensors allows in standard applications the measurement of trace oxygen in a number of complex and aggressive gas mixtures. The fitting sensor for a specific application has to be selected considering the different available electrolytes and electrodes. It is therefore essential to know the physical and chemical application parameters such as temperature, gas pressure, humidity content and the consistency of a specific measuring gas. The operational life time of an electrochemical sensor is determined from the PPM-hours a sensor exposed to oxygen. Therefore the sensors have a shorter life expectancy in air than in low PPM-Oxygen concentrations. The life time in air is usually only a few months, but 3 years or longer in PPM-Oxygen concentrations.

The Measuring system:

The Oxygen Analyser AMS 5225 consists of an electronic, the pneumatic components for the gas supply and flow control, installed in an electronic housing 28 TE / 3 HE. The analyser can be equipped with a pressure reducer for max. 10 bar (abs.) to protect the sensor against high gas pressure. The Oxygen Analyser AMS 5225 is the ideal system for automated process control. A micro processor controls the electronics and the display.

Technical Data

Analyser	AMS 5225
Measuring principle	Electrochemical oxygen sensor
Application	Soldering machines Welding technology Gases Industries Chemical Industries
Measuring range	0 ... 25 Vol. %
Analogue signal port	(0) 4 ... 20 mA or 0 ... 10V, galvanically separated
Reproducibility	+/- 2 % of the measuring value
Resolution	0,01%
T90-Time	ca. 20 Seconds
Display	2* 16 digit, illuminated LCD display 1. Line: display of concentration in ppm or Vol % 2. Line: Messages, device status, sensor parameters
Messages	1 system message (measuring value yes / no) max. 2 messages configurable as oxygen value, calibration message, measuring value in the range, flow rate
Gas connection	inlet / outlet 3 / 6 mm ferrule pack
Sample flow	min. 30 NI/h, max. 50 NI/h
Sample pressure (inlet)	min. 1,01 bar abs., max. 10 bar abs.
Digital communication	serial interface RS232
Ambient operating temp.	+ 5 °C up to + 60 °C
Power supply	110 ... 230 VAC or 24 VDC
Protection / Housing / Dimensions	IP20 / electronics unit 28 TE / 3HU IP65 / wall mounting housing / ca. 300 x 260 x 130 mm (hxbxt) IP54 / portable housing 42 TE / 3 HU
Weight	2,5 kg ... 10 kg depending on housing and built-in options
Options	Sample gas pump electronic flow analysis pressure reducer Automatic calibration Particle filter Purge unit for Ex-Zone 2 application
Version: AMS 5225 E V-2022-01	

Specification subject to change