AMS | Analysen-, Mess- und Systemtechnik

Trace Oxygen-Dewpoint-Analyser
AMS 5100 DP

available options:

sample gas pump
electronic flow control
pressure reducer
different housings

The Application:

The basics of the Trace Oxygen Analyser AMS 5100 DP is the development project “AMS 5000“ for a compact electronic to be used for the measurement of Oxygen traces and Dewpoint/Moisture. For this application the Analyser AMS 5100 DP is equipped with a Zircon dioxide sensor and a ceramic or polymer Dewpoint/Moisture sensor. Due to the compact size of the electronics the Analyser AMS 5100 DP 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 DP is available in several housings for General- and Ex-Applications.

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

AMS Analysen-, Mess- und
Systemtechnik GmbH
Industriestraße 9
D-69234 Dielheim

Tel.. +49 6222 788 77 0
Fax. +49 6222 788 77 20
E-Mail: info@ams-dielheim.com
Internet: www.ams-dielheim.com

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 DP 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 DP.

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Technical Data

Analyser	**AMS 5100 DP**
Measuring principle	Oxygen: ZrO2 probe with Pt-electrodes Dewpoint: ceramic sensor / polymer
Application	Gas Industries, Chemical Industries, Inert-Gas-Applications
Measuring Ranges Oxygen Dewpoint / Moisture	 0…25 Vol % to 0…1 ppmv - 100 (-80) … + 20°C / 0…3.000 ppm
Analogue signal port	(0) 4…20 mA or 0…10V, galvanically separated one for each measuring component
Reproducability	+/- 2 % of the measuring value
Resolution	0,01 ppm – C(O2) – 0,01 % 1 °C /1 ppm for Dewpoint / Moisture
T90-time	< 20 sec. for oxygen / < 360 sec.for Dewpoint/ Moisture
Display	2* 16 digit, illuminated LCD display 1. Line: Oxygen concentration ppm or Vol % 2. Line: Dewpoint °C / Moisture ppm For settings you can change the second line of the display
Messages	1 System message (measuring value yes / no) 1 Message for Oxygen / Dewpoint/Moisture
Gas connection	inlet / outlet 3 / 6 mm ferrule pack
Gas sampling	built-in inlet valve
Sample flow	min. 20 Nl/h, max. 40 Nl/h
sample pressure (inlet)	1 bar (g)
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 max. 4 measuring ranges automatically switching with digital identification for O2 pressure regulator Different housings
Version: AMS 5100 DP V-2021-08	

Specifications subject to change.

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