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Instrumentation and Control



**GAS TRANSMITTER FOR MEASURING THE
CONCENTRATION OF TOXIC GASES**

TOX 914 LON[®]



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GAS TRANSMITTER FOR MEASURING THE CONCENTRATION OF TOXIC GASES

TOX 914 LON®



Application

The gas measurement sensor ADOS TOX 914 LON® is suitable for the continuous measurement of the concentration of toxic gas in air.

Fields of Application

- In garages for measurement, control and warning purposes, the TOX 914 LON®, in conjunction with the FlexADOS 914 LON® fulfils the VDI guideline 2053 from December 2014 and also EN 50271
- For ambient air monitoring of occupational exposure limit values (German: AGW value) e.g. in laboratories or motor test stands
- In private and collective shelters to monitor external or internal air

Function Example, CO-sensor

The ADOS TOX 914 LON® CO gas measurement sensor uses a method where the air to be measured is diffused into a chemical measuring cell. The H⁺ ions and electrons released at the electrode are consumed in a cathode reaction.

The low of current between anode and cathode generated during this process is directly proportional to the CO concentration in the measured air.

The sensor current is amplified and applied via the LON® field bus of an evaluation unit e.g. FlexADOS 914 LON®, where the measured variable is processed and displayed in ppm CO together with any possibly necessary control and warning functions.

Example of measurable gases

Gas	Formula	Measuring Range
Carbon monoxide	CO	0 – 300 ppm
Ammonia	NH ₃	0 – 250 ppm
Nitrogen dioxide	NO ₂	0 – 30 ppm
Sulphur dioxide	SO ₂	0 – 50 ppm
Hydrogen sulphide	H ₂ S	0 – 20 ppm

Other gases and measuring ranges on request.

Technical data

Measuring principle:	Electro-chemical reaction
Measurable substance:	Carbon monoxide
Measuring range:	0 – 150 ppm, 0 – 300 ppm, other measuring ranges upon request
Zero point error:	< 3 ppm CO
Measurement value error:	± 3% of the measurement range end value
Long-term drift:	< 5% (1 year)
Repeatability:	< 2% of the measurement range end value
Temperature drift:	< 10 ppm
Adjustable time (t ₉₀):	< 60 seconds
Interface:	LON® four-wire technology, galvanically isolated, Data transmission 78 kbps
Supply voltage:	24 V DC +10% / -25%
Ambient temperature:	- 20 °C to + 50 °C, Sensor in the range temperature-compensated
Humidity:	10% – 90% r. h., non-condensing
Protection class:	IP 54 acc. to EN 60529
Measuring head dimensions:	Diameter 80 mm, Height 80 mm
Weight:	400 g
Test certificate:	VDI2053 EN50545 EN50271 in conjunction with FlexADOS 914 LON®