



## **Gas sensor KSE 504 for detection of Carbon Monoxide CO**



### **Mode of operation**

The principle of the measurement cell used is based on the electro-chemical oxidation of carbon monoxide CO to carbon dioxide CO<sub>2</sub>. The CO in the measurement air reaches the working electrode via a gas-permeable diaphragm, and is oxidised. The oxygen molecule used for this is replaced from the ambient air. This results in the very long service life of the measurement cell, which, from experience, can operate for several years.

The measured gas concentration is linear to the electrical output signal of the gas measurement probe. The potentiometers and the 3.5 mm jack connection for the calibration are accessible from the outside, and permits a "one-man" calibration.

When used in a pump system, the service life can be heavily reduced, as the electrolyte evaporates more quickly through the porous diaphragm. The measurement cell is sensitive to solvent vapours.

The **calibration gas** should be 75% of the measurement range, and must contain synthetic air as the carrier gas

### Performance Characteristics

Sensitivity:	at least 1 ppm
Measuring range:	max. 1000 ppm / linear
Standard calibration:	0...250 ppm
Response time $t_{90}$ :	max. 50 sec
Operating temperature:	-10 °C ... +50 °C
Start up after reconditioning:	max. 1 h
Pressure range:	atmospheric $\pm$ 10%
Air humidity:	15...90% non condensing
Position sensitivity:	none
Long term output drift:	< 5% / year
Life span at 20 °C:	at least 3 years depends on the application

### Cross sensitivity to other gases

Testgas	Verwendete Konzentration	Anzeige CO-Messzelle
Acetylene C <sub>2</sub> H <sub>2</sub>	40 ppm	80 ppm
Ammonia NH <sub>3</sub>	100 ppm	0 ppm
Chlorine Cl <sub>2</sub>	2 ppm	0 ppm
Ethanol C <sub>2</sub> H <sub>5</sub> OH	2000 ppm	5 ppm
Carbon Monoxide CO	250 ppm	250 ppm
Carbon Dioxide CO <sub>2</sub>	5000 ppm	0 ppm
Sulphur Dioxide SO <sub>2</sub>	50 ppm	< 0.5 ppm
Hydrogen Sulphide H <sub>2</sub> S	25 ppm	0 ppm
Nitrogen Dioxide NO <sub>2</sub>	50 ppm	-1 ppm
Nitric Oxide NO	50 ppm	8 ppm
Hydrogen H <sub>2</sub>	100 ppm	20 ppm

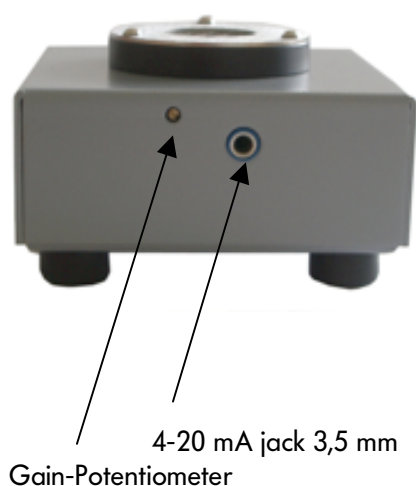
### Sensor electronic specification

Cable:	2-core cable, shielded
Power supply:	13.5...30 VDC
Sensor current:	max. 60 mA
Output signal:	4...20 mA/max. 60 mA
Operating temperature:	-40 °C ... +85 °C

### Inspection (Maintenance)

The sensor and the electronic require an inspection.  
Routine calibration is recommended once or twice a year.

### Electronic



### Dimensions

