

## Trace Analyser for Hydrogen and toxic Gases AMS 6100



available options:

- sample gas pump
- electronical flowmeter
- auto-Calibration
- pressure reducer
- suitable for use in Ex Zone 2
- different housings

### The Application:

The Trace Analyser AMS 6100 operates on base of an electrochemical sensor. The Trace Analyser AMS 6100 is a micro-processor controlled analyser for the highly accurate measurement of lowest gas traces. Changes in concentrations of < 0,1 ppm or with a resolution of 0,1 ppm can be measured. The available housings are designed for use in General Applications. The lowest measuring range is 0 ... 3 ppm.

**The Measuring principle:**

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

- 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 gas traces reduces. The free flowing electrons are drifting to the Anode. This generates an electrical current which is direct proportional to the gas concentration of the measuring gas. The use of electrochemical sensors allows in standard applications the measurement of gas traces 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. Therefore the sensors have a shorter life expectancy in high air than in low PPM-Gas concentrations.

**The Measuring system:**

The Trace Oxygen Analyser AMS 6100 consists of an electronic, the pneumatic components for the gas supply and flow control, installed in an electronic housing 42 TE / 3 HE. To protect the analyser against high gas pressure and high gas concentrations, the analyser can be equipped with a pressure reducer for gas pressure up to 10 bar (abs) and a manual purge valve. The Trace Analyser AMS 6100 is the ideal system for automated process control. A micro processor controls the electronics and the display. Calibration and service are menu-driven. Automated components allow remote control of the Trace Analyser AMS 6100 from the control room.

For use of the Trace Analyser AMS 6100 in hazardous areas classified as Zone 2 the system gas can be equipped with an inert gas purging system. An automatic calibration and purging of the measuring cell is optionally available.

## Technical Data

Analyser	<b>AMS 6100</b>
Measuring principle	Electrochemical sensor according to the application
Messuring components	H <sub>2</sub> , CO, H <sub>2</sub> S, ...
Application	Gases Industries, Chemical Industries
Measuring range	2, automatic selection, digital ID (optional 4)
Analogue signal port	0 (4) ... 20mA, or 0...10 V, galvanically separated,
Reproducibility	+/- 2 % of the measuring value
Resolution	<0,1 ppm, depending on the gas concentration
T90-Time	ca. 30...40 seconds depending on the measuring cell
Display	2* 16 digit, illuminated LCD display
Messages	2 free adjustable isolated changeover relays
Gas connection	inlet / outlet 3 / 6 mm ferrule pack
Gas sampling	built-in inlet / valve, flowmeter
Sample flow	min. 20 NI/h, max. 40 NI/h
Sample pressure (inlet)	min. 1,01 bar abs., max. 2 bar abs.
Sample pressure (measuring cell)	max. 50 mbar pressure
digital communication	serial interface RS 232
Ambient operating temp.	- 5 °C up to + 45 °C
Relative humidity of the gas	0 ... 99 % not condensing
Power supply	24 VDC or 230 VAC
Protection / Housing / Dimensions	IP 20 / electronics unit, 28 TE / 3HU IP 65 / wall mounting housing / ca. 300 x 260 x 130 mm IP 54 / portable housing 42 TE / 3 HU
Ex-classification	IP 55 wall mounting housing with continuous purging certified for applications in Ex-Zone2
Weight	2,5 – 7 kg
Options	sample gas pump electrical flowmeter auto-Calibration pressure reducer suitable for use in Ex Zone 2 different housings
Version: AMS 6100 E V-2022-01	

Specification subject to change.