MEMBRAPOR

Specification Sheet

Carbon Monoxide Gas Sensor CO/MF-1000

CO Gas Sensor in Miniature Housing

Applications

• Safety and Environmental Control
• For Portable Gas Detectors

Measurement

Operation Principle	3-Electrode Electrochemical
Nominal Range	0 - 1000 ppm
Maximum Overload	2000 ppm
Inboard Filter	To remove acidic gases
Output Signal	50 ± 15 nA/ppm
Resolution (Electronics dependent)	< 1 ppm
T90 Response Time	< 25 s
Typical Baseline Range (pure air, 20°C)	-5 ppm to 7 ppm
Maximum Zero Shift (+20°C to +40°C)	see Graph
Repeatability	< 2 % of signal
Output Linearity	Linear
Gain (Only applies to 4-Electrode sensors)	-

Carbon Monoxide Gas Sensor CO/MF-1000

Electrical

Rec. Load Resistor	10 - 33 Ω
Bias (V_Sens-V_Ref)	not recommended
Conformity to RoHS directive	RoHS Compliance

Environmental

Relative Humidity Range	15 % to 90 % RH non-condensing
Temperature Range	-40 °C to 50 °C
Pressure Range	Atmospheric ± 10%
Pressure Coefficient	N.D.
Humidity Effect	None

Lifetime

Expected Operation Life	3 years in air
Expected Long Term Output Drift in air	< 2 % signal loss per month
Filter Life	N.D.
Storage Life	6 months in container
Rec. Storage Temperature	5°C - 20°C
Warranty Period	12 months from date of dispatch

Carbon Monoxide Gas Sensor CO/MF-1000

Miniature-Size Outline Dimensions

BOTTOM VIEW

SIDE VIEW

Sensing

Reference

Counter

90°

13.5 mm
PCD

18 mm

20.5 mm

20 mm

15.7 mm

16.4 mm

5 mm
Pin Projection

∅ 1.5 mm Pins
on 13.5 mm PCD
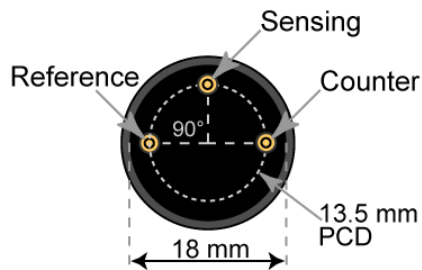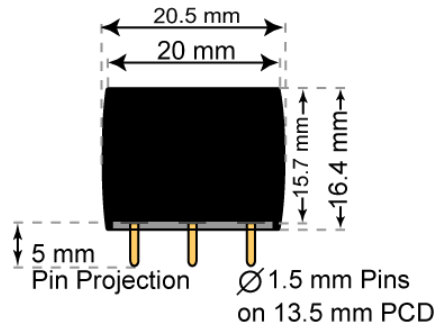
± 0.10 mm

Mechanical

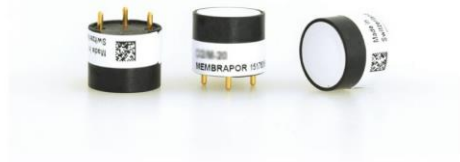|	
Weight	5.5 g
Orientation	Any
Housing material	Polycarbonate

Carbon Monoxide Gas Sensor CO/MF-1000

Cross Sensitivity Data

The table below does not claim to be complete. Interfering gases should not be used for calibration. Please contact Membrapor AG for further support regarding cross sensitivities.

| Interfering Gas	Cross-Sens. [%]
Aromatic Hydrocarbons	N.D.
H_2	< 60
H_2S	0
NO	0
NO_2	0
SO_2	0

Carbon Monoxide Gas Sensor CO/MF-1000

Temperature dependence

The output of an electrochemical sensor varies with temperature. The graphs below show the temperature-dependent variation of baseline and sensitivity, respectively. The results shown here are raw data (batch average) without any post-processing steps. The sensitivity and baseline are referenced to the signal at 20°C (reference point).

Please note: It is highly recommended to acquire the temperature dependence curves with the whole instrument. The sampling system, the humidity, the electronics and the interaction between the electronics and the sensor have a significant impact on the temperature dependence of the final measurement reading.
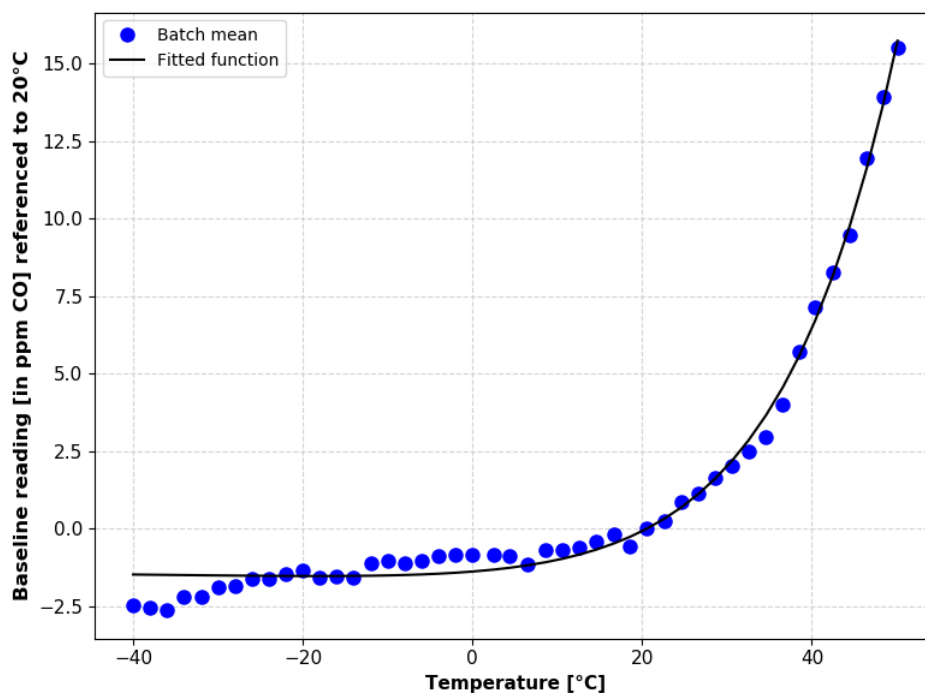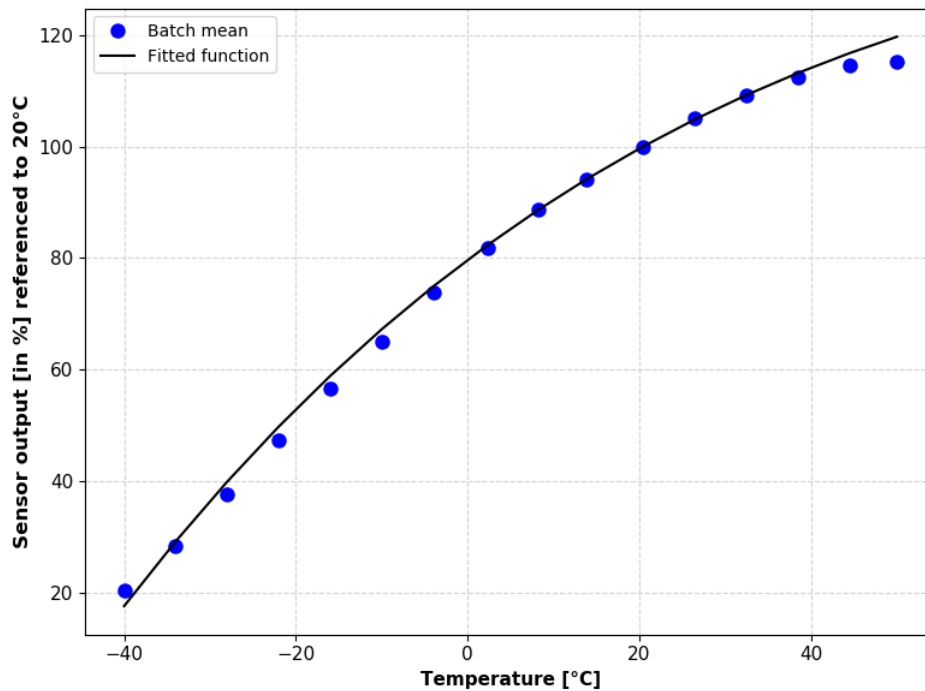

Baseline shifted with respect to reference point at 20°C.

Carbon Monoxide Gas Sensor CO/MF-1000

Sensitivity dependence expressed as a percentage of the output signal at reference point at 20 °C.