

HCI/M-20

Hydrogen Chloride Gas Sensor in Mini Housing



MEASUREMENT

Operation Principle	3-Electrode Electrochemical
Nominal Range	0 – 20 ppm
Maximum Overload	40 ppm
Inboard Filter	–
Output Signal	400 ± 150 nA/ppm
Resolution (Electronics dependent)	< 0.2 ppm
T80 Response Time	< 60 sec
Typical Baseline Range (pure air, 20°C)	-0.5 ppm to 0.5 ppm
Maximum Zero Shift (+20°C to +40°C)	N.D.
Repeatability	< 2 % of signal
Output Linearity	Linear
Gain	–

ELECTRICAL

Rec. Load Resistor	10 - 20 Ohm
Bias (V_Sens-V_Ref)	Not allowed
Conformity to RoHS directive	RoHS Compliance

ENVIRONMENTAL

Relative Humidity Range	15 % to 90 % R.H. non-condensing
Temperature Range	-20 °C to 50 °C
Pressure Range	Atmospheric ± 10%
Pressure Coefficient	N.D.
Humidity Effect	< 0.7 ppm

LIFETIME

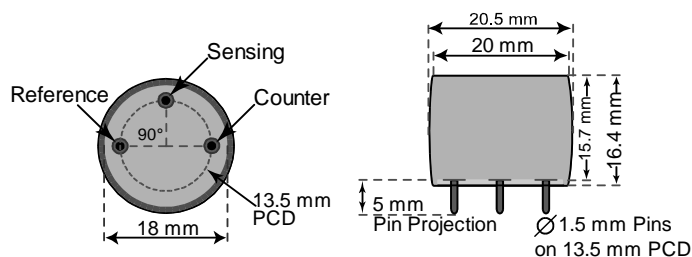
Expected Operation Life	2 years in air
Expected Long Term Output Drift in air	< 2 % per month
Filter Life	–
Storage Life	6 months in container
Rec. Storage Temperature	5 °C – 20 °C
Warranty Period	12 months from date of dispatch

Performance data conditions: 20 °C, 50% RH, 1013 mbar

Miniature-Size Outline Dimensions

BOTTOM VIEW

SIDE VIEW



± 0.10 mm

MECHANICAL

Weight	5.5 g
Position Sensitivity	None

APPLICATIONS

Discontinuous Measurement
Safety and Environmental Control
For Portable Devices

CROSS-SENSITIVITY DATA

The table below does not claim to be complete.

Interfering Gas	Conc. ppm	Reading ppm
HBr	20	10
H ₂		0
Isopropanol		0
C ₂ H ₄	100	0
SO ₂	100	0
H ₂ S	20	31
NO	25	0
NO ₂	20	-6
Cl ₂	20	0
CO	1000	0

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TEMPERATURE DEPENDENCE

The output of an electrochemical sensor varies with temperature. The graphs below show the variation in output with temperature for this type of sensor. The results are shown in the graphs as a mean for a batch of sensors. The sensitivity dependence is expressed as a percentage of the signal at 20 °C. The shift in baseline is shown in ppm referenced to 20 °C and a relative humidity of 50%.

Please note:

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

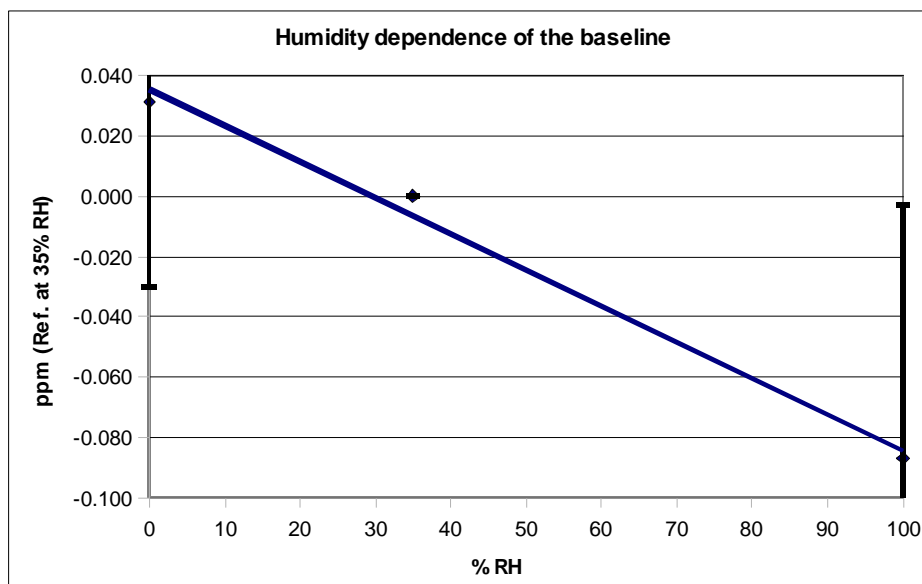


Figure 1: Humidity dependence

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