ADOS®

592 TOX

Sensor for Measurement of Toxic Gas Concentrations

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Est. 1900

ADOS 592 TOX

Sensor for Measurement of Toxic Gas Concentrations

Application

The ADOS 592 TOX gas sensor is suitable for continuous measurement of a concentration of toxic gas in air, over the range of 0 - 20 ppm to 0 - 1000 ppm.

Fields of Application

- In garages for measuring, control and warning, in conjunction with the ADOS MULTITRONIC 592 tested to VDI 2053 standards;
- For monitoring at working places, to control the maximum concentration value;
  e.g. in laboratories or motor test stands
- In private and collective shelters for monitoring the external or internal air.

Gases and Measuring Ranges

GAS	Formula	Measuring Range
Carbon monoxide	CO	0 - 300 ppm
Ammonia	NH_3	0 - 200 ppm
Nitrogen dioxide	NO_2	0 - 30 ppm
Sulfur dioxide	SO_2	0 - 50 ppm
Hydrogen sulfide	H_2S	0 - 20 ppm

Other gases and measuring ranges on request.

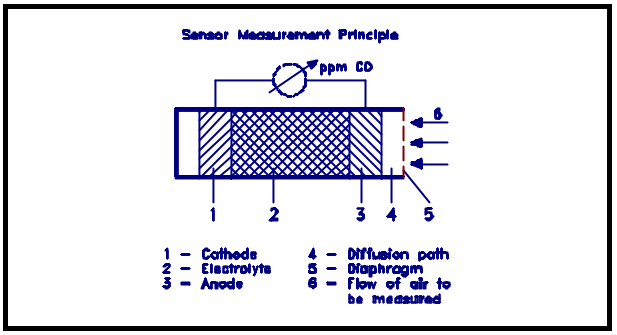
Function Example, CO-sensor

The ADOS 592 CO gas sensor uses a method of measurement where the air to be measured is diffused in a chemical measuring cell.
The H^+-ions and the electrons released, are consumed at the electrode in a cathode reaction.
The current between anode and cathode, generated by this process, is directly proportional to the CO-concentration in the measured air.
The sensor current is amplified and applied via a 4-20 mA interface or the LON® fieldbus to an evaluation unit, e.g. ADOS MULTITRONIC 592, where the measured variable is processed and indicated in ppm CO, together with any control and warning functions which may be necessary.
Reactions at the anode:

$$CO + H_2O \rightarrow CO_2 + 2H^+ + 2e^-$$

Reactions at the cathode:

$$\tfrac{1}{2} O_2 + 2H^+ + 2e^- \rightarrow H_2O$$



Technical Data ADOS 592 CO

Measuring principle	: Electro-chemical reaction
Measurable substance	: Carbon monoxide
Measuring ranges	: 0-150 ppm, 0-300 ppm, Other ranges on request
Zero error	: < 10 ppm CO
Reading instability	: < 3 ppm CO
Accuracy	: ± 3 % of f.s.d
Zero drift	: < 2 % per year
Repeatability	: < 2 % per year
Linearity	: < 2 % of f.s.d
Response time (t_{90})	: < 60 sec.
Cross sensitivity	: < 2 % with integrated filter
Interface	: 2-wire current interface 4-20 mA or LON® four-wire techniques galvanically isolated, data transmission 78 kbps
Supply voltage	: 15 V - 30 V, dependent on maximum load 100 ohm - 500 ohm
Ambient temperature	: -10 to + 40°C, with sensor temperature compensation
Humidity range	: 10 - 99 %, non-condensing
Serviceable life of cell	: Approx. 2 years
Sensor dimensions	: Diameter 80 mm, Height 80 mm
Weight	: 0.6 kg
Test certificate	: To German standards, according to VDI 2053 in conjunction with ADOS MULTITRONIK 592

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