



## **Gas sensor GSE 687 for detection of Nitrogen Dioxide NO<sub>2</sub>**



### **Mode of operation**

Through the diffusion of nitrogen dioxide NO<sub>2</sub> into the inside of the measurement cell, a reaction with the electrode will take place. The product at the working electrode then oxidises. 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:	1 ppm
Measuring range:	max. 300 ppm / linear
Standard calibration:	0...10 / 0...50 ppm
Response time $t_{90}$ :	$\leq 40$ sec
Operating temperature:	-20 °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:	$< 2\%$ / month
Life span at 20 °C:	at least 2 years depends on the application

## Cross sensitivity to other gases

Test gas	concentration of the test gas	display on the $\text{NO}_2$ -Sensor
Chlorine $\text{Cl}_2$	1 ppm	$\approx 1$ ppm
Hydrogen Chloride $\text{HCl}$	5 ppm	0 ppm
Hydrogen Cyanide $\text{HCN}$	10 ppm	0 ppm
Ethylene $\text{C}_2\text{H}_4$	100 ppm	0 ppm
Carbon Monoxide $\text{CO}$	300 ppm	0 ppm
Hydrogen Sulphide $\text{H}_2\text{S}$	15 ppm s	-1.5 $\diamond$ 0 ppm
Sulphur Dioxide $\text{SO}_2$	5 ppm s	-0.5 $\diamond$ 0 ppm
Nitric Oxide $\text{NO}$	35 ppm	0 ppm
Hydrogen $\text{H}_2$	100 ppm	0 ppm

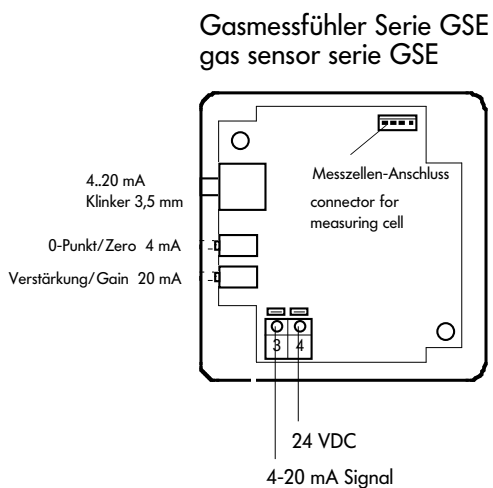
## Sensor electronic specification

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

