

Two-Component Analyser AMS 6000



available options:

- pressure reducer
- particle filter 2-7 μ m
- manual 5 way valve
- manual purge
- electronical/pneumatic gas supply pump
- electronical flowmeter
- auto-Calibration
- 2 free adjustable measuring values
- Ex-Zone 2 applicable
- different housings

The application:

The AMS 6000 analyser is suitable for measuring traces of oxygen and one other component like humidity, CO, H₂ and .. at once. This means it is possible to analyse more than one component at the same measuring point. For measuring O₂, CO₂ or H₂ an electrochemical sensor is deployed and for the determination of humidity a ceramic sensor is applied. Highly accurate measurement is achievable with the processor-controlled analyser. Changes in concentration of < 0,1 ppm with an resolution of 0,01 ppm can be measured.

The measuring principle of an electrochemical sensor:

The measuring principle based on the diffusion of the measuring gas through to a membrane in a thin layer of electrolyte. Due to the reaction the free-flowing electrons are drifting to the anode. This generates an electrical current which is direct proportional to the concentration of the measuring gas. The appropriation of different electrochemical sensors allows the measurement of complex and aggressive gas mixtures in addition to standard applications. It is necessary to choose the measuring cell with due regard to the different available electrolytes and electrodes. Therefore it is essential to know the physical and chemical application parameters such as temperature, gas pressure, humidity content and the consistency of the measuring gas.

The measuring principle of the dew point sensor:

The function is based on the adsorption of steam in a porously dielectrical coat. This adsorption coat is situated between two conducting layers on stable ceramic substrate. Due to the very high dielectric constant of water it is possible to reliably register the smallest storage of water.

The measuring system:

The two-component analyser consists of an electronic, the pneumatic components for the gas supply and the flow control. A lot of different options like bypass- and purge valve, pressure reducer, continuous purging for application in Ex-Zone 2, automatic calibration, external sensor and so on allows the adaptation of the analyser to customer needs. Based on the various components the analyser is fit into different housings. The AMS 6000 is the ideal system for automated process control. Calibration and service are menu-driven. Automated components for remote control from the control room could be installed. For the using the analyser in hazardous areas classified as Ex Zone 2 the system can be equipped with an inert gas purging system.

Technical Data

Analyser	AMS 6000
Measuring Principle O ₂ , CO, H ₂ .../ Dew Point	Electrochemical Sensor / Ceramic Sensor
Application	Gas Industries, Chemical Industries
Measuring Ranges O ₂ Measuring range CO, H ₂ , Dew Point	2 / 4, automatic change-over, digital identification 1
Measuring Range Limit: O ₂ / CO / H ₂ min. / max. Measuring Range Limit: Dew Point	adjustable, depends on the sensor 0...10 / 0...10.000 ppm - 100...+ 20 °C Dew Point / 0...3.000 ppm humidity (please specify when ordering)
Analogue Signal Port	2x 0 (4) ... 20mA, galvanically isolated, automatic change-over, (one analogue signal port for each measuring component)
Reproducibility	+/- 2 % of the measuring value
Resolution (A) O ₂ , CO, H ₂ ...	0,01 ppm < A < 1 ppm depends on the measuring component
Resolution (A) Dew Point	0,1 °C < A < 1 °C / 0,1 ppm < A < 1 ppm
T90-time O ₂ , CO, H ₂ / dew point	30...40 sec. / 60 sec.
Display	2* 16 digit LCD, back-lit
Messages	Alarms, Status, Calibration, Service Request, Floating Change-over Relays
Gas Connection	Inlet / Outlet 3 / 6 mm ferrule pack
Gas Sampling	Built-in inlet / outlet valve, Flow Meter
Sample Flow	min. 20 NI/h, max. 40 NI/h
Sample Pressure (inlet)	min. 1,01 bar abs., max. 2 bar abs.
Sample Pressure (sensor)	max. 50 mbar Excess Pressure
Digital Communication	Serial interface RS 232
Ambient Temperature	- 5 °C up to + 45 °C
Rel. Humidity O ₂ , CO, H ₂ / Dew Point	0 ... 99 % / please refer to measuring range
Power supply	230 VAC, 24 VDC
Protection / Housing / Dimensions	IP 20 Electronic Housing 19", 3 HE, depth: 473 mm IP 20 Electronic Rack ½ 19", 3 HE
Weight	3 – 7 kg, depends on the components
Options	manual Purge and Bypass Valve electronic Flow Monitoring Ex-Zone 2 applicable Electrical/pneumatical sample Gas Pump manual 5 way valve particle filter 2-7µm automatic Calibration, remote-control available automatic Purging of the Sensor pressure Reducer max. 10 bar, out 50 mbar
Version: AMS 6000 E V-2013-07	

Technical data are subject to change.