

Trace Oxygen-Dewpoint-Analyser AMS 5100 Dewpoint



available options:

electronical/pneumatic gas supply pump
electronical flowmeter
auto-Calibration
pressure reducer
particle filter 2-7 μ m
different housings

The Application:

The basics of the Trace Oxygen Analyser AMS 5100 is the development project "AMS 5000" for a compact electronic to be used with Zircon dioxide and electrochemical sensors for the measurement of trace oxygen and Oxygen concentrations in Percent range. The Trace Oxygen Analyser AMS 5100 Dewpoint is suitable for the measurement of oxygen traces in inert gases. For this application the Trace Oxygen Analyser AMS 5100 Dewpoint is equipped with a Zircon dioxide sensor. Due to the compact size of the electronics the Trace Oxygen Analyser AMS 5100 Dewpoint can be mounted in an electronic housing IP 20, 42 TE, 3 HE and has a depth of 250 mm. The Trace Oxygen Analyser AMS 5100 Dewpoint is available in several housings for General- and Ex-Applications. For determine the dewpoint of the sample gas the analyser could be equipped with a dewpoint measurement in addition to the oxygen measurement.

The Measuring Principle:

The Zircon dioxide sensor is the ideal transducer for the trace analysis of Oxygen in Inert gases. The sensor can be mounted together with the electronics in one single housing. In combination with a calibration adapter the Zircon dioxide sensor can be mounted directly into a gas pipe. This setup allows the supply of the Zircon dioxide sensors with reference- and calibration gas. To increase the reproducibility of the measuring values the analyser can be equipped with the optional Auto-Calibration feature.

The measuring principle of the dew point sensor:

The measuring principle is based on a metal oxide dewpoint sensor with a multiple structure. 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 design of the sensor is very low therefore the sensor responds to the slightest changes in the applied moisture.

The Measuring System:

A long list of options allows adopting the Trace Oxygen Analyser AMS 5100 Dewpoint for almost every application. Four measuring ranges with automatic switchover can be set freely within the measuring range. The software for remote control, calibration and service with remote display allows the direct access via the computer network of the customer to further increase the flexibility of the Trace Oxygen Analyser AMS 5100.

Technical Data

Analyser	AMS 5100 Dewpoint
Measuring principle	Oxygen: ZrO ₂ probe with Pt-electrodes Dewpoint: ceramic sensor
Application	Gas Industries, Chemical Industries, Inert-Gas-Applications
Measuring Ranges Oxygen Dewpoint	0...25 Vol % to 0...1 ppmv - 100 ... + 20°C
Analogue signal port	(0) 4...20 mA or 0...10V, galvanically separated one for each measuring component
Reproducibility	+/- 2 % of the measuring value
Resolution	0,01 ppm – C(O ₂) – 0,01 % depending on the O ₂ concentration 0,1 °C for Dewpoint
T90-time	appr. 20 seconds for oxygen / appr. 40 seconds for Dewpoint
Display	2* 16 digit, illuminated LCD display 1. Line: Oxygen concentration ppm or Vol % 2. Line: Dewpoint °C For settings you can change the second line of the display
Messages	1 System message (measuring value yes / no) 1 Message for Oxygen / Dewpoint
Gas connection	inlet / outlet 3 / 6 mm ferrule pack
Gas sampling	built-in inlet / outlet valve
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, 42 TE / 3HE IP65 / wall mounting housing / ca. 300 x 260 x 130 mm (hxbxt) IP54 / portable housing 42 TE / 3 HE IP 54 / panel mounting 144 x 144 mm Ex-d housing for Ex Zone 2
Weight	2,5 kg ... 10 kg depending housing and built-in options
Options	electronical/pneumatic gas supply pump electronic flow control particle filter 2-7µm auto-calibration max. 4 measuring ranges automatically switching with digital identification software for remote control and service Manual 5 way valve pressure regulator
Version: AMS 5100 Dewpoint V-2013-10	

Specifications subject to change.