

# Fluorine

## SensoriC F2 3E 1



Rev. 09/2006

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### FEATURES

Amperometric 3-electrode sensor  
High reliability  
High resolution  
Fixed organic gel electrolyte

### TYPICAL APPLICATIONS

Chemical Industry, Petrochemical Industry, General Industry

### PART NUMBER INFORMATION

MINI	1431-031-30009
SENSORIC CLASSIC	1431-031-30069
CTL 4 series adaptation	1431-031-30049
CTL 7 series adaptation	1431-031-30079

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### TECHNICAL SPECIFICATIONS

Measuring Range	0–1 ppm
Sensitivity Range	1000 nA/ppm $\pm$ 300 nA/ ppm (negative current)
Zero Current at 20°C	< $\pm$ 20 nA
Resolution at 20°C	< 0.02 ppm
Bias Potential	0 mV
Linearity	< 5% full scale
Response Time at 20°C	
t50	< 30 s calculated from 4 min. exposure time with 1 ppm Cl <sub>2</sub>
t90	< 80 s calculated from 4 min. exposure time with 1 ppm Cl <sub>2</sub>
Long Term Sensitivity Drift	< 5% per month
Operation Conditions	
Temperature Range	-10°C to + 40°C
Humidity Range	15-90% r.H., non-condensing
Effect of Humidity	abrupt changes of rel. humidity will cause short term drift in zero reading
Sensor Life Expectancy	> 18 months
Warranty	12 months

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### RELATIVE OUTPUT vs. TEMPERATURE:

*Due to the nature of the gas the temperature dependence of the sensor as a function of the environmental temperature conditions is strongly related to the experimental conditions.*

*SensoriC is currently revising this set of data.*

*Based on the current experience with this sensor the temperature dependence*

- a) *on the zero reading is < 0.1 ppm*
- b) *on the sensitivity is < 20% of the sensitivity at 20°C*

*within the specified temperature range.*

*Please contact our Technical Support Department ([tech@sensoric.de](mailto:tech@sensoric.de)) for further details.*

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### CROSS SENSITIVITIES AT 20°C

Gas	Concentration	Reading [ppm]
Alcohols	1000 ppm	0
Arsine	0.2 ppm	1
Bromine		yes; n/d
Carbon Dioxide	5000 ppm	0
Carbon Monoxide	100 ppm	1
Chlorine	1 ppm	1.4
Diborane	0.25 ppm	0.4
Hydrocarbons	% range	0
Hydrochloric Acid	5 ppm	0 <sup>1)</sup>
Hydrogen	10000 ppm	0
Hydrogen Cyanide	1 ppm	-3
Hydrogen Sulfide	1 ppm	-2
Nitrogen	100 %	0
Nitrogen Dioxide	10 ppm	-19
Ozone	0.25 ppm	0.3
Phosphine	0.3 ppm	yes; n/d
Sulfur Dioxide	20 ppm	0.04

1) Short gas exposure in minute range.

#### Notes:

1. Interference factors may differ from sensor to sensor and with life time. It is advisable to calibrate with 1 ppm Cl<sub>2</sub>.
2. This table does not claim to be complete. The sensor might also be sensitive to other gases.

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